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ABSTRACT BOOK

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Oral Presentation Session

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Date: 12.03.2020 Time: 14:45 - 15:45 Hall: 4

ID: **153**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Oral**

SUCCESSFUL RETRIEVAL OF A BROKEN CATHETER FRAGMENT USING A SNARE SYSTEM

Serkan Sivri, Erdoğan Sökmen

Ahi Evran University Training and Research Hospital, Kırşehir, Turkey

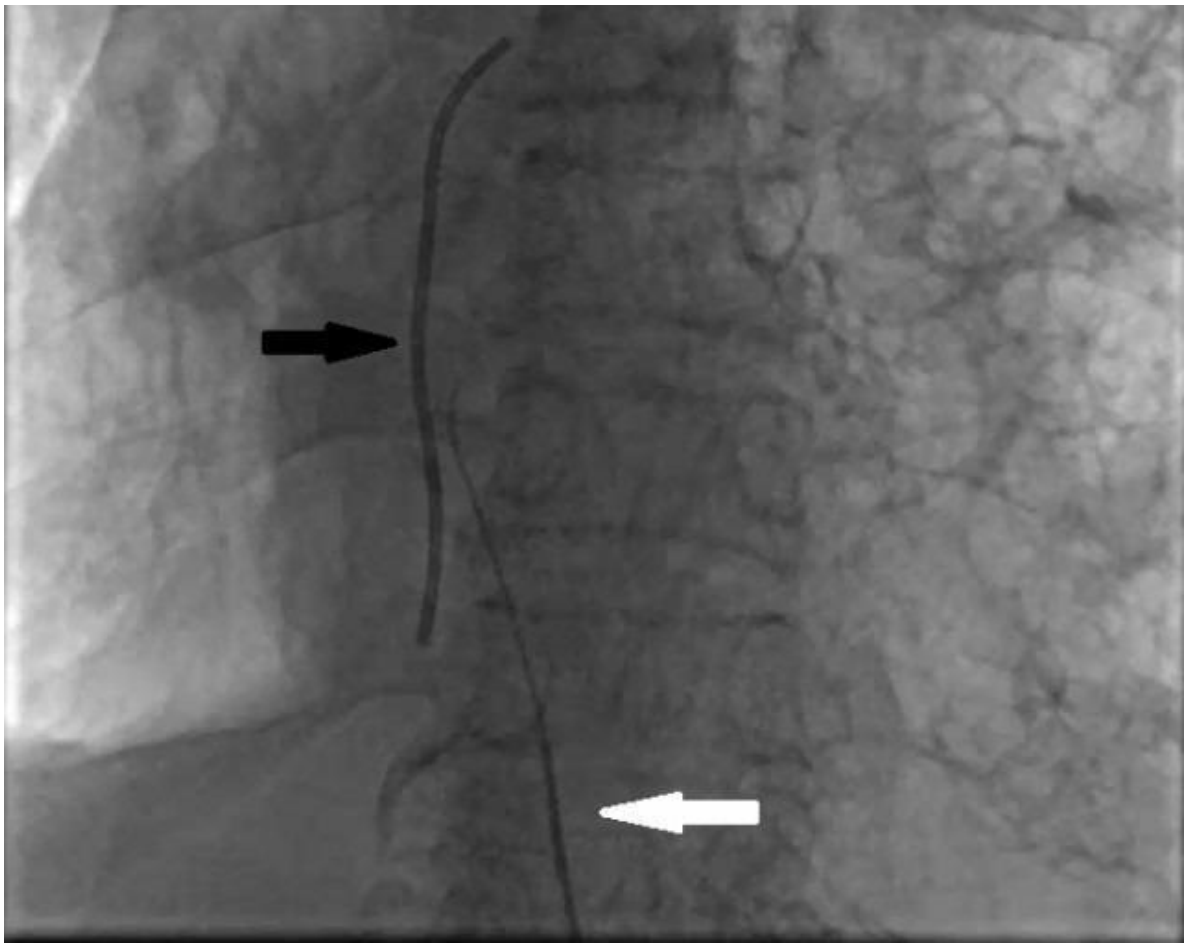
**Corresponding Author (drserkansivri@gmail.com)*

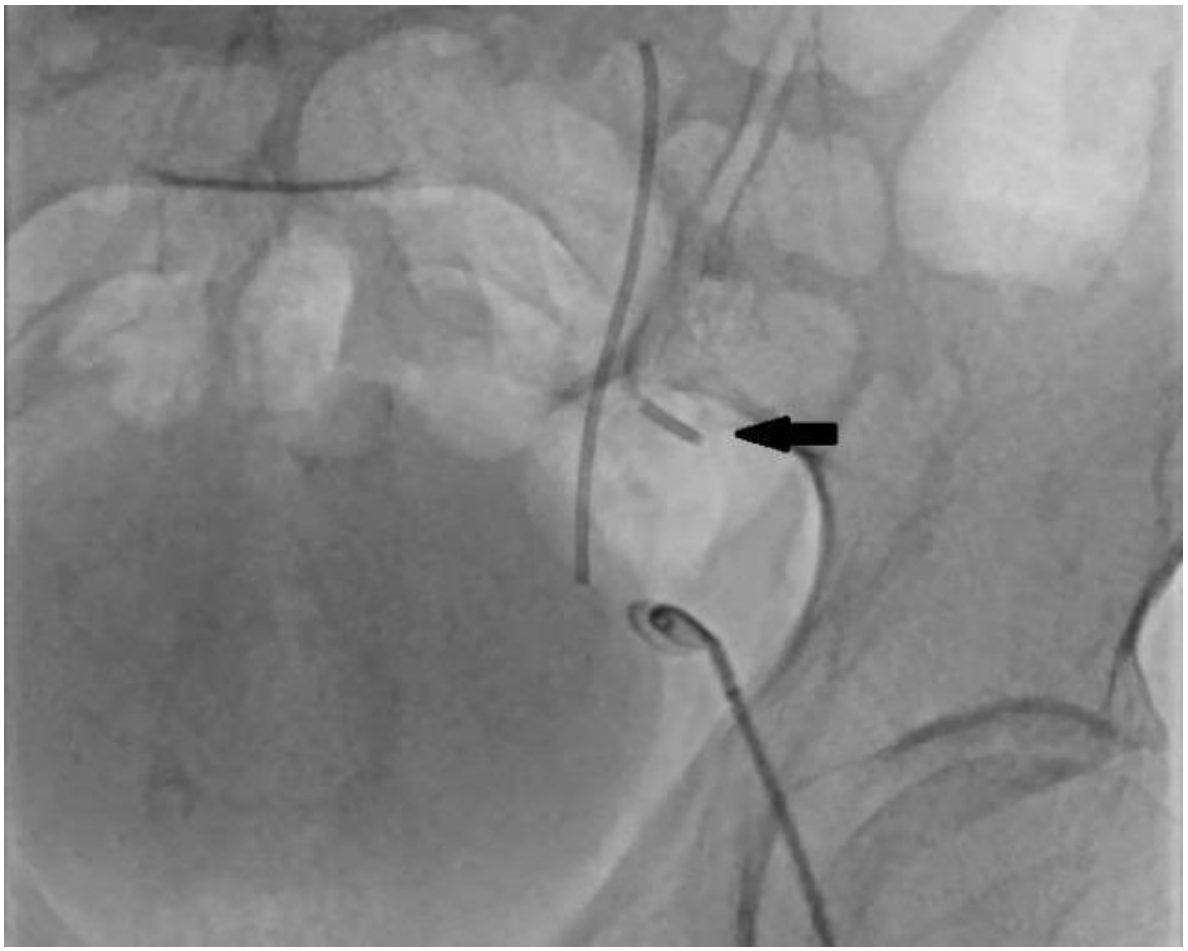
A 74-year-old man with the complaint of angina admitted to our cardiology out-patient clinic. His past medical history revealed a stoke attack with a complete recovery 4 months ago. A subsequent carotid Doppler ultrasound imaging depicted a 90% luminal stenosis in the left internal carotid artery. Considering the anginal complaints and the carotid stenosis together, a decision was made to perform an invasive coronary and carotid angiography.

In the catheterization laboratory, an arterial access was achieved using a 6F introducer sheath in the right femoral artery and the coronary angiography revealed non-critical stenosis in the left and right coronary systems. We passed then to the procedure of carotid angiography using a Judkins Right-4 diagnostic catheter. Despite multiple trials, however, selective angiography of the left carotid artery could not be achieved at the ostium. After this point, we made our decision to continue the procedure by using a 5F Headhunter hydrophilic catheter (Merit Medical Systems, Inc, USA). The headhunter catheter, on the other hand, was a re-used catheter, which had been sterilized by gaseous hydrogen peroxide formerly. During the attempts to advance the headhunter catheter through the aorta, the catheter was suddenly broken into two fragments in the thoracic part of descending aorta (Figure 1, Video 1). At this point, we pulled the proximal part of the catheter taken out and decided to use a snare system (SeQureTM Snare System, the Netherlands). The broken fragment of the catheter further embolized into the left common iliac artery. Then, the broken fragment of the catheter was broken one more. The smaller piece was floating in the left internal pudendal artery. Since trials to hold the bigger fragment failed through the right femoral access, we achieved a new access using a 6F introducer sheath through the left femoral route. The bigger fragment was hold with the snare, and then the whole assembly was taken out of the 6F sheath (Figure 2, Video 2). The smaller fragment, however, was left in place and observation with periodic follow-ups was advised to the patient.

Catheter fragmentation during an invasive cardiovascular procedure is a quite rare complication, which may however lead to serious embolic complications. And also, re-use of the invasive catheters may also be hazardous due to potential disruption in the catheter architecture, and serious complications may result as in our case.

Figure Legends:
Figure 1: Two fragments of the broken catheter in the thoracic part of descending aorta. Black arrow, broken fragment of the catheter; white arrow, the headhunter catheter with hydrophilic wire inside.
Figure 2: The bigger and the smaller pieces of the broken catheter. Black arrow, the smaller piece of the broken catheter in the left internal pudendal artery.





ID: **583**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

EXPERIENCES WITH ROBOTIC CARDIAC SURGERY: FIVE-YEAR RESULTS FROM A SINGLE CENTER

Cengiz Bolcal[1], Murat Kadan[1], Gökhan Erol[1], Emre Kubat[1], Mehmet Emin Ince[1], Suat Doğancı[1], Vedat Yıldırım[1], Kubilay Karabacak[1], Ufuk Demirkılıç[2]

[1]*Gulhane Educational and Research Hospital, Ankara, Turkey*

[2]*Liv Hospital, Ankara, Turkey*

[*]*Corresponding Author (bolcalc@yahoo.com)*

OBJECTIVE

Robotic cardiac surgery has become more popular in last decade. Our institution is one of the initial centers for robotic surgery in our country. In this paper, we aimed to share our experiences with various types of robotic cardiac surgical interventions.

METHODS

Between November 2014 and January 2020, 245 patients with varied diagnoses were operated. 111 of them were female. The mean age of the patients was 44,49 ± 17,68 (16–80) years. All the operations were performed with the da Vinci Si model. The types and numbers of patients are given in Table.

RESULTS

Mean cross-clamp time was 114,9 ± 52,02 minutes. The mean perfusion time was 188,04 ± 78,27 minutes. There were 4 re-explorations secondary to bleeding. All re-explorations were performed at the same thoracotomy incision, without additional sternotomy. In 8 patients, robotic surgery was converted to conventional surgery. In 3 patients, internal mammary artery flow was not satisfactory, in 2 patients posterior wall rupture and in one re-operated patient, aortic wall rupture was occurred, therefore we converted to conventional surgery. In one patient, right lung and thoracic cavity had too many adhesions; in the remaining one patient, dissection of the internal mammary artery could not be performed secondary to the pacemaker generator, which prevents movements of the right arm. In 1 patient, the periaortic region had many adhesions, and the aorta was clamped from the J sternotomy incision. Surgical mortality was 0,4 % (1 patient with posterior wall rupture), whereas hospital mortality was 4 %. 10 patients died during the postoperative period: 1 had mental retardation and could not adapt to conditions of postoperative period. The remaining 9 patients had lung disorders (infections, restrictive or obstructive disorders etc.) and could not be weaned from the ventilator.

CONCLUSION

Robotic heart surgery is growing so fast for almost every type of cardiac surgical fields. Except aortic surgery and aortic valve surgery, almost all-cardiac pathology including re-operations can now easily performed by robotic interventions. However, patient selection is still initial key point followed by learning curve period. Centers starting a new robotic program should have a proctor initially, at least for their first 20 cases. Additionally, robotic heart team should be permanent at least first 50 cases.

Types of Surgery	Number of patients (n=245)
Atrial Septal Defect Repair	95
Secundum Type ASD	70
Primary Suture	45
Pericardial Patch	25
Complex ASD	23
Partial Pulmonary Venous Return Anomaly	18
Ostium Primum Type ASD	4

Unroofed Coronary Sinus Type ASD	1
Disfunctional Amplatzer Resection	2
Mitral Valve Surgery	110
Mitral Repair	31
Mitral Replacement	67
Beating Mitral	12
Repair	2
Replacement	10
Coronary Artery Disease	20
MIDCAB	18
TECAB	2
Cardiac Mass Resection	14
Myxoma	9
HOCM	2
Subaortic Membrane	1
Pericardial Cyst	1
LV Mass	1
Ventricular Septal Defect	5
Isolated Tricuspid Valve Surgery	1
Additional Cryoablation Procedures	35

ID: **576**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

OFF-PUMP TRANSAPICAL MITRAL VALVE REPAIR WITH ARTIFICIAL NEOCHORDA IMPLANTATION TECHNIQUE; 5-YEAR RESULTS OF A SINGLE CENTER

Gökhan Erol[1], Murat Kadan[1], Emre Kubat[1], Kubilay Karabacak[1], Mehmet Emin Ince[1], Vedat Yıldırım[1], **Cengiz Bolcal**[1], Ufuk Demirkılıç[2]

[1]*Gulhane Educational and Research Hospital, Ankara, Turkey*

[2]*Liv Hospital, Ankara, Turkey*

[*]*Corresponding Author (drgokhanerol@gmail.com)*

OBJECTIVE

Transapical artificial neochorda implantation technique has been used as an alternative treatment model to conventional mitral valve repair surgery, especially in last decade. Although it could be useful specifically for patients with isolated P2 prolapsus, today, over 1000 patients have been treated with this method worldwide. In this report we aimed to present our 5-year experiences with this technique.

METHODS

32 patients were presented to our department for surgical intervention with severe mitral insufficiency. 6 patients were female. Mean age of patients was 56,5 ± 13,7 (31-83). All patients had leaflet prolapse without annular dilatation. 25 patients had P2 prolapse, 4 patients had P2+P3 prolapse, 2 patients had additional anterior prolapse and remaining 1 patient had P1+P2 prolapse. Left anterior mini-thoracotomy incision was used to reach cardiac apex. NeoChord DS 1000 system was introduced into the heart (Figure), prolapsed leaflet was grasped and polytetrafluoroethylene sutures were deployed.

RESULTS

Mean operation time was 142.9 ± 1.8 minutes. In one patient, all the artificial chordas were ruptured intraoperatively, possibly secondary to degenerative leaflet tissue. In this patient, the operation was terminated without any success. On the remaining patients, there was not any further mitral regurgitation more than 1 degree at early time of postoperative course. Mean follow up time was 31,4 ± 17,6 (12-62) months. On post-operative follow up, there was 4th degree insufficiency in one patient at postoperative 6th month. This patient was re-operated, and on re-operation, interestingly we found that, all the artificial chordas were ruptured from apex without any rupture from leaflet. There was 2nd degree regurgitation on 2 patients, which had prolapsed on both anterior and posterior leaflets. Nevertheless, these patients are still under control without any additional surgical intervention.

CONCLUSION

Off-pump transapical mitral valve repair is feasible and safe surgical technique as an alternative to conventional surgery. However, it is useful for limited patients with leaflet prolapse secondary to chordal elongation or rupture, without any additional deformities of mitral apparatus such as calcification or annular dilatation.


Cihaz çalışmakta olan
kalbe yerleştiriliyor

ID: **575**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

MINIMALLY INVASIVE CORONARY ARTERY BYPASS ON THE WORKING HEART (MICSCAB) IN PATIENTS WITH MULTIVESSEL CORONARY DISEASE

Maksud Muradov, Rustam Yarbekov, Sanjar Omonov, Kurbanov R.d.

Republican Specialized Scientific and Practical Medical Center of Cardiology, Tashkent, Uzbekistan

**Corresponding Author (mmmaksud1986@gmail.com)*

BACKGROUND: Today, the classical operation of coronary artery bypass is undergoing changes. New sparing methods of myocardial protection, method of auxiliary cardiopulmonary bypass, off-pump technology have appeared. Reducing surgery injuries shortens the rehabilitation process of these patients, which is economically beneficial. Minimally invasive access allows faster improvement of quality of life and will return to normal lifestyle after coronary artery bypass.

METHODS: Since autumn 2018 – to January 2020 in the department of cardiac surgery of Republican Specialized Scientific and Practical Medical Center of Cardiology we have performed 38 MICSCAB operations. Patients had two-vessel (22 patients) and multivessel (16 patients) coronary lesions. Mini-access to the heart - left anterior-lateral thoracotomy in the 5th intercostal space. The length of the cutaneous incision was 10-12cm. The first step was to create proximal anastomoses with ascending aorta, then to create an anastomosis of LIMA-LAD, and then create an anastomosis of the right coronary artery and the system of circumflex artery with venous conduits were shunned. The duration of the operation time from the minimally invasive access ranged from 2 h 30 min (150min) to 3 h (180min) min (on average ± 2 h 35 min (155 min).

RESULTS: In postoperative period there were no cases of postoperative pneumonia, severe respiratory failure. In one case, there was a transition to a complete longitudinal sternotomy, due to the pronounced adhesion process in the left pleural cavity and the inability to adequately mobilize the LIMA. Patient 's spend in ICU is 1 day. Duration of hospitalization after surgery - 4-5 days. Upon discharge, all patients noted an improvement in the condition and quality of life. Functional and laboratory indicators improved after operation. Earlier complaints about heart pain, shortness of breath, feeling of air shortage, weakness decreased.

CONCLUSIONS: That's why, multivessel coronary artery bypass using minimally invasive access technique (MICSCAB) is a modern and safe approach in treating patients with CAD. Mini-access allows to reduce injuries of operation, improve early postoperative period, reduce frequency of complications and is economical treatment. MICSCAB is the high efficiency and safety of for patients with CAD, high surgical risk, it is necessary to further develop minimally invasive operations in cardiosurgical practice in the Republic of Uzbekistan.

ID: **490**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

CONCOMITANT CORONARY BYPASS SURGERY AND LIVER TRANSPLANTATION IN HOMOZYGOUS FAMILIAL HYPERCHOLESTEROLEMIA IN CHILDREN

Rashad Mahmudov, Tarana Goyushova, Kanan Asadov, Mircalal Kazimi, Kamran Beydullayev, Shahin Mazanov, Nasimi Cabbarov

Central Customs Hospital, Baku, Azerbaijan

**Corresponding Author (rmahmudov@yahoo.com)*

Background
Homozygous Familial Hypercholesterolemia (FH) is a common, severe form of elevated plasma, low-density lipoprotein (LDL), cholesterol, tendinous xanthoma and premature symptoms of coronary heart disease (CHD). It is estimated to affect as 1/160000 people all over the world. The defect lies in the LDL receptors located in the liver and the other organs owing to possible mutation occurring in the LDL receptor gene located in the chromosome 19. FH was the first genetic disorder recognized to cause myocardial infarction (MI). These patients are at a high risk of developing CHD and sudden death. Early detection and aggressive treatment are the keys.

Methods
Here we present the case of homozygous FH. Mother has detected differently sized yellow nodules in an elbow and knee of her 5- years 'old boy and admitted to dermatology. In anamnesis there is one sudden baby death. The biochemical investigation of the patient showed that the lipid profile was as total cholesterol 761mg/dl, LDL 660mg/dl. The mutation in LDLR gene has been found in blood analysis. Therapy has been started with atorvastatin and ezetimibe. There was not any progression in biochemical analyses despite of therapy. Next treatment was lipid apheresis which showed temporary improvement. Several months later an increasing level of lipids was observed. Next decision was liver transplantation. Considering sudden death in family anamnesis and the level of lipids pediatric cardiologist decided coronary angiography. Result was lesion of Left main 70 % (ulcer plaque), RCA 90%. Simultaneous surgery has been performed involving coronary artery bypass grafting (beating heart 2 grafts) and liver transplantation. Postoperative period was without any significant complications. Biochemical analyses after 2 weeks were LDL 90 mg/dl.

Conclusion
Coronary angiography is recommended in patient with homozygous FH before liver transplantation to prevent cardiac sudden death

ID: **619**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Oral**

A COMPLICATED ATHEROSCLEROTIC CASE

Mustafa Barış Kemahlı[1], Şahin Karakılıç[1], Tuğra Gençpınar[2], Mehmet Birhan Yılmaz[1], Aytaç Gülcü[1], Öztekin Oto[1]

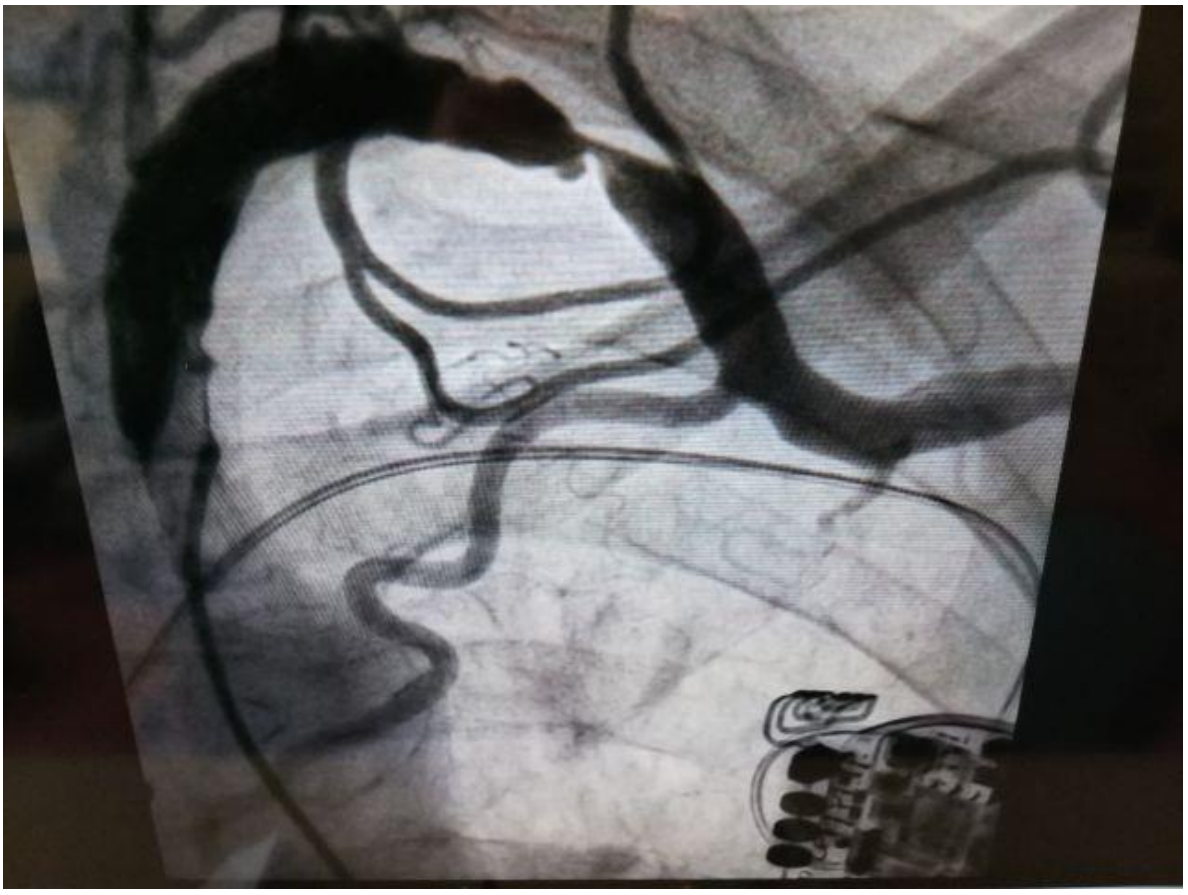
[1]*Dokuz Eylül University, İzmir, Turkey*

[2]*Dokuz Eylül University, izmir, Turkey*

[*]*Corresponding Author (bariskemahli@hotmail.com)*

Case Presentation: The patient who underwent CABG five years ago was admitted to the hospital due to syncope. It was revealed that bilateral carotid artery disease with %95 stenosis on the right and total occlusion on the left side. Additionally, he had huge hemoglobin lowering abdominal aortic aneurysm (AAA) with %25 ejection fraction due to previous coronary artery disease and CABG. Firstly; we started with the right CEA under general anesthesia. Coronary angiography revealed on the left subclavian % 95 stenoses prior to LITA which supplying blood to total occluded LAD. Subclavian artery stenosis was treated with balloon angioplasty intervention. Ejection fraction jumped to % 35. Under that circumstance, we performed AAA surgery safely with a 20-10-10 dacron graph. The neck of the AAA was short and extremely large which was unsuitable for EVAR.

Conclusion: Evaluation carefully, step by step approach are essential for complicated atherosclerotic cases that can be a life-saving procedure in many situations.



Oral Presentation Session

Features of Postoperative Care after Coronary Surgery

Date: 12.03.2020 Time: 16:15 - 17:15 Hall: 4

ID: **388**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

THE EFFECTS OF CABG SURGERY ON PULMONARY FUNCTION TESTS, BODE INDEX AND EXERCISE CAPACITIES

Ozgur Baris

University of Health Sciences, Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey

**Corresponding Author (drozgurbaris@gmail.com)*

Objectives: CABG often causes physiological changes in patients. Although functional changes such as lung function and exercise capacity are observed in patients, there are no detailed studies examining this change. In this study, we aimed to objectively investigate the changes in pulmonary function tests (PFT) and exercise capacity in patients with CABG.

Methods: The effect of coronary by-pass operations dependent on heart-lung pump in the Cardiovascular Surgery Department was evaluated. Demographic and surgical characteristics of the patients were recorded. PFT, six-minute walk test (6MWT), mMRC dyspnea score and BODE index were evaluated preoperatively and 6 months postoperatively.

Results: A total of 75 patients were included in the study and the mean age of the patients was 59.8 ± 10.0 years and the male / female ratio was 57/18. Figure 1 showed the changes in pre- and postoperative pulmonary function test, exercise capacity and BODE index. mMRC dyspnea scores and BODE index results were significantly lower after CABG surgery ($p<0,05$).

Conclusion: Despite the decrease in respiratory function in patients undergoing CABG surgery, there is an increase in exercise capacity and quality of life and a decrease in mortality risk.

Parameters	Preoperative	Postoperative	*p value*
FVC			
ml±SD	2617±849	2527±881	*.139*
%pred±SD	73.8±15.4	72.0±17.2	*.587*
FEV1			
ml±SD	2274±788	2180±810	*.318*
%pred±SD	79.0±17.8	76.3±18.7	*.155*
FEV1/FVC			
%pred±SD	106.1±11.3	106.6±12.0	*.487*
FEF25-75			
ml/sn±SD	3092±1428	2841±1330	*.275*
%pred±SD	102.8±39.6	94.1±36.5	*.045*
6MWT, metres±SD	352.7±91.4	366.0±94.4	*.251*
MMRC(n,%)			*.000*
0-1	13(62.6)	12(68.0)	
2-3	28(37.3)	24(32)	
BODE(n,%)			*.000*
0-2	61(81.3)	57(76.1)	
3-4	11(14.7)	9(12.0)	
5-6	2(2.7)	9(12.0)	
7-10	1(1.3)	0	

ID: **524**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

EFFECTS OF CORONARY ARTERY BYPASS GRAFTING SURGERY ON OLFACTORY AND TASTE FUNCTIONS

Kemalettin Erdem[1], Erhan Renan Uçaroğlu[2], Abidin Şehitoğulları[3], **Ahmet Yüksel**[1], Hikmet Tekçe[1], Yusuf Velioğlu[1], Abdullah Demirhan[1], Ufuk Turan Kürşat Korkmaz[1], Ferhat Borulu[4], Osman Ünal[1], Aynur Ülkü[1], Ebru Çalışır[1]

[1]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[2]*Abant Izzet Baysal University Faculty of Medicine, Bolu, United States*

[3]*Sakarya University Faculty of Medicine, Sakarya, Turkey*

[4]*Ataturk University Faculty of Medicine, Erzurum, Turkey*

[*]*Corresponding Author (drkemalettincvs@yahoo.com)*

BACKGROUND:

Olfactory and taste sensations have a high impact on the quality of life. Impaired olfactory and taste functions may have a negative effect on physical and mental well-being, personal hygiene, and nutritional satisfaction, leading to the occurrence of depressive symptoms and impaired quality of life. Therefore, the recovery period of patients with disturbed olfactory and taste functions may be prolonged, and return to active life may be delayed. We designed this study to determine whether on-pump and off-pump coronary artery bypass grafting (CABG) surgeries have any effects on olfactory and taste functions and compare these functions between the surgical groups.

METHODS:

A total of 60 patients, who underwent elective isolated first-time CABG, were included in this study. Patients were divided into two groups as Off-Pump and On-Pump CABG groups with 30 patients in each group. In addition to patients' primary clinical and laboratory data, olfactory and taste functions were evaluated pre- and postoperatively in both groups separately, and then these functions were compared between the groups. Olfactory functions were evaluated by the Brief Smell Identification Test, while taste functions by the Burghart Taste test.

RESULTS:

Olfactory functions significantly were disrupted in the postoperative period in patients undergoing on-pump CABG (P value < .05), while these functions significantly were not affected in patients undergoing off-pump CABG (P value > .05). During the preoperative period, advanced age and smoking were detected to be independent predictors of impaired olfactory function for the study population. During the postoperative period, smoking, amount of postoperative bleeding and serum low-density lipoprotein (LDL) level were found to be independent predictors of impaired olfactory function for just the On-Pump CABG Group. In both groups, no significant deterioration in taste functions occurred during the postoperative period (P value > .05).

CONCLUSION:

Our study demonstrated that olfactory function was impaired in patients, who underwent on-pump CABG in the postoperative period, and significant impairment in taste function was present in neither off-pump nor on-pump CABG patients. However, the results of our study should be supported by more comprehensive, prospective, randomized controlled trials with more extensive patient series and by further tests.

ID: **51**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

EVALUATION OF ISCHEMIA MODIFIED ALBUMIN LEVELS AS OXIDATIVE STRESS PARAMETER IN PATIENTS THAT UNDERWENT CORONARY BYPASS BY USING CARDIOPULMONARY BYPASS TECHNIQUE

Abdullah Burak Balcı [1], Umut Serhat Sanrı [2]

[1]*Bursa Yüksek İhtisas Traning and Research Hospital, BURSA, Turkey*

[2]*Bursa Yüksek İhtisas Traning and Research Hospital, Bursa, Turkey*

[*]*Corresponding Author (burakmed188@hotmail.com)*

OBJECTIVE: Decrease in myocardial coronary blood flow causes ischemia, hypoxia, acidosis, increase in reactive oxygen derivatives and with its effect on serum albumin causes ischemia-modified albumin (IMA) formation. IMA, which provides detection of myocardial ischemia within minutes, shows the short-term oxidation effect. In this study, we aimed to investigate the utility of IMA as a marker of myocardial ischemia in cardiac surgery by measuring IMA levels before and after cardiopulmonary bypass (CPB) in coronary bypass operations performed by using the CPB technique.

METHODS: Fifty patients over 18 years of age who underwent isolated coronary bypass using CPB were included in the study. Blood samples were taken for IMA measurements before entering CPB (IMA-T1), 30 minutes after cross-clamp removal (IMA-T2) and postoperative 6th hour in intensive care unit (IMA-T3). Analysis of IMA values which measured at different times and postoperative effects of IMA-T2 measurements that covering the ischemic period were evaluated. In all tests, $p < 0.05$ was considered statistically significant.

RESULTS: When the findings were evaluated in the light of statistical data, we found that the measurements in the ischemic period (IMA-T2) were significantly higher, and as a result of coronary perfusion after revascularization, we revealed the IMA level (IMA-T3) returned to baseline levels (IMA-T1) from the sixth postoperative hour ($p<0,001$, Repeated measured-ANOVA). We also found a positive correlation between IMA-T2 levels and the development of postoperative atrial fibrillation and postoperative inotropic requirement.

CONCLUSIONS: In patients who have undergone isolated coronary artery bypass surgery, IMA levels increase in the early period. We consider that IMA measurements will replace myoglobin, CK-MB and cardiac troponins in early diagnosis of myocardial ischemia and in the treatment protocols.

Keywords: Ischemia modified albumin, ischemia, biomarkers.

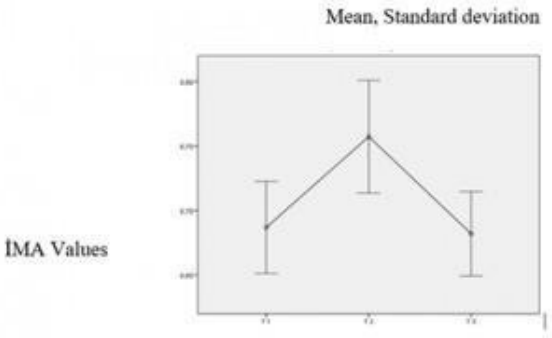


Figure 1. Variation of IMA measurements of patients. IMA: Ischemia modified albumin T: time periods of plasma concentrations of IMA (T1: before cardiopulmonary bypass, T2: 30 minutes after X-clamp removal, T3: 6 hours after operation). IMA (T1-T2-T3), p <0.001 (Repeated measured-ANOVA)

Table 1. Logistic regression analysis to identify PoAF determinants

	Univariate analysis			Multivariate analysis		
Variables	**p**	**Exp(B) Odds Ratio**	**95% C.I. Lower Upper**	**p**	**Exp(B) Odds Ratio**	**95% C.I. Lower Upper**
HT	**0.030**	6.176	1.184-32.076	**0.027**	7.885	1.258-49.424
DM	0.145	2.344	.745 - 7.370			
EF	0.759	1.010	.947-1.078			
Total KPB time	0.400	.991	.971-1.012			
X-klemp time	0.197	.982	.955-1.009			
İMA (T_2)	**0.004**	2503.643	12.85-487515.12	**0.004**	5894.602	14.848-2340212

PoAF: Postoperative atrial fibrillation, HT; Hypertension, DM; Diabetes mellitus, EF; Ejection fraction, KPB; Cardiopulmonary Bypass, IMA: Ischemia modified albumin, T: time periods of plasma concentrations of IMA (T2: 30 minutes after X-clamp removal)

ID: **564**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

PROTECTIVE EFFECTS OF METFORMIN ON THE PROCESS OF ATHEROSCLEROSIS WITH AGING IN THE RAT HEART

Ozgur Baris[1], Gokhan Duruksu[2], Gulcin Gacar[2], Ipek Komsuoglu Celikyurt[3], Yusufhan Yazir[2], Tijen Utkan[3]

[1]*University of Health Sciences Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey*

[2]*Center for Stem Cell and Gene Therapies Research and Practice, Kocaeli University, School of Medicine, Kocaeli, Turkey*

[3]*Kocaeli University, School of Medicine, Kocaeli, Turkey*

[*]*Corresponding Author (drozgurbaris@gmail.com)*

OBJECTIVE

For cardiovascular protection, many pharmacological agents provide clues as to where the protective effects about insulin resistance and metabolic syndrome associated with atherosclerosis remain the focus of interest. Although developed as an antidiabetic drug, *Metformin* is still up to date with effective research showing its positive contribution to many anti-inflammatory processes.

With this laborious study on the elderly rat heart, we hope that the protective effect of metformin in the process of atherosclerosis will make an effective contribution to larger-scale studies, particularly vascular pathologies.

METHODS

Wistar-Albino male rats were separated into four groups: young mice (< 12months-old), young mice & metformin, old mice (24months-old), old mice& metformin. Metformin was supplemented into drinking water at concentration of 100mg/kg for 8 weeks. The apical half of left ventricle was excised. The effects on cardiac tissue cells in aging rat was evaluated by expression analysis of proliferation(*Ki67)*, oxidative stress(Superoxide Dismutase 1, *SOD1*) and inflammation (Transforming growth factor beta(*TGF-β*), Tumor necrosis factor - α (*TNF-α*), Interleukin-1β (*IL-1β*), Inducible nitric oxide synthase(*i-NOS*) markers. The expression of pericyte marker, *PDGFR-β* (Platelet derived growth factor receptor- β), was also estimated in tissue.

RESULTS

When compared to young tissue, expression of TGF-β, TNF-α and IL-1β were increased in tissue of aged tissue at rate of 1.89, 1.27 and 1.09-fold, respectively. Oral consumption of metformin by aged rat attenuated the expression of these inflammatory markers to levels of 1.41 (p=0.044), 1.03 (p>0.05) and 0.97-fold (p>0.05), respectively.

The SOD1 expression was increased in metformin groups. In young tissue, SOD1 expression was improved 1,89-fold (p=0.021) after metformin. Anti-oxidative capacity was slightly decreased in aged tissue (0.84-fold) when compared to young. SOD1-expression in old mice treated with metformin was improved to 2.67-fold (p=0.015). Cell proliferation in aged group with metformin was substantially improved (3.26-fold, p=0.007) compared to young animals. The i-NOS expression was also decreased after metformin treatment in aged animals, while no effect could be observed in young animals in both treated and non-treated groups. PDGFR-β expression level in young tissue was decreased slightly to 0.89-fold, while PDGFR-β expression was increased in aged tissue from 1.54-fold (p=0.056) to 1.78-fold (p=0.043).

CONCLUSIONS

Metformin supports pericytes and enhanced regeneration capacity, which deteriorated with aging. Metformin treatment strengthened antioxidant capacity and attenuated inflammation indicators in the aged group. Metformin may have a preventive effect on the process of atherosclerosis.

ID: **540**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

EARLY RESULTS OF ORTHOLOX POLYMER STERNOTOMY CLOSURE SYSTEM IN OPEN HEART SURGERY

Ahmet Acıpayam, **Mehmet Acıpayam**, Erdinc Eroglu

Kahramanmaras Sutcu Imam University Faculty of Medicine, Kahramanmaras, Turkey

**Corresponding Author (ahmetacipayam@gmail.com)*

Aim: To present the early results of ortholox polymer sternotomy closure system in open heart surgery

Materials and Methods: Between 2018-1019, 210 patients with BMI above 30 who underwent open heart surgery were included in the study. 105 patients were group1 and 105 patients were group 2. In Group 1, the sternum was closed with standard steel wire. In Group 2, polymer sternum closure system was used.

Result: There was no difference between the two groups in terms of age, gender, BMI, and operative methods. In Group 2, only one patient had infection at the sternal incision site, and no patient had sternal dissociation. In Group 1, 5 patients had infection at the sternum incision site and 8 patients had sternal dissociation. The mean duration of ICU stay was 1.4 days in Group 2 and 2.1 days in Group 1. Postoperative pain scoring was 3.4 in Group 1, 2.1 in Group 2, and was statistically significant.

Conclusions: Polymer sternal closure system increases patient and surgeon satisfaction with less sternal dissociation, less pain and less intensive care time than standard steel wire closure. However, more patient-numbered and multicenter studies are needed.

Oral Presentation Session

Twelve Lead ECG Revisited

Date: 12.03.2020 Time: 10:00 - 11:15 Hall: 5

ID: **235**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

THE RELATIONSHIP OF LUMBAR T SCORE AND HEART RATE RECOVERY-INDEX IN PATIENTS WITH POSTMENOPAUSAL WOMEN

Ayhan Coşgun

Sincan State Hospital, Ankara, Turkey

**Corresponding Author (drcard1234@gmail.com)*

OBJECTIVE: Post-exercise heart rate recovery index has been proposed as a measure of cardiac autonomic function. The aim of the study was to evaluate heart rate recovery index parameters in patients with hypertensive postmenopausal women.

METHODS: Between May-October 2019, A total of 135 postmenopausal women included in the study. After the routine history, physical examination and blood tests, patients underwent a routine electrocardiogram, transthoracic echocardiogram, and treadmill exercise test, and patients underwent lumbar bone mineral densitometry. According to the results of lumbar vertebra bone mineral densitometry, 45 patients with T score ≥-1 were named as group 1, 45 patients with T score up to -1 / -2.5 were named as group 2 and 45 patients with T score lower than -2.5 were named as group three. Heart rate recovery indexes were compared between three groups and their relationship with the lumbar T score was evaluated.

RESULTS: Heart rate recovery index values of group 1 were respectively 31.09±5.9, 47.16±8.54, and 65.61±11.22 beats/minute. Heart rate recovery index values of group 2 were respectively 24.21±7.11, 37.30±9.29, and 49.45±11.09 beats/minute. Heart rate recovery index values of group 3 were respectively 17.21±3.51, 28.28±4.14, and 35.28±3.60 beats/minute. There were statistically significant differences between the three groups in terms of heart recovery index values at the first-minute recovery phase of the treadmill exercise test (F value=25.65 and P value<0.01). There were statistically significant differences between the three groups in terms of heart recovery index values at the second-minute recovery phase of the treadmill exercise test (F value=26.52 and P value<0.01).). There were statistically significant differences between the three groups in terms of heart recovery index values at the third-minute recovery phase of the treadmill exercise test (F value=45.91 and P value<0.01). There were statistically significant positive correlations between T score and heart rate recovery index value at first-minute recovery phases of treadmill exercise test in groups 1, 2, and 3 (Respectively, R=0.29 and P=0.049, R=0.38 and P<0.01, R=0.51 and P < 0.01).

CONCLUSION: In postmenopausal women, the lower t score, the higher degree of autonomic dysfunction. There was a statistically significant relationship between T score and heart rate recovery index values.

Keywords; Postmenopausal Women, Lumbar T Score, Heart Rate Recovery-Index

ID: **246**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

EVALUATION OF SPATIAL QRS-T ANGLE IN PATIENTS WITH SARCOIDOSIS

Mustafa Yılmaz[1], Hatice Eylül Bozkurt Yılmaz[2]

[1]*Baskent University, Adana, Turkey*

[2]*Seyhan State Hospital, Adana, Turkey*

[*]*Corresponding Author (yilmazmustafa2001@yahoo.com)*

Objective: Cardiovascular risk may be increased in patients with sarcoidosis because common mechanisms such as inflammation and oxidative stress play a role in the pathophysiology of sarcoidosis and atherosclerosis. The aim of this study was to evaluate whether this risk increases. Therefore, the spatial QRS-T angle, a marker of cardiovascular risk, was measured in sarcoidosis patients and a control group.

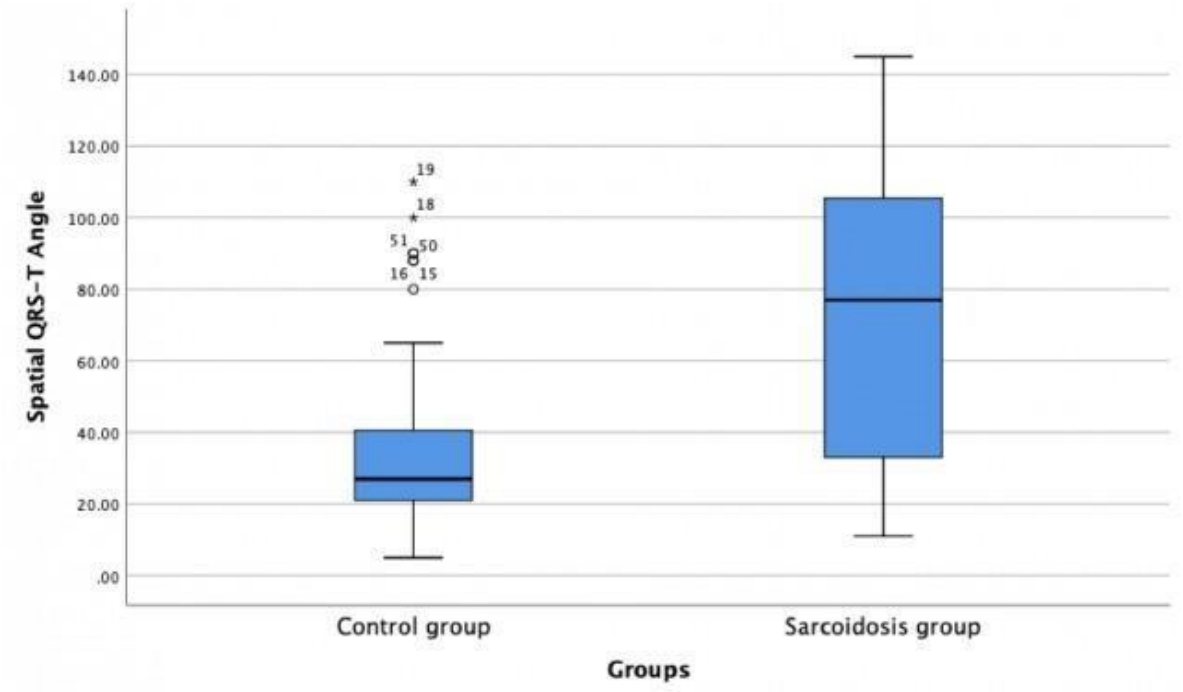
Methods: A retrospective examination was made of the records of patients followed up with the diagnosis of sarcoidosis in the Pulmonary Diseases, Outpatient Clinic of Baskent University Faculty of Medicine Adana Hospital. All eligible patients had electrocardiograms (ECG) at the time of initial diagnosis before treatment. The spatial QRS-T angle was calculated according to the 'simple' method, using amplitudes of QRS and T waves in leads aVF, V2, V5 and V6 in the calculation QRSnet= Ramp − |S/QSamp|, Tnet= (+) Tamp − |(−) Tamp. These values were calculated and recorded in the 4 leads, then, the QRS-T angle was calculated by replacing the values in the formula given below.

$$\mathrm{QRS/T}_{simple} = \arccos \frac{[(QRS_{net}\,V_6 \times T_{net}\,V_5) + (QRS_{net}\,V_{aVF} \times T_{net}\,V_{aVF}) + (QRS_{net}\,V_2 \times T_{net}\,V_2)]}{\sqrt{QRS_{net}\,V_6{}^2 + QRS_{net}\,V_{aVF}{}^2 + QRS_{net}\,V_2{}^2)} + \sqrt{(T_{net}\,V_5{}^2 + T_{net}\,V_{aVF}{}^2 + T_{net}\,V_2{}^2)}}$$

The spatial QRS-T angle was calculated with the same method in an age and gender-matched healthy control group and statistically significant differences were investigated.

Results: A total of 106 subjects were included in the study (55 patients diagnosed as sarcoidosis and 51 healthy volunteers). There was no statistically significant difference between the groups in terms of baseline demographic characteristics (p> 0.05). The spatial QRS-T angle was 73.7 (32-109, IQR = 77) in the patient group and 27 (21-41, IQR = 20) in the control group, and the difference was statistically significant (p <0.001). Figure-1 shows the comparison of spatial QRS-T angles between the groups.

Conclusion: The results of this study showed that the spatial QRS-T angle was increased in patients with sarcoidosis, suggesting that cardiovascular risks may be increased in patients with sarcoidosis. Prospective studies involving a large number of patients are needed to be able to make more conclusive judgments.


Spatial QRS-T Angle
140.00
120.00
100.00
80.00
60.00
40.00
20.00
.00
19
18
51
50
16
15
Control group
Sarcoidosis group
Groups

ID: **49**

Topic: **Cardiology » Cardiac pacing for bradyarrhythmias**

Presentation Type: **Oral**

FACTORS AFFECTING THE RECOVERY OF ATRIOVENTRICULAR BLOCK; A TERTIARY CENTER EXPERIENCE

Samet Yılmaz, Mehmet Kılınc

Pamukkale University, Pamukkale/Denizli, Turkey

**Corresponding Author (sametyilmazmd@gmail.com)*

Aim: Atrioventricular (AV) block is a partial or complete interruption of impulse transmission from the atria to the ventricles. AV block can occur due to many causes, including ischemia, medications, systemic diseases, idiopathic fibrosis of conduction system and some infections. In this study our aim was to determine clinical factors related to recovery of conduction system in patients presenting with AV block.

Methods: A total of 178 patients which were hospitalized into a tertiary center due to AV block between January 2013 and March 2019 were retrospectively analyzed. Patient characteristics, demographic and clinical factors were determined from hospital records. Patients were divided into two groups according to complete improvement of AV block during hospitalization. 34 patients who had completely recovered from AV block were consisted “recovery group” and remaining 144 patients were consisted “AV block group”.

Results: The average length of hospital stay was 3.6±3.5 (min 1- max 24) days and it was significantly longer in AV block group (3.8±3.7 vs 2.6±1.6 days, p=0.006). The most common cause of AV block was acute coronary syndrome (35.2%) in recovery group and idiopathic in AV block group (90.8%). Beta blocker (63% vs. 15%, p=0.005) and digoxin usage (12% vs. 1%, p=0.13) at admission was significantly higher in recovery group. 53% of patients in recovery group and 58% of patients in AV block group underwent coronary angiography during hospital stay and rate of coronary revascularization was significantly higher in recovery group (35% vs. 17%, p=0.002). 1 patient in recovery group and 12 patients in AV block group died during in-hospital stay (p=0.437). According to logistic regression analyses; younger age, presenting with acute coronary syndrome, usage of beta blocker during admission and low creatinine levels were found to be independent predictors of improvement in AV block.

Conclusions: AV block is less reversible in patients without a clear reason such as acute coronary syndrome, beta blocker usage, chronic kidney disease and older age.

ID: **76**

Topic: **Cardiology » Pregnancy and Heart diseases**

Presentation Type: **Oral**

EFFECT OF PREECLAMPSIA ON P WAVE DURATION IN 12-LEAD EKG

Şeyda Yavuzkır, Mustafa Yavuzkır

FIRAT ÜNİVERSİTESİ TIP FAKÜLTESİ, ELAZIĞ, Turkey

**Corresponding Author (syavuzkir@firat.edu.tr)*

INTRODUCTION

Preeclampsia is one of the most important complications of pregnancy and it is a multisystemic disease. However, its pathophysiology is not clear. Preeclampsia, a special pregnancy syndrome, is characterized by hypertension and urinary protein excretion and these symptoms appear after the 20th week of pregnancy. Preeclampsia is also associated with poor fetal and maternal outcomes, including intrauterine growth retardation (IUGR), placental detachment, oligohydramnios, acquired prematurity, maternal and fetal death. P-wave dispersion (PWD) was the difference between the longest and shortest P-wave duration in all electrocardiographic leads. An increase in PWD indicates heterogeneous atrial repolarization that supports re-entry mechanisms. The increase in PDW could be a predictor of supraventricular arrhythmia. Several studies have suggested that the largest P wave (Pmax) distribution measured on a 12-lead electrocardiogram is an independent predictor of paroxysmal atrial fibrillation. The aim of this study was to investigate the effect of preeclampsia on p-wave dispersion.

MATERIALS AND METHODS

This prospective, randomized, cross-sectional study was performed with 40 pregnant inpatients and outpatients in our Obstetrics and Gynecology Clinic. Twenty patients with preeclampsia and 20 healthy pregnant women with no systemic disease or pregnancy complication at the same age and gestational week were included in this study. All cases were in the third trimester of pregnancy. As a diagnostic criterion for preeclampsia, Sibai BM et al. P wave Measurements: EKG record with 12 derivations was obtained from all patients. The EKG recordings were taken in the supine position, breathing freely and without talking. The EKG recordings were adjusted to a sweep speed of 25 mm / sec and a calibration of 1 mV / cm. P wave measurements were obtained from EKG recordings by a cardiologist who did not know the clinical conditions and EKG withdrawal times. All EKGs were scanned at high resolution and transferred to a computer. The connection region where the P wave is connected to the isoelectric line was accepted as the beginning of the P wave and the end of the P wave where the P wave returned to the isoelectric line. P wave durations were measured from all leads. The longest P wave was Pmax, the shortest P wave was considered Pmin. P wave dispersion was calculated by removing the shortest P wave from the longest P wave.

Statistics SPSS (Statistical Package for Social Sciences, version 17.0, SSPS Inc., Chicago, Ill., USA) was used for statistical analysis. Continuous variables were expressed as mean ± standard deviation. T test was used to compare the measurements. $p < 0.05$ was considered significant.

FINDINGS

The mean age of all cases was 26 ± 3.2 years and the mean gestational age was 36.7 ± 1.5. There was no statistically significant age difference between the two groups. Minimal P wave duration of preeclamptic pregnant patients was 62 ± 11 msn; maximal P wave duration was 107 ± 12 msec, P wave dispersion was 45 ± 1.2 msec. Minimal P wave duration of the control groups was 58.3 ± 9.2 msn; maximal P wave duration was 96.5 ± 11 msec and P wave dispersion was 38 ± 1.8 msec. There was a statistically significant difference between the groups ($p < 0.05$).

DISCUSSION

In our study, we found that PDW, which is an ECG measurement parameter that can be obtained without requiring an interventional procedure, affects PDW in predicting the risk of developing AF in preeclamptic pregnant patients.

ID: **25**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

FRAGMENTED QRS: A NEW INDEPENDENT PREDICTOR OF MORTALITY FACTOR IN CHRONIC KIDNEYDISEASE PATIENTS WHO HAVE CORONARY ARTERY CALCIFICATION

Ömer Faruk Doğan[1], Ali Vahip Temamoğulları[2], Tural Terzi[3]

[1]*Kafkas University School of Medicine , Kars, Turkey*

[2]*Balıklıgöl Goverment Hospital, Sanliurfa, Turkey*

[3]*The Privaye Hatay Hospital, Hatay, Turkey*

[*]*Corresponding Author (ofdogan@hacettepe.edu.tr)*

Background: Our aim of this study was to investigate the relationship between QRS fragmentation and clinical outcome in asymptomatic chronic kidney disease patients.

Patients and Methods: One-Hundred-Sixty-four asymptomatic chronic kidney disease patients were included for in this study. Electrocardiographic analyses were performed to detect fQRS. Coronary artery calcific score has also been measured by using 64-Slices multi-detector computed tomography. A high-sensitive C-reactive protein, intact parathyroid hormone, total calcium and phosphates have were also been recorded. We followed the patients for cardiovascular events, mortality and morbidity during five years.

Results: Fragmented QRS has been was detected in 55 chronic kidney disease patients (33.5%) (Group 1). There was no evidence of QRS fragmentation in the remaining 109 patients (Group 2). The overall mean coronary artery calcific score was 744±443.2. The mean Coronary artery calcific score was 1286 ± 334.6 and 201± 57.6 in Group 1 and Group 2, respectively (P=0.001). Fourteen patients in group 1(25.6 %), and 18 patients in group 2 (16.3%) died due to cardiovascular events (P=0.0034). Twenty-two patients (40.7 %) in Group 1, and 32 patients (29 %) in Group 2 were required coronary revascularization during the follow-up period (P=0.030).

Conclusion: Our study showed that there was a strong correlation between the presence of fragmented QRS, coronary artery calcific score and future cardiovascular events in hemodialysis patients. In our opinion, fragmented QRS and coronary artery calcific score can be investigated in asymptomatic chronic kidney disease patients as the cheapest and non-invasive method.

ID: **123**

Topic: **Cardiology » Pregnancy and Heart diseases**

Presentation Type: **Oral**

ASSESSMENT OF ATRIAL CONDUCTION TIME AND P WAVE DISPERSION IN PATIENT WITH GESTATIONAL DIABETES MELLITUS

Zafer Kök, Isa Sincer, Yılmaz Güneş, Ülkü Mete Ural

ABANT İZZET BAYSAL UNİVERSİTY, BOLU, Turkey

**Corresponding Author (zfrkok@gmail.com)*

OBJECTIVE: Gestational Diabetes Mellitus (GDM) is a glucose tolerance disorder at any level that starts with pregnancy or is noticed during pregnancy. The risk of developing type 2 diabetes mellitus (DM) and cardiovascular disease has increased in women with GDM during long-term follow-up. DM patients are at high risk for atrial fibrillation, and a significant proportion of patients with atrial fibrillation are diabetic. It is known that prolonged P wave dispersion and electromechanical delay times obtained by tissue Doppler echocardiography are noninvasive predictors of atrial fibrillation development. It is also known that it can predict the development of atrial fibrillation. In our study we aimed to asses atrial conduction time and P wave dispersion in GDM patients.

METHODS: 30 patients with GDM and 30 healthy pregnant women were included in the study. Atrial electromechanical time (PA) was measured by tissue doppler lateral mitral annulus (PA lateral), septal mitral annulus (PA septum) and right ventricular tricuspid annulus (PA tricuspid). P-wave dispersion (PDD) was obtained by subtracting the minimum P (Pmin) time from the maximum P (Pmax) wave time that can be measured in twelve-lead electrocardiography. The results were compared with GDM and control groups.

RESULTS: P wave dispersion was 52.7 ± 5.1 ms in the GDM group and 28.9 ± 4.2 ms in the control group ($p < 0.001$). In the GDM group, PA lateral was 65.7 ± 4.2 ms and in the control group 47.7 ± 4.7 ms ($p < 0.001$).Interatrial, intraatrial and intraleft atrial delay times were significantly higher in the GDM group (median values, respectively, 18ms versus 12ms, ($p < 0.001$); 10ms versus 7.5ms, ($p < 0.001$); 4 ms versus 4 ms, ($p < 0.001$). There was a positive correlation between intraatrial delay time and P wave dispersion in GDM group ($r:0,39$, $p = 0.033$).

CONCLUSIONS: The main finding of our study was the maximum P wave duration, minimum P wave duration and longer P wave dispersion in the GDM group compared to the controls. In addition, atrial conduction times were longer in GDM group. GDM patients should be monitored for atrial arrhythmias, in addition to blood sugar and gestational follow-up. Patients with high risk for the development of atrial fibrillation can be pre-determined and the formation of diseases, such as stroke, which is the most feared complication, can be prevented in advance.

ID: **208**

Topic: **Cardiology » Inherited arrhythmia syndromes**

Presentation Type: **Oral**

SHORT QT VILLAGE

Erkan Baysal[1], **Cengiz Burak**[2]

[1]*Healtly Science University Diyarbakır Gazi Yaşargil Training and Researh Hosptital, Diyarbakır, Turkey*

[2]*Kafkas university, Kars, Turkey*

[*]*Corresponding Author (dr.erkan.baysal@hotmail.com)*

Abstract:

Short QT syndrome (SQTS) is an inherited cardiac channelopathy characterized by an abnormally short QT interval and increased risk for atrial and ventricular arrhythmias. Diagnosis is based on the evaluation of symptoms (syncope or cardiac arrest), family history and electrocardiogram (ECG) findings. Mutations of cardiac ion channels responsible for the repolarization orchestrate electrical heterogeneity during the action potential and provide substrate for triggering and maintaining of tachyarrhythmias. Due to the malignant natural history of SQTS, implantable cardioverter defibrillator (ICD) is the first-line therapy in affected patients.

We screened one family included 57 members. we described 15 patients with short qt syndrome. we defined short qt syndrome due to ESC definition. We implant ICD 7 seven patients with symptoms, one of index event. We follow up mean 24 months and we screen inappropriate shocks 6 patients. We described biggest short qt family uptill time.

ID: **613**

Topic: **Cardiology » Inherited arrhythmia syndromes**

Presentation Type: **Oral**

CONTACT DERMATITIS DUE TO ECG ELECTRODE

Perihan Varım

Sakarya Eğitim Araştırma Hastanesi, Sakarya, Turkey

**Corresponding Author (perihanvarim@hotmail.com)*

In coronary intensive care units (ICU) monitoring and frequent electrocardiography (ECG) is one of the most important procedures in patient follow-up. Patients are continuously follow-up with monitor during their stay in the ICU, the ECG) lead placement in certain parts of the patient's body or electrodes are placed at certain intervals and ECG practice are repeated. Allergic reactions of (ECG) electrodes have been reported during ECG monitoring. Allergic reactions to electrodes most depend on the gel used. Dermatitis that occurs within 48-96 hours after skin contact with allergen and develops as a late type hypersensitivity reaction due to cellular immunity is called contact dermatitis. In this case, we present a case of contact dermatitis due to ECG electrode in a non-atopic patient.

CASE REPORT

A 43-year-old male patient presented to the emergency department with the complaint of syncope 8 times in 24 hours. The patient was consulted to the cardiology department due to recurrent syncope. When the ECG showed ST elevation in leads V1-V3, the patient was admitted to the coronary intensive care unit. In the follow-up the patient, ECG findings were consistent with Brugada, patient presented with syncope and family history of cardiac death at an early age implantation implantable cardioverter defibrillator (ICD) was planned. ICD implantation was performed on the 3rd day of hospitalization. The patient was discharged one day later with a clean wound. One day after discharge, he was admitted to the cardiology clinic with complaints of common burning, tenderness, redness and itching. In the physical examination of the patient, a ring-shaped rash was seen.in many parts of his body that was compatible with the regions where ECG electrodes were placed. The patient was consulted with dermatology department and diagnosed as contact dermatitis. Regression of lesions were seen after topical steroids

DISCUSSION

Patient monitoring in coronary intensive care units is very important for arrhythmia and ischemia monitoring is performed by placing the electrodes in certain areas. allergies or dermatitis to ECG electrodes are not common but seen. Allergy-causing parts of the ECG electrodes may be in the adhesive part or the gel part

Dermatitis that develops as a hypersensitivity reaction within 48-96 hours after contact with allergens is called contact dermatitis .While it is common in some areas of the body, scalp is rare or not seen in areas such as palms. The areas where the lesions are seen give an idea about the allergen substance for example, in our patient, the lesions showed the wrists with ECG body electrodes placed on the anterior chest and those on the ankle with the extremity leads.



ID: **622**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

INFLUENCE OF E-CIGARETTE SMOKING ON VENTRICULAR REPOLARIZATION DISPERSION ON HEALTHY INDIVIDUALS

Dogac Oksen, **Veysel Oktay**

Istanbul University Cerrahpasa Institute of Cardiology, Istanbul, Turkey

**Corresponding Author (dogacoksen@gmail.com)*

Background

However, there is limited information about risks and effects of electronic cigarettes (e-cigarettes), the usage of e – cigarettes are exponentially increasing. E- cigarettes are vaporizing a liquid solution including nicotine. We have already known that just a single classic cigarette smoking increase QT dispersion (QTD) and cause increased risk of ventricular fibrillation (VF) and sudden cardiac death (SCD). QT dispersion is an important predictor of SCD. We aimed to compare electrocardiographic properties between e- cigarette users and non – users whether there is a risk increment.

Methods

40 heavily e – cigarette user healthy individuals were admitted to this study and 45 sex-matched healthy non-smoker individuals constituted control group. 12 lead Electrocardiography with 25mm/s paper speed and 10mm/mV voltage was performed to all subjects and The Tp-e interval, Tp-e/QT ratio and Tp-e/QTc ratio were assessed from recordings and corrected by heart rates.

Results

Mean age was 31±10.4 in e-cigarette user group and 33.4±13.2 in non-smoker group. %75 (n: 30) of the e-cigarette group was male and the ratio in non-smoker group was %71.1 (n:32). There was not any demographic changes and clinical findings difference between the groups. The baseline PR, QT and QTc values were similar in two groups. Tp-e interval (88.2±9.5ms and 74.2±7.1 ms; p:0.04), Tpe/QT ratio (0.22±0.04 and 0.20±0.03; p<0.01), Tp-e/QTc (0.23±0.03 and 0.17±0.02; p<0.01) ratios were significantly higher in e-cigarette using group.

ID: **463**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

THE PREDICTIVE VALUE OF RS TIME FOR SHORT TERM MORTALITY IN PATIENTS WITH ACUTE PULMONARY EMBOLISM

Ayça Gümüşdağ, **Cengiz Burak**, Muhammed Süleymanoğlu

Kafkas University, Kars, Turkey

Corresponding Author (aycagumusdag999@hotmail.com)

Objective: Acute pulmonary embolism (PE) is an emergency situation with high mortality even if diagnosed early and treated appropriately. Although electrocardiographic (ECG) changes may not be helpful in diagnosing the disease, it may be important for us to provide information about the course of the disease. In our study, we aimed to assess the predictive value of RS time which is a novel electrocardiographic parameter on 1-month mortality of acute pulmonary embolism.

Methods: This retrospective study included 216 patients who were diagnosed with acute pulmonary embolism by pulmonary CT angiography. The patients' ECG on admission was evaluated by two experienced cardiologists using the ImageJ program. The patients were divided into two groups according to median values of RS time (1. Group was defined as RS time ≤60 msec (n:108) and 2. Group was defined RS time > 60 msec (n:108). Laboratory, clinical and demographic characteristics of the patients were obtained from the hospital registry system.

Results: The study population comprised a total of 216 patients (mean age: 66±15.7 years; 59.7% [n=129] female). The patients with RS time >60 msec have much more 1-month mortality than in those with RS time ≤60 msn. Among the ECG parameters only RS time> 60 msec was an independent predictor of 1- month mortality of patients with PE (HR: 4.329, 95%CI: 1.649-11.365; p= 0.003).
Conclusion: As a novel ECG parameter, RS time could be measured for each patient with PE. RS time >60 msec could be a very useful index for predicting 1-month mortality of patients diagnosed with PE.

The smoking habits and years of smoking was not correlated with Tp-e interval, Tp-e/QT or Tp-e/QTc ratios.

Discussion: E-cigarettes were also increasing sympathomimetic activity and therefore defined as arrhythmogenic substance. This study demonstrates alterations of ventricular repolarization that may culminate in fatal ventricular arrhythmias. E-cigarettes may reduce some adverse effects of tobacco usage but addicts should know that e-cigarettes are not harmless rather that standard cigarettes.

	All Patients; n:216	RS time ≤ 60 msec; n: 108	RS time > 60 msec; n: 108	p value
Age; years	66 ±15,7	65 ±14,9	67 ±16	0,279
Female gender; (%)	129 (59,7%)	73 (67,6%)	56 (51,9%)	0,018
Diabetes Mellitus; (%)	40 (18,5%)	17 (15,7%)	23 (21,3%)	0,293
Hypertension; (%)	104 (48,1%)	47 (43,5%)	57 (52,8%)	0,173
Heart Rate; /min	102 ±21	102 ±22	102 ±21	0,722
Sustained Atrial Arrhythmia; (%)	22 (10,2%)	7 (6,5%)	15 (13,9%)	0,072
Right Axis Deviation; (%)	8 (3,7%)	4 (3,7%)	4 (3,7%)	1
RBBB; (%)	34 (15,7%)	8 (7,4%)	26 (24,1%)	0,001
S1Q3T3; (%)	47 (21,8%)	19 (17,6%)	28 (25,9%)	0,138
QRS Duration; msec	95 (90-110)	90 (85-100)	105 (95-120)	<,001
RS Duration; msec	60,1 (55,2-70)	55,2 (50-60)	70,0 (64,8-80)	<,001
RS Time Lead Group; (%)				
V1-V3	65 (30,1%)	34 (31,5%)	31 (28,7%)	0,458
V4-6	95 (44,0%)	51 (47,2%)	44 (40,7%)	
d1-aVL	25 (11,6%)	11 (10,2%)	14 (13,0%)	
d2-d3-aVF	31 (14,4%)	12 (11,1%)	19 (17,6%)	
Duration of Hospitalization; days	8 (7-11)	8 (7-11)	8 (7-11)	0,726
Inhospital Mortality; (%)	18 (8,3%)	3 (2,8%)	15 (13,9%)	0,003
Mortality, First Month; (%)	33 (15,3%)	5 (4,6%)	28 (25,9%)	<0,001

Table 1: Table 1. Demographic, clinical and laboratory characteristics of all patients, patients with and without RS time > 60 msec.

	Univariable Analyses				Multivariable Analyses			
	p value	HR	95,0% Confidence Interval		p value	HR	95,0% Confidence Interval	
Age, years	<0,001	1,081	1,043	1,119				
CAD*	0,042	2,118	1,027	4,368				
Pulmonary Disease	0,031	2,223	1,078	4,583				
Malignancy	0,007	2,776	1,321	5,832				
CPA	0,011	6,539	1,552	27,559				
SBP	0,002	0,975	0,960	0,991				
BUN	<0,001	1,023	1,016	1,030				
Creatinine	0,008	5,366	1,552	18,553				
eGFR	0,020	0,975	0,954	0,996				
ALT	0,019	1,007	1,001	1,012				
Hemoglobine	0,020	0,832	0,713	0,971				
Lactate*	0,001	3,268	1,584	6,741	0,004	2,928	1,412	6,071
sPESI≥1	0,008	15,058	2,057	110,209				
Hemodynamic Instability	0,001	3,222	1,620	6,409				
Risk Group*	0,001	0,515	0,354	0,751	0,005	0,558	0,373	0,836
Rhythm*	0,004	3,248	1,463	7,215				
QRS Duration*	0,010	1,018	1,004	1,031				
RS Time > 60ms*	<0,001	5,925	2,287	15,348	0,003	4,329	1,649	11,365

Table 2: Univariate and Multivariate Analysis of First Month Mortality

Oral Presentation Session

Various Aspects of Pulmonary Hypertension

Date: 12.03.2020 Time: 11:15 - 12:15 Hall: 5

ID: **32**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

ENDOCAN AS A NEW ENDOTHELIAL MARKER IN SECONDARY PULMONARY ARTERIAL HYPERTENSION

Gamze Aslan

Koc University Hospital, istanbul, Turkey

**Corresponding Author (gaslan@kuh.ku.edu.tr)*

Background: Secondary pulmonary arterial hypertension (SPAH) is associated by inflammation, endothelial dysfunction and vascular re-modeling. Endocan (endothelial cell specific molecule-1, ESM-1), is known a new endothelial dysfunction biomarker, could be a potential immunoinflammatory biomarker for SPAH. We aimed to investigate the possible link between serum endocan levels and SPAH.

Methods: We prospectively enrolled 56 SPAH patients and 72 control group. For each patient, echocardiography and serum endocan levels were assessed at hospital admission.

Results: Overall, there was not significant difference between the two groups in demographic data and general risk factors such as hyperlipidemia, hypertension, diabetes mellitus, coronary artery disease and smoking. Patients with SPAH had higher serum endocan levels (3.20 ng/dl (0.39-17.30) vs 1.72 ng/dl (0.20-8.64), p:0,02) than patients without SPAH. Serum endocan levels were significantly correlated with systolic pulmonary artery pressure and left atrial volume index (r:0,289, p<0,001, r: 0,495, p<0,001, respectively). Additional, serum endocan level and diastolic dysfunction (DD) were detected as independent risk factors of SPAH (p: 0.02, B: 1.27, CI: 1.09-1.48, p< 0.001, B: 0.05, CI: 0.02-0.17, respectively).

Conclusion: Resulting of this study, finding high serum endocal levels in patients with SPAH than without SPAH could be associated with immunoinflammatory mechanisms and endothelial dysfunction. However, there is a need for randomized controlled trials for understanding these mechanisms.
Keywords: Endocan, secondary pulmonary arterial hypertension, inflammation

ID: **244**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

RECOVERY IN PULMONARY HYPERTENSION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AFTER KARAKOCA RESECTOR BALLOON TREATMENT: PRESENTATION OF FOUR CASES

Emrah Ipek[1], Baykal Erturk[2], Seha Akduman[3], Huseyin Beyazit[4], Yalcin Karakoca[2]

[1]*Nisantasi University, Nisantasi Vocational School, Istanbul, Turkey*

[2]*Fulya Akciger Grubu, Istanbul, Turkey*

[3]*Yeditepe University, Istanbul, Turkey*

[4]*Special Family Hospital, Istanbul, Turkey*

[*]*Corresponding Author (dremrah21@yahoo.com)*

Introduction: Chronic obstructive pulmonary disease (COPD) is among the most common pulmonary diseases related to pulmonary hypertension (PH). Development of PH causes decrease in exercise capacity, deepening of hypoxemia and shortening of survival. Herein, we present four individuals admitted to our clinic for cardiovascular examination before and one month after resector balloon therapy.

Materials and Methods: The patients had severe or very severe COPD according to the GOLD staging system. The clinical features, spirometry and echocardiography were performed before and one month after Karakoca resector balloon therapy. One patient is female and other patients were male, and they are between 57 to 74 years of age. FEV1, FEV1/FVC, PEF, MEF25-75, Left and right heart diameters and systolic pulmonary artery pressures (sPAP) were measured before and one month after Karakoca resector balloon therapy.

Results: Clinical features, spirometric and echocardiographic measurements are presented in tables 1 and 2. None of patients had heart disease that may affect sPAP. After balloon therapy, one patient's score decreased to GOLD grade 1 from 3, other 3 patients' scores decreased to GOLD grade 3 from 4. The functional capacity of all patients increased after treatment. The sPAP at admission were 45, 50, 62, 67 mmHg and after balloon resector therapy were 24, 20, 22, 32 mmHg, respectively.

Discussion and Conclusion: The presented patients with severe or very severe COPD, had decrease in sPAP and GOLD scores and increase in functional capacity after Karakoca resector balloon. These findings are important in terms of morbidity and survival of this patient group. In COPD, although standard medical management can alleviate and retards the progression of the disease, complete clinical and spirometric recovery may not be possible. Karakoca resector balloon treatment, which has relatively lower popularity among cardiologists, may provide a more sustainable symptom relief, increased oxygen saturation and improvement in PH and spirometric measurements in COPD patients.

Table 1. Basic clinical and demographic characteristics of the patients

	Patient 1	Patient 2	Patient 3	Patient 4
Age (years)	74	72	68	57
Gender (F/M)	M	M	F	M
BMI (kg/m^2)	22,3	34.8	39,3	16
Smoking status (Packages years)	40	50	-	-
Hypertension	-	-	+	+
Diabetes	-	-	+	-
Chronic renal failure	-	-	-	+
Coronary artery disease	-	-	-	-
Heart rate (bpm)	80	95	102	65
ECG	Sinus rhythm	Sinus rhythm	Sinus tachycardia	Sinus rhythm
Hemoglobin (g/dl)	15,5	13,9	16,6	11,1
Platelets (10^3/μL)	185	295	186	268
WBC (10^3/μL)	5,53	8,3	5,6	17,1
Neutrophils (10^3/μL)	3,2	5,8	4,5	13,1
Urea (mg/dl)	40	33	36	80
Creatinine (mg/dl)	1.06	0.93	0.67	6.2
AST (U/L)	13	13	18	25
ALT (U/L)	7	21	26	10
CRP (mg/L)	12.5	9.7	10.1	13.2

Abbreviations: ALT, alanine aminotransferase; AST, aspartate aminotransferase; bpm, beats per minute; BMI, body mass index; CRP, C reactive protein; NYHA, New York Heart Association; WBC, white blood cell.

Table 2. Clinical scores, oxygen saturation and echocardiographic and spirometry measurements before and one month after resector balloon treatment

Parameters	Patient 1		Patient 2		Patient 3		Patient 4	
	Before	After	Before	After	Before	After	Before	After
Ejection fraction (%)	66	65	65	65	66	66	65	65
LVEDD (cm)	4.6	4.6	4.8	4.8	4.7	4.8	4.4	4.4
LA (cm)	3.8	3.9	4.0	4.1	3.6	3.5	4.3	4.2
RVEDD (cm)	4.0	3.9	4.8	4.7	4.2	4.1	3.7	3.7
RA (cm)	4.3	4.3	5.6	5.6	3.9	3.9	3.5	3.6
sPAP (mmHg)	45	24	50	20	62	22	67	32
FEV1 (L, %)	0.67, 25	0.87, 32	0.65, 24	0.78, 28	0.76, 41	1.42, 76	0.67, 22	1.01, 29
FEV1/FVC (%, % predicted)	35, 46	37, 49	48, 62	55, 72	63, 82	71, 92	36, 48	39, 51
PEF (L/sec, %)	3.52, 48	3.34, 46	2.0, 27	2.03, 28	2.13, 39	5.31, 98	2.97, 38	2.37, 28
MEF 25-75(L, %)	0.28, 14	0.32, 16	0.24, 11	0.37, 17	0.38, 14	0.85, 32	0.26, 12	0.38, 16
Oxygen saturation %	82	93	84	94	85	95	82	92
GOLD	4	3	4	3	3	1	4	3
NYHA class	3	2	2	1	3	1	4	2

Abbreviations: FEV, forced expiratory volume; FVC, functional vital capacity; GOLD, Global Initiative for Chronic Obstructive Lung Disease; LA, left atrium; LVEDD, left ventricular end diastolic diameter; MEF, maximum expiratory flow; NYHA, New York Heart Association; PEF, peak expiratory flow; RA, right atrium; RVEDD, right ventricular end diastolic diameter; sPAP, systolic pulmonary artery pressure.

ID: **10**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

NEUTROPHIL TO LYMPHOCYTE RATIO MAY BE HELPFUL IN PREDICTING THE COMPOSITION OF THE PERICARDIAL EFFUSION

Cemil Zencir[1], Sercan Çayırlı[1], Sevil Gülaştı[2], Ahmet Kenan Doğan[1], Hasan Güngör[1], Çağdaş Akgüllü[1]

[1]*Adnan Menderes University, Aydın, Turkey*

[2]*Gediz State Hospital, Kütahya, Turkey*

[*]*Corresponding Author (drczencir@hotmail.com)*

Background: Early and definitive diagnosis is crucial in patients with pericardial effusion. Pericardial effusions can be caused by a variety of disorders.

Objective: Pericardial fluid requires pericardiocentesis to identify whether the composition of the fluid is transudate or exudate. In this study, we compared the neutrophil to lymphocyte ratio (NLR) with pericardial fluid protein / serum protein ratio to discriminate transudates or exudates in pericardial fluid.

Methods: Seventy-five of 107 consecutive patients who were admitted to a university tertiary-care center with new-onset large pericardial effusions and undergone pericardiocentesis between were retrospectively analyzed. Clinical characteristics, final diagnosis, and pericardial fluid and serum total protein measurements, and hematological parameters were retrieved from the patient charts. Patients were divided into two groups with regard to the nature of the pericardial fluid as exudates and transudates according to the Light's criteria.

Results: Pericardial fluid protein / serum protein ratio (PP/SPR) and NLR were significantly higher in the exudates group than in the transudates group ($p<0.001$). ROC curve analysis revealed that NLR value of 3.93 was able to determine exudates pericardial fluid with 79.3% sensitivity, and 82.4% specificity (Figure 1).

Conclusion: NLR might be used to identify the nature of the pericardial fluid with a high sensitivity and specificity before pericardiocentesis.

Keywords: pericardial effusion, pericardiocentesis, neutrophil-to-lymphocyte ratio, transudates, exudates

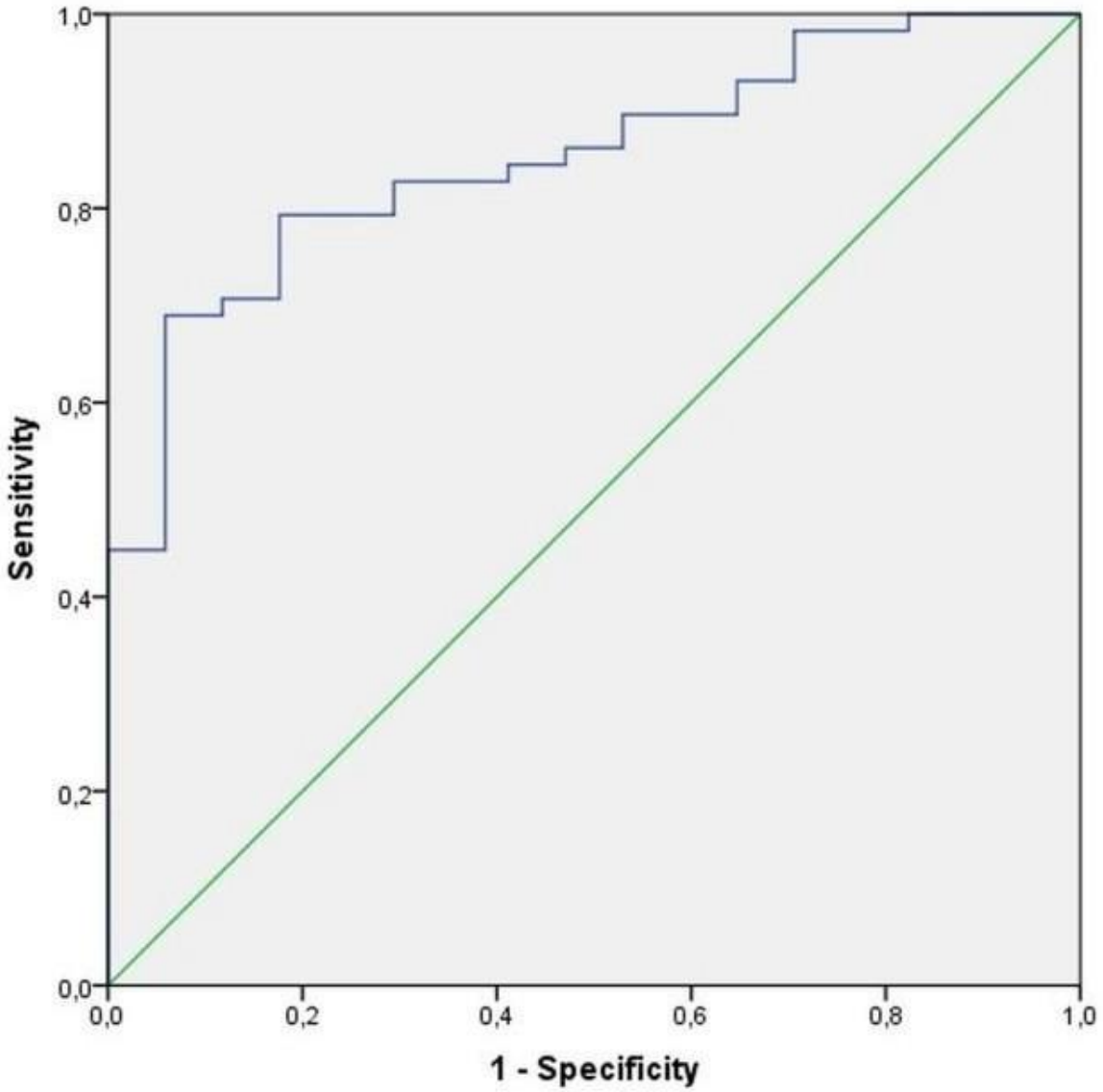


Figure 1: ROC of NLR for identifying pericardial effusions with exudate composition.

ID: **176**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN PULMONARY ARTERIAL HYPERTENSION AND GALECTIN IN PATIENTS WITH HUMAN IMMUNODEFICIENCY VIRUS INFECTION

Ömer Görkem Göldağ

BOZÜYÜK DEVLET HASTANESİ, BİLECİK, Turkey

**Corresponding Author (gorkemgoldag@hotmail.com)*

Objectives: Pulmonary arterial hypertension (PAH)rate in patients with human immunodeficiency virus (HIV)infection is 2500 times greater than in general population. In patients with unexplained dyspnea, transthoracic echocardiography (TTE)is indicated to detect HIV-related cardiovascular complications. Previous studies showed that Galectin-3(Gal-3) levels increase in HIV infections. There were other studies in which high levels of Gal-3 were detected in patients with high pulmonary artery pressure(PAP).Our study was planned to determine predictive value of serum Gal-3 level for PAH presence in HIV-infected adults with dyspnea, by evaluating estimated systolic pulmonary artery pressure(PAPs),right ventricular(RV)functions and RV STRAIN findings via TTE.

Materials and Methods: The study was a single-center, prospective trial.30 adults with HIV infection with unexplained dyspnea underwent TTE. Participants were grouped due to mean Gal-3 level. Participants' estimated PAPs were calculated over tricuspid regurgitant flow maximum velocity (TRMAXVEL). Values over 30 mmHg were associated with elevated PAPs.

Results: 9(30%) of the participants were female and 21(70%) was male.3(10%) of the participants had estimated PAPs of over 30 mmHg. Mean Gal-3 level of these 3 participants was 20,26±3.41 ng/ml, mean TAPSE was 19,33±2.51,mean S' 14,26±2.73,mean RVFAC as 40,93±11.86,mean RVSTRAIN was -25,6±3.7.When groups were compared due to Gal-3 levels, there was not a significant difference between two groups for RV systolic function parameters. Participants with higher Gal-3 levels were older in age. Mean Gal-3 value of participants was found to be higher than mean Gal-3 level of healthy population.
Conclusion: Is high Gal-3 level an early finding in this group of patients without significant change in PAP and RV function? TTE follow-up parameters of these cases with high and low Gal-3 levels will help to test this hypothesis. Right heart catheterization was not administered, which is gold standard method for assessment of PAP. Due to low proportion of HIV in etiology of PAH, we can assume that study population is limited. Randomized studies with larger populations, different Gal-3 cut-off values and administering right heart catheterization may provide different information about relationship between Gal-3 levels and PAH in HIV.

Key Words: Pulmonary arterial hypertension, Galectin-3, TAPSE, HIV

ID: **344**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

DETERMINANTS OF ELEVATED PULMONARY ARTERY PRESSURE IN LIVER TRANSPLANT RECIPIENTS: PRELIMINARY RESULTS OF A SINGLE-CENTER EXPERIENCE

Mehmet Onur Omaygenç[1], Arzu Yıldırım[2], Özgür Ulaş Özcan[2]

[1]*Istanbul Medipol University, International Medical School, Istanbul, Turkey*

[2]*Istanbul Medipol University, Faculty of Medicine, Istanbul, Turkey*

[*]*Corresponding Author (moomaygenc@medipol.edu.tr)*

Background

Pulmonary hypertension is a considerable determinant of survival in liver transplantation. Hemodynamical impairment consistent with portopulmonary hypertension is observed approximately at 5% of the recipients. Here we aimed to assess the relationship of elevated systolic pulmonary artery pressure (sPAP) with clinical and laboratory variables during transplantation.

Methods

Data of 54 cirrhotic patients with portal hypertension (54±10 years, 27.1% female) who underwent elective transplantation were analyzed retrospectively. Demographics, preoperative lab tests, early postoperative duplex ultrasound parameters of hepatic vasculature and echocardiographic sPAP measurements were recorded. Major criteria for exclusion were significant left heart disease, severe pulmonary disease and established diagnosis of pulmonary embolism. Significant rise of sPAP was identified as having a value of 40 mmHg or higher (assembled in Group B, n=10, 20.8%).

Results

Among demographic features the only statistically significant difference was higher diagnosis-to-transplantation time (DTT) observed in Group B. In this group, mean creatinine level was higher and glomerular filtration rate (GFR) was lower as compared to Group A (Table 1). A moderate positive correlation was detected between NT-ProBNP levels and sPAP (r:044; p=0.001). Cut-off value of NT-ProBNP for estimating elevated sPAP was 166 pg/ml (AUC: 0.72, p=0.03). Viral etiology, diuretic use, DTT, INR, creatinine, GFR, and NT-ProBNP values, and measuring NT-ProBNP above 166 pg/ml were tested in logistic regression analysis. Diuretic use, DTT and measuring NT-ProBNP above 166 pg/ml were found to predict elevated sPAP (HR:9.96; 95% CI [1.27-78.25], p=0.03, and HR:0.85; 95% CI [0,73-0,98], p=0,03, and HR:0.1; 95% CI [0.01-0.72], p=0.02; respectively).

Conclusions

High serum NT-ProBNP levels, longer DTT, and diuretic use was associated with increased probability of measuring higher values of estimated sPAP during liver transplantation in our study population.

Table 1. Demographic characteristics, blood tests and postoperative hepatic imaging data of the study population. MELD, model for end-stage liver disease.

Variables	Group A (n=45)	Group B (n=9)	p value
Age, years; Mean±SD	54±9.8	55.9±7.5	0.592
Gender, female; % (n)	28.9 (13)	11.1 (1)	0.267
Body Mass Index, kg/m2; Median [Range]	29.4 [16]	27.8 [11.4]	0.825
Diagnosis-to-transplantation time, years; Mean±SD	5.4±4.9	10.4±9.6	0.023

Etiology, viral; % (n)	46.7 (21)	77.8 (7)	0.088
Child-Pugh score; Mean±SD	8.1±1.6	8.4±2.8	0.595
MELD score; Mean±SD	17.6±6.1	19.2±9.4	0.525
Diuretic use, % (n)	64.6 (29)	33.3 (3)	0.083
Propranolol use, % (n)	55.6 (25)	44.4 (4)	0.542
INR; Mean±SD	1.5±0.3	1.8±0.7	0.098
Creatinine, mg/dl; Mean±SD	0.8±0.3	1.2±0.7	0.006
GFR, ml/min/1,73m2; Median [Range]	99.8 [143.5]	76.3 [86.8]	0.032
ALT, U/l; Mean±SD	40.9±40.4	25.3±17.8	0.263
GGT, U/l; Mean±SD	72.8±70.8	39.7±32.7	0.177
Hemoglobin, g/dl; Median [Range]	10.6 [9.2]	9.6 [6.6]	0.430
Platelet count, *1000/µl; Mean±SD	108.6±91	93.3±72.5	0.638
NT-ProBNP, pg/ml; Mean±SD	240.4±291.5	457.2±408.8	0.063
Portal vein diameter, mm; Median [Range]	10.5 [7.2]	10 [4]	0.314
Portal vein velocity, cm/sec; Mean±SD	97±59.9	129.2±66.6	0.154
Hepatic vein velocity, cm/sec; Mean±SD	62.6±33.5	66.9±34.7	0.729

ID: **46**

Topic: **Cardiovascular Surgery » Pulmonary Hypertension Summit**

Presentation Type: **Oral**

OUR SURGICAL EXPERIENCES IN ACUTE AND CHRONIC PULMONARY THROMBOEMBOLISM

Mehmet Işık[1], Volkan Burak Taban[1], Ömer Tanyeli[2], Yüksel Dereli[2], Niyazi Görmüş[2]

[1]*Necmettin Erbakan Universty , Konya, Turkey*

[2]*Necmettin Erbakan Universty , Konya, United States*

[*]*Corresponding Author (drmisik@hotmail.com)*

Objective

Acute and chronic pulmonary thromboembolism patients are difficult to treat and have high mortality. In this study, it was aimed to share our experiences about pulmonary thromboendarterectomy which is not performed much more than certain centers all over the world.

Methods

A total of 13 patients with acute pulmonary embolism and chronic thromboembolic pulmonary hypertension who were operated between February 2007 and July 2018 were included in the study. Nine of these patients were operated urgently and 4 were electively operated. All patients underwent pulmonary embolectomy and endarterectomy under open heart surgery conditions. The retrospective information of the patients was obtained from the hospital software system.

Results

Of the patients who underwent pulmonary thromboendarterectomy, 6 were female and 7 were male. The mean age was 58 (38-71). As a risk factor; 7 patients had deep vein thrombosis, 3 patients had recently undergone surgery, 2 patients had malignancy, 5 patients had smoking, 1 patient had Behçet and 1 patient had cerebrovascular event. 4 cases were exitus in the 0-26 day range. Three of them were acute pulmonary embolism and 1 patient with chronic thromboembolic pulmonary hypertension.

Conclusion

Early pulmonary artery pressures were significantly decreased in patients undergoing pulmonary thromboendarterectomy. Patients diagnosed with chronic thromboembolic pulmonary hypertension should be directed to surgical centers for pulmonary thromboendarterectomy without developing permanent arteriopathy. We believe that the timing of administration to patients diagnosed with acute pulmonary embolism is important. The mortality rate of patients who underwent surgery for delayed and hypotensive shock is high.

ID: **594**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Oral**

THE RELATIONSHIP OF SYSTOLIC PULMONARY ARTERY PRESSURE AND MORTALITIY IN PATIENTS WITH INFECTIVE ENDOCARDITIS

Ömer Gedikli, Özkan Vural

ondokuz Mayıs Üniversitesi, samsun, Turkey

Corresponding Author (drgedikli@hotmail.com)

Table 1
Echocardiography finding n İn hospital mortality p N One-year mortality p Systolic Pulmonary artery pressure (SPAP) 145 145 Cardiac deaths Survived 46 35 (20- 75) 0,001 59 35 (20- 75) 0,001 99 30 (20- 90) 86 30 (20- 90)

Aim: Infective endocarditis; it is a disease with high mortality, which is defined as infection of endothelial surfaces in the heart (valve and endocardium), prosthetic heart valves and intracardiac devices (cardiac pacemaker, intracardiac defibrillator, ventricular support devices).Despite good progress of diagnosis and treatment of İnfective Endocarditis it remains high mortality ratio and the decision of treatment method is still not very clearly. In this study we sought that systolic Pulmonary artery pressure (SPAP) might be the indicator of mortality and we may use while assigning treatment.

Method: In our study, we retrospectively investigated 145 patients (≥18 years), had followed in our hospital with infective endocarditis between at 2005-2018 years. The data is analyzed via IBM SPSS V23.The suitability of data to normal distribution is examined by Shapiro Wilk. The T-test, Mann Whitney U test and Ki-square are utilized for statistical analysis. We assessed SPAP via 2D Transthoracic echocardiography and Continuous wave (CW) Doppler of the tricuspid regurgitation (TR) trace is utilized to measure the difference in pressures between the right chambers. The simplified Bernoulli equation (P = 4[TRmax]2) is used to calculate this pressure difference using peak TR velocity.

Results: The average of patient`s age was 53 and n:75(55%) was male. The most affected valve was mitral (48.3%) and the most commonly identified microorganism was staph aureus (41,4) in blood culture. The n:46(31%) patients had cardiac death in hospital and the mean SPAP was higher than survived group n:99(69%) (respectively 35mmhg and 30mmhg p:0.001)(Table 1) .In our study increasing in SPAP found strongly associated with in hospital and one year mortality in patients with infective endocarditis.

Conclusion: The SPAP might be useful while determining treatment method in patients with infective endocarditis and early surgical treatment should considered in increased SPAP.

ID: **555**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

SYSTEMIC ARTERIAL STIFFNESS IN PATIENTS WITH PULMONARY HYPERTENSION

Abdullah Tuncez, **Muhammed Ulvi Yalcin**

Selcuk University, Konya, Turkey

**Corresponding Author (drtuncez@yahoo.com)*

Objective: Patients with pulmonary arterial hypertension (PAH) show endothelial dysfunction and increased stiffness in pulmonary arteries. Patients with PAH also show endothelial dysfunction in systemic arteries. Systemic arterial stiffness is an early marker of vascular damage. Pulse wave velocity (PWV) measured from the brachial artery is a reliable indicator of arterial stiffness. There aren't enough data in patients with PAH about arterial stiffness in systemic arteries. The aim of the study was to compare endothelial function and stiffness of systemic arteries between patients with PAH and healthy subjects. Also, we evaluate relationship with functional capacity and PWV in patients with PAH.

Methods: We were included patients with PAH and age-gender matched healthy subjects with a normal ambulatory blood pressure recording. 27 patients with PAH (age: 48.89 ± 18.35 years, 25.9 % male) and 27 healthy control subjects (age: 48.93 ± 18.09 years, 25.9 % male) were enrolled in the study. Pulse wave velocity (PWV) measured from the brachial artery.

Results: Compared with control subjects, patients with PAH had higher PWV (8.33±2.25 and 7.16 ± 1.94, respectively; p= 0.045). Also, PWV correlated distance covered in the 6-min walk test (r=-0.425; p=0.027) and functional class (r=0.513; p=0.006).

Conclusions: Patients with PAH have increased PWV in systemic arteries. Given the relationship between PWV and PAH severity, systemic arterial stiffness might serve as a marker of disease severity and response to treatment.

ID: **631**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

WHAT'S THE PREDICTIVE VALUE OF FRAGMENTED QRS IN MORTALITY FOR CHRONIC PHASE OF PULMONARY THROMBOEMBOLISM?

Abdulla Arslan[1], Fatih Aytemiz[2], Baris Duzel[3], Gokmen Akkaya[4], Umut Kocabas[5], Nezihi Baris[6]

[1]*baskent university hospital, ISTANBUL, Turkey*

[2]*Manisa state hospital, Manisa, Turkey*

[3]*Mersin state hospital, MERSIN, Turkey*

[4]*Hospital of Ege University , Izmir, Turkey*

[5]*Baskent Hospital, İstanbul, Turkey*

[6]*Hospital of Dokuz Eylul University, Izmir, Turkey*

[*]*Corresponding Author (apaslan@msn.com)*

Objective

Presence of fragmented QRS (fQRS) complex in a 12-lead electrocardiogram (ECG) has been shown to represent defect of intramyocardial conduction. Presence of f(QRS) on ECG related to high mortality in acute coronary syndrome and pulmonary thromboembolic patients. The aim of our study is to evaluate whether patients who already known as pulmonary thromboembolism (PTE) and have a fragmented QRS on their ECG to determine effects of all cause mortality in long term.

Method

The study group consisted of patients with already diagnosed as PTE and admitted to any department of Dokuz Eylul university hospital with any disease in 2013. This study was single-centre and retrospective designed and we had picked up 191 patients who met the criteria. The ECGs were found from the patient's registries and evaluated. We followed-up the patients 5 year and checked their survival time from the government death notification system.

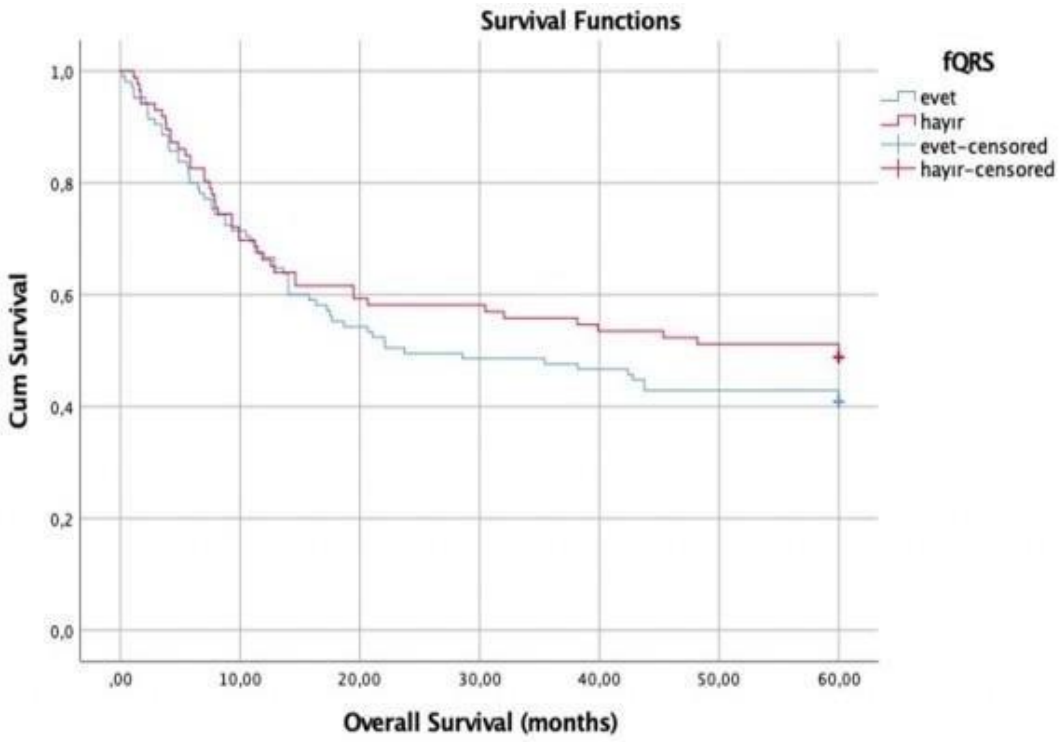
Results

We had reached 191 patients and 105 of them were female (%55). In 5 year follow-up, we checked what is the predictivity for mortality. The mortality was observed in 106 patients. There was f(QRS) parameter in 105 patients and 62 of them (%59) had died. However long-term mortality rate was higher in f(QRS) positive group, it was not statistically significant (p=0,317).

Conclusion

There are some trials show that presence of fQRS in the surface ECG in patients acute PTE indicates worse long-term mortality. We tried to show if a patient who already had diagnosis of pulmonary thromboembolism was admitted to hospital with any disease, if there is f(QRS) parameter on their ECG, in long term mortality they die more but it isn't significant statically.

Keywords: Fragmented QRS, pulmonary thromboembolism, long-term mortality


Survival Functions
fQRS
evet
hayır
evet-censored
hayır-censored
Cum Survival
1,0
0,8
0,6
0,4
0,2
0,0
,00
10,00
20,00
30,00
40,00
50,00
60,00
Overall Survival (months)

Oral Presentation Session

Experiences in Congenital Heart Defects

Date: 12.03.2020 Time: 12:45 – 13:45 Hall: 5

ID: **212**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

PLATYPNEA-ORTHODOXY SYNDROME ABOUT TWO CASES

(RARE INDICATION OF FOP CLOSURE)

Zeıne El Abasse, Bah Ali Rida

CHU CASABLANCA, CASABLANCA, Morocco

**Corresponding Author (abassedr@gmail.com)*

Platypnea-Orthodoxy Syndrome is a rare cause of refractory hypoxemia Positional. The pathophysiological hypotheses involve a change in position of the intra-auricular septum, with the mouth of the orifice of the inferior vena cava in the axis of the permeable oval foramen when standing.
The diagnosis is evoked by the demonstration, using a pulse oximeter, of a desaturation in oxygen, in orthostatism correcting in decubitus, often associated with a factor favoring anatomy and confirmed by an echocardiography of contrast of contrast Trans esophageal preference. Treatment is based on prosthetic closure of the shunt percutaneously with immediate results, often spectacular, on dyspnea as well as hematosis.

Orthopnea, exacerbation of dyspnea when lying down and its improvement by Sitting position is a common and caricatural symptom of heart failure. Paradoxically, the syndrome of platypnea-Orthodoxy - consequence of a right-left intracardiac shunt
Apart from any increase in pulmonary pressure - causes postural hypoxemia worsening in sitting position and orthostatism with often cyanosis and improving dramatically in supine position.

We present two observations OF Platypnea-Orthodoxy Syndrome:
OBSERVATION 1:
Patient aged 53 years old, admitted for dyspnea in standing position for a few days motivating his consultation with cardiological emergencies.
On Clinical Examination: Patient hemodynamic and respiratory stable. good saturation on its admission, asymptomatic at rest.
Electrocardiogram: Normal outside of a sinus tachycardia.
Echo transthoracic: Good bi-ventricular function, fevg 65%, we will note a 6mm and 9mm Asia with a right left shunt, with a positive bubble test in echo transthoracic and transesophageal with passage of more than 30 bubbles.
This result led to a saturation uptake which found desaturation in a standing position of 65% which disappears in the position of decubitus leading a confirmation of platypnea-Orthodoxy syndrome.

OBSERVATION 2:
60-year-old asthmatic patient known for basic therapy, hypertensive, hospitalized for a dyspnea assessment.
On clinical examination, she found a patient with dyspnea at the slightest effort but asymptomatic at rest, good hemodynamic consistency with 95% saturation at rest in supine position.
With a desaturation in the standing position 85% suspecting platypnea-orthodoxy syndrome.

Electrocardiogram: RRS at 75 bpm, incomplete right block without secondary repolarization disorder.
Echo Transthoracic: Objective an ASIA of 8x9 mm, without visualized color shunt leading to the realization of bubble test in Echo Transthoracic and transesophageal confirming the existence of a FOP with passage more than 30 bubbles.

Conclusion: Platypnea-Orthodoxy Syndrome is a rare clinical entity to think about when faced with
Refractory and positional hypoxemia associated with an anatomical factor favoring aortic, vertebral, or pleuro-parenchymatous and which requires for its diagnosis simple technical means (contrast echocardiography, ideally Trans esophageal). Percutaneous treatment allows

dramatic and lasting clinical improvement as well as prevention of paradoxical embolism, at the cost of rare complications. Injections of microbubbles into the inferior vena cava If, for technical reasons, the echocardiography is not contributory, an angiography can be considered.

ID: **2**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

PATENT FORAMEN OVALE IS ASSOCIATED WITH NEUTROPHIL / LYMPHOCYTE RATIO

Saadet Demirtas Inci

Diskapi Yildirim Beyazit Education and Research Hospital, Ankara, Turkey

**Corresponding Author (saadet_demirtas@yahoo.com)*

INTRODUCTION: Patent foramen ovale (PFO) poses a risk for cryptogenic stroke. Increased inflammatory status plays an important role in the pathophysiology of many cardiovascular diseases. Neutrophil / lymphocyte ratio (NLR) is a new hematological parameter indicating inflammatory status. The aim of this study was to evaluate NLR in patients with PFO.

METHOD: In this retrospective study, 60 patients with PFO (mean age 33±13 years, 32 male) on transesophageal echocardiography and 60 healthy controls of similar age and sex were included. Complete blood count values of all patients were analyzed. None of the patients had a recent history of inflammatory disease or acute infection.

RESULTS: There was no statistically significant difference between the two groups in terms of basic clinical features. NLR was significantly higher in patients with PFO than controls (2.25 ± 1.3 and 1.82 ± 0.61, p = 0.04). Pearson correlation analysis showed a correlation between PFO and NLR (r=0.2 p=0.04).

DISCUSSION: NLR was high in patients with PFO and there was a correlation between them. NLR may be a predictor of cryptogenic stroke risk in patients with PFO.

ID: **103**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Oral**

COMPARISON OF THE ASD DEFECT SIZE AND DEVICE WAIST DIAMETER SIZES AFTER PERCUTANEOUS ASD CLOSURE IN CHILDREN

Nazmi Narin, Ozge Pamukcu, Ali Baykan, Çağdaş Vural, Alper Dogan, Aydin Tuncay, Kazim Uzum

Erciyes University, Kayseri, Turkey

**Corresponding Author (ozgepamukcu2002@yahoo.com)*

Introduction:
This study aimed to compare the Atrial Septal Defect (ASD) sizes and device waist diameter sizes after percutaneous ASD closure in children whether it correlates or not and to discuss our institutional experience

Material and methods:
The present study included children with ASD who were admitted to the Erciyes University Pediatric Cardiology Unit between the dates October 2018 to October 2019 and performed percutaneous ASD closure. We gathered demographic data, also angiographic data of these patients such as balloon sizing diameter, mean pulmonary arterial pressure, procedure and fluoroscopy duration, radiation dosage and defect diameters in transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE), types of devices, device sizes including total disc diameters and waist diameters and complications were gathered retrospectively from patient records.

Result:
We evaluated 36 children with the median age of 4,75 years. The value of the mean defect size measured by echocardiography was 12,7 ± 5,14 mm. Balloon sizing measurement was performed to 22 patients, and the mean defect size was 13,75 ± 4,76 mm. TEE used in 29 cases, defect sizes were measured by transesophageal echocardiography on four-chamber, the aortic short-axis and the bicaval long-axis; the mean defect sizes were respectively 11,93 ± 4,04mm; 12,60 ± 4,84mm and 12,20 ± 4,55mm. The mean device size was 14,34 ± 5,06 mm and the mean device waist diameter was 12,02 ± 4,17mm. Types of devices used were Amplatzer Septal Occluder (32 patients), Cera Flex Septal Occluder (2 patients), Figulla Flex II Atrial Septal Occluder (1 patient) and Memopart Septal Occluder (1 patient). All ASD's were closed successfully, with no major complication was observed. Only a minor complication, transient arrhythmia seen in one patient. In one patient was seen as a migration of the occluder device and performed second transcatheter closure the next day with a larger device. The mean follow-up period of the patients was 4,8± 3,17 months.

According to our results the mean of the device waist diameter sizes was lower than the mean of TTE-derived sizes of the defects (12,02 ± 4,17 mm vs. 13,21± 5,11 mm; p=0,018) and mean of maximum defect sizes measured via balloon sizing (11,79 ± 4,48 mm vs. 13,75± 4,76; p<0,001); but there was good correlation between TEE sizing of the ASD on all axis and the device waist diameter.

Conclusion:
In this study we evaluate the Atrial Septal Defect (ASD) sizes measured via TTE, TEE, balloon sizing, and device waist diameter sizes after percutaneous ASD closure in children. Our results show that there was a good correlation between TEE sizing of the ASD on all axis and the device waist diameter. However, it is not sufficient to predict the exact size of the device before ASD closure via echocardiographic evaluation. In our opinion using the TEE technic is very useful to determine the exact size of the device. Further studies are needed.

ID: **95**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Oral**

MID TERM RESULTS OF PERCUTANEOUS PDA CLOSURE OF VERY LOW BIRTH BABIES- SINGLE CENTER EXPERIENCE

Nazmi Narin[1], Aydin Tuncay[1], Ozge Pamukcu[1], Ali Baykan[2]

[1]*Erciyes University, Kayseri, Turkey*

[2]*Erciyes University, Kayseri, United States*

[*]*Corresponding Author (ozgepamukcu2002@yahoo.com)*

Introduction and Aim:

Percutaneous PDA closure in low birth weight babies has become accepted and nowadays performed in well experienced pediatric cardiology centers all over the world. In this article we want to share our experience in the midterm results of Preterm PDA closures

Methods:

The study was performed in our institute between June2014–June2019. Patients whose bodyweight less than 1500g were included in the study. Demographic, procedural and follow-up data were collected.

Results:

Total 32patients were included. Mean age and body weight during the procedure was 18±8days. 1147±256g(range750-1500g) respectively. 19patients suffer from the prematurity complications. Mean PDA diameter was 2.0±0.6mm. 20patients have tubular type and 12patients have conical type PDA. Mean time of procedure and fluoroscopy were 37.7±11.8minutes, 11.4±4.9minutes respectively. 4patients were died and we have lost contact of 5 patients. Finally; 21patients came to control visits regularly. Mean follow-up period was 26.5±14.5months. Maximum follow-up period was 54months long. In the follow-up of these patients:1device related coarctation, 4mild LPA stenosis, 2minimal residual shunts were observed. Coarctation was operated, LPA stenosis and residual shunts were revealed without an invasive procedure.

Conclusion:

PDA is one of preterm complications that may worsen the hemodynamic status of such patients. The distrust of many clinicians to percutaneous PDA closure in low birth weights is due to the lack of data in literature about their midterm, long term results. In this study we aimed to share our experience, lighten the literature with our results and to raise awareness of these clinicians about that subject.

ID: **4**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Oral**

AN ANIMAL STUDY TO EVALUATE THE SAFETY AND EFFICACY OF A NOVEL SUPERELASTIC SIZING DEVICE

Mehmet Hakan Akpınar[1], Ayhan Olcay[2], Ismihan Selen Onan[3], Öznur Inan[4], Ali Seyfi Yalım Yalçın[5]

[1]*MiaMedical, İstanbul, Turkey*

[2]*İstanbul Aydın Üniversitesi Tıp Fakültesi , İstanbul, Turkey*

[3]*Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Education and Research Center, İstanbul, Turkey*

[4]*Istanbul Mehmet Akif Ersoy Experimental Research, Development and Training Center, İstanbul, Turkey*

[5]*, Istanbul Bilim University School of Medicine, İstanbul, Turkey*

[*]*Corresponding Author (hakan@miamedical.com)*

Background:

Atrial septal defect measurement can be performed by stretch balloon diameter, two and 3-dimensional transesophageal echocardiography (TEE). We evaluated a new Simeks superelastic sizing device (SSSD) for delineation of atrial septal defect margins and exact measurement without changing anatomy of the defect

Methods:

An artificial ASD was created in 8 swines and defect sizing was done by TEE and SSSD in fluoroscopy and autopsy. Correlation analysis was done between 3 methods in defect size measurement. Any adverse events, such as mortality or heart perforation were assessed.

Results:

There was a cardiac tamponade case in one animal because of limited animal experience of the operator. Thrombus formation was observed in some animals due to prolongation of procedure time and low heparin dosage. SSSD and TEE correlation ($r=0.97$, $p< 0.0001$); TEE and autopsy correlation ($r=0.973$, $p< 0.0001$); SSSD and autopsy correlation ($r=0.993$; $p< 0.0001$) all were statistically significant.

Conclusion:

In our animal study superelastic sizing device precisely delineated atrial septal defect margins on TEE and fluoroscopy. SSSD measurements showed good correlation with TEE and autopsy measurements. Right and left portions of the device were well formed and central indentation allowed exact sizing of the atrial septal defect margins.





ID: **87**

Topic: **Cardiology » Cardiac imaging - Cardiac MRI**

Presentation Type: **Oral**

MAGNETIC RESONANCE IMAGING AND ECHOCARDIOGRAPHY FINDINGS FOR EVALUATION OF RIGHT CARDIAC AND VALVULAR FUNCTIONS AFTER ARTERIAL SWITCH OPERATION FOR THE TRANSPOSITION OF GREAT ARTERIES

Yasin Ertug Cekdemir[1], **Kaan Yildiz**[2], Muhammet Salman[1], Mustafa Kir[2], Handan Guleryuz[1]

[1]*Dokuz Eylul University Faculty of Medicine Department of Radiology, Izmir, Turkey*

[2]*Dokuz Eylul University Faculty of Medicine Department of Pediatric Cardiology, Izmir, Turkey*

[*]*Corresponding Author (drkaanyildiz@gmail.com)*

Aims: The aim of the present study was to compare, and correlate data extracted from cardiac magnetic resonance images (MRI) and concurrent transthoracic echocardiography obtained in transposition of great arteries (TGA) patients who underwent arterial switch operation (ASO). We sought to define the optimal and most effective imaging modality to be utilized in the long-term follow-up of these patients.

Methods and results: This retrospective cohort was performed using data derived from the cardiac MRI views and transthoracic echocardiography images of 20 consecutive TGA patients (16 males, 4 females) who underwent ASO. The average age was 93.00±29.82 months (range: 60-144). Seventeen patients had TGA only, while 3 patients had TGA and ventricular septal defect (VSD) together. We noted that there were significant correlations between echocardiographic variables (right ventricular dilatation, right ventricular function, pulmonary insufficiency, myocardial performance index, tricuspid annular plane systolic excursion) and MRI parameters (ejection fraction, right ventricular dilatation, right ventricular function, pulmonary insufficiency).

Conclusion: The preoperative and postoperative evaluation of TGA patients necessitates careful evaluation of anatomical and functional cardiac indicators. In this aim, both echocardiography and MRI constitute useful, safe and reliable diagnostic modalities. Selection of the optimal imaging method and establishment of a diagnostic protocol which involves lifelong, serial assessment of right ventricular function is critical in the follow-up in order to predict possible complications and prevent possible morbidity. In clinical practice, awareness on the significances of the specific parameters employed for MRI or echocardiography is important for decision-making based on quantitative information.

Keywords: Transposition of the great arteries; atrial switch; diagnosis; echocardiography; magnetic resonance imaging

Oral Presentation Session

Heart Failure: Bench to Bedside

Date: 12.03.2020 Time: 13:45 – 15:00 Hall: 5

ID: **461**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

BONE MINERAL DENSITY AND HIP FRACTURE ANALYSIS IN PATIENTS WITH HEART FAILURE

Selçuk Özkan

Yüksek Ihtisas University, Ankara, Turkey

**Corresponding Author (drselcukozkan@gmail.com)*

Objectives: Osteoporosis defined by low Bone Mineral Density (BMD), is a progressive disease affecting especially older adults. Hip fracture is the important result of osteoporosis. For the older adults, heart failure (HF) and osteoporosis are two common chronic conditions that are gaining importance for healthcare. The aim of this study is to evaluate bone mineral density and hip fractures in patients with heart failure

Methods: The study population consisted of 157 patients with heart failure and 155 control subjects without any cardiovascular disease and risk factors. All subjects underwent transthoracic echocardiography, biochemical analysis, and bone DEXA study. Osteoporotic fracture history and operation for fracture, list of current and prior use of medications were obtained from each center's medical recordings.

Results: Among the 157 patients, 45 (29%) had normal BMD, 14 (9%) had osteopenia, and 98 (62%) had osteoporosis. In 155 control subjects,68 (44%) had normal BMD, 12 (8%) had osteopenia, and 75 (46%) had osteoporosis (P=0.019). Sixteen subjects (10.2%) in heart failure group and 6 subjects (3.9%) in controls had hip fracture (p=0.029). Level of 25-hydroxyvitamin D was significantly lower in heart failure than in controls (15.1±10.2 vs. 29.1±20.4 ng/ml; p<0.001).

Conclusion: Patients with heart failure have a lower bone mineral density, low vitamin D level and an increased rate of hip fractures. These findings can be explained by shared risk factors and pathogenetic mechanisms. Further prospective studies should be performed for evaluating the role of heart failure in osteoporotic hip fractures.

Key Words: Hip fracture, Osteoporosis, Bone Mineral Density, heart failure, vitamin D

ID: **460**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

THE PREVALENCE OF HYPERURICEMIA IN ELDERLY PATIENTS WITH HEART FAILURE AND THE RELATIONSHIP BETWEEN FUNCTIONAL CAPACITY AND URIC ACID LEVELS OF HEART FAILURE

Ömer Çağlar Yılmaz

Fatih University, Ankara, Turkey

**Corresponding Author (drocy@hotmail.com)*

Introduction: Heart failure (HF) is one of the most important causes of mortality and morbidity. Elevated uric acid (UA) has been suggested to have significant clinical consequences in patients with HF. Some studies have shown negative effects of elevated UA on mortality in patients with HF. In this study, we aimed to investigate the correlation between UA level and HF class in patients whose functional capacity was classified according to New York Heart Association (NYHA) and to compare the number of hospitalizations between patients with and without hyperuricemia in the last 6 months.

Method: A cross-sectional, multicenter study was planned in cardiology outpatient clinics. One hundred forty-one patients with left ventricular dysfunction confirmed by interventional or noninvasive methods. Patients receiving treatment for hyperuricemia, patients with chronic renal failure (hemodialysis or Kr> 2.5 mg / dl) and patients with COPD were excluded from the study. UA, blood sugar and creatinine values of all patients were evaluated. Demographic data, cardiovascular risk factors, ejection fractions, causes of HF, and number of hospitalizations in the last six months were recorded. Hyperuricemia was accepted as serum UA level above 7 mg / dl.

Results: The mean age of the patients included in the study was 69 ± 8 years. 64% of the patients were male and 97% had at least one cardiovascular risk factor. When the etiology of HF was examined, ischemic HF was detected in 79% and hyperuricemia was detected in 52%. As a result of Pearson correlation analysis, a positive correlation was found between NYHA functional capacity and UA level ($p < 0.05$). As UA level increased, NYHA class increased, ie functional capacity of the patients deteriorated. There was a statistically significant negative correlation between ejection fraction and UA levels ($P < 0.05$). Twenty-five percent of patients with normal uric acid levels and 61% of patients with hyperuricemia were hospitalized at least once in the last six months. When patients with hyperuricemia were compared with those without hyperuricemia, the number of hospitalizations over the last six months was significantly higher in patients with elevated UA ($P < 0.05$).

Discussion: As a result of our study, we found that NYHA class increases as UA level increases in elderly patients with HF with hyperuricemia, and that the number of hospitalizations in patients with hyperuricemia is significantly higher in the last 6 months compared to patients without hyperuricemia. The effects of routine onset of long-term cardiovascular adverse events should be evaluated with further research.

ID: **165**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

THE IMPORTANCE OF B-TUBULIN FROM CYTOSKELETAL PROTEINS AND MEMBRANE PROTEINS IN HEART FAILURE REDUCED EJECTION FRACTION

Nazmi Gultekin[1], Urfan Caferov[2], Emine Kucukates[3], Servet Batit[4]

[1]*Istanbul University Cerrahpaşa Cardiology Institute, İstanbul, Turkey*

[2]*Istanbul University Cerrahpaşa Cardiology Institute, Istanbul, Turkey*

[3]*Istanbul Universitity Cerrahpasa Cardiology Institute. Laboratory of Clinical Microbiology,Istanbul, Turkey, Istanbul, Turkey*

[4]*Istanbul University Cerrahpasa Cardiology Institute, Istanbul, Turkey*

[*]*Corresponding Author (nngultekin@yahoo.com)*

Background

Beta Tubulin is a microtubule that binds with Alfa Tubulin to form tubulin heterodimer which is a structural protein of cardiomyocytes.

Objective

Our study aims to explore the relationship between Beta Tubulin plasma levels and heart failure.

Methods

Fifty patients who diagnosed with Heart Failure reduced Ejection Fraction (HFrEF) and 30 patients without a diagnosis as a control group were included in our study. In addition, the effect of etiological factors (ischemic/non-ischemic) and colchicine as a microtubule inhibitor on serum Tubulin-1 levels in patients who were followed-up due to HFrEF and included in the study to be investigated. Blood samples have been centrifuged and Beta Tubulin plasma concentrations were measured by the Elisa method with Human Beta Tubulin-1 Chain Elisa kit (Bioassay Technology Laboratory).

Results

We found higher levels of Beta Tubulin in HFrEF patients from healthy control group. But statistical analysis between the two groups showed no significant difference. Also, in subgroup analysis, Beta Tubulin levels had increased in ischemic HFrEF patients. Besides, in subgroup analysis of patients with non-ischemic HFrEF and also, patients used colchicine had decreased the levels of Beta Tubulin (p=0.29) and NT*proBNP(p=0.69). Colchicine used patient group had better EF(p=0.009) and smaller diastolic left ventricular diameters (p=0.002), respectively.

Conclusions

We concluded to understand the role of structural proteins cardiomyocyte, especially Beta Tubulin levels in heart failure diagnosis and follow up further studies are needed. Additionally, microtubule inhibitor drugs such as colchicine should be investigated as treatment options in heart failure.

Keywords: Heart Failure, Beta Tubulin, Colchicine, Cytoskeleton.

ID: **151**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

PREVALENCE OF IRON DEFICIENCY/ANEMIA IN HEART FAILURE PATIENTS-SINGLE-CENTER REGISTRY IN TURKEY

Gülsüm Meral Yılmaz Öztekin, **Ahmet Genç**, Şakir Arslan

University of Health Sciences, Antalya Training and Research Hospital, Antalya, Turkey

**Corresponding Author (gencahmet@yahoo.com)*

OBJECTIVE: Iron deficiency in patients with heart failure leads to greater morbidity and mortality and its treatment has been associated with significant improvements in quality of life. The aim of this study is to show the prevalence of iron deficiency in heart failure patients with or without anemia.

METHODS: This is a single-center observation study conducted in a tertiary hospital in Turkey. Patients who were followed up in the outpatient clinic with the diagnosis of heart failure were included in the study. Full iron profile of the patients was evaluated including serum iron, serum ferritin, total iron binding capacity and transferrin saturation. Absolute iron deficiency was defined as serum ferritin <100 mg / L and functional iron deficiency was defined as low total iron binding capacity and transferrin saturation (<20%) and normal serum ferritin (100–300 mg / L). According to the World Health Organization definition, anemia was accepted as hemoglobin <13 g / dl and <12 g / dl in women.

RESULTS: A total of 672 patients of heart failure (74.7% males and 25.3% females) were studied. Most of the patients had low New York Heart Association (NYHA) functional class (mean NYHA 1.95). Iron deficiency was present in 80.6% patients with 71.1% patients having absolute and 9.5% patients having functional iron deficiency (Table-1). The prevalence of iron deficiency was significantly higher in females than males (88.2% vs 78.1%; p = 0.004). We found that approximately half of patients had iron deficiency without anemia (58.9% males and 48.7% females). This data showed us that iron deficiency is more important than hemoglobin in heart failure patients. But there was not significant difference in all-cause mortality between patients having iron deficiency and not (14% vs.10.8%; p=0.328).

CONCLUSIONS: Our study is important in order to show how much iron deficiency is present in heart failure with or without anemia. This study recommends raising awareness of this treatable condition and early treatment.

KEYWORDS: Iron deficiency, Heart failure, Anemia

Table-1 Status of iron deficiency of study population

	Males(n=502)	**Females(n=170)**	**Total(n=672)**
Absolute iron deficiency	**343(68.3%)**	**135(79.4%)**	**478(71.1%)**
With anemia	141	68	209
Without anemia	202	67	269
Functional iron deficiency	**49(9.8%)**	**15(8.8%)**	**64(9.5%)**
With anemia	20	9	29
Without anemia	29	6	35
Total iron deficiency	**392(78.1%)**	**150(88.2%)**	**542(80.6%)**
With anemia	161(41.1%)	77(51.3%)	238(43.9%)
Without anemia	231(58.9%)	73(48.7%)	304(56.1%)

ID: **78**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

EVALUATION OF THE ROLE OF AUTOPHAGY AND MICROTUBULIN INHIBITION WITH BLOOD BECLIN-1 LEVELS IN PATIENTS WITH LOW EJECTION FRACTION HEART FAILURE

Nuh Nazmi Gultekin[1], Anıl Tanki[2], Emine Küçükateş[3]

[1]*Istanbul University Cerrahpaşa Cardiology Institute, İstanbul, Turkey*

[2]*Istanbul University Cerrahpaşa Cardiology Institute, Istanbul, Turkey*

[3]*IIstanbul University Cerrahpaşa Cardiology Institute, Istanbul, Turkey*

[*]*Corresponding Author (nngultekin@yahoo.com)*

Background

All three types of cell death is involved in the development of Heart Failure; autophagic cell death, apoptosis and necrosis. In our study, the determination of the level of Beclin-1 in the markers of autophagy in serum is aimed to compare the serum Beclin-1 levels of individuals with heart failure and those without heart failure. In addition, the effect of etiological factors (ischemic / non-ischemic) and of colchicine as a microtubule inhibitor on serum Beclin-1 levels in patients who were followed-up due to heart failure and included in the study will be investigated.

Methods

The study included between June 2018 and December 2018 in Istanbul University-Cerrahpaşa, Cardiology Institute, and 50 patients with DEF-HF (25 with ischemic etiology, 25 with non-ischemic etiology) and 30 without heart failure. Serum Beclin-1 levels were determined by using ELISA method by ELISA Kit (Bioassay Technology Laboratory). All statistical analysis was performed using the SPSS 23.0 software (SPSS Inc., Chicago, IL, USA).

Results

Although serum Beclin-1 levels of the patient compared to the control groups did not reach statistical significance, increased serum Beclin-1 levels were found in patients with heart failure(p:0.64). When the relationship between ejection fraction and Beclin-1 levels of HFrEF group in the study was examined, we found that patients with lower ejection fraction had higher Beclin-1 levels. (p: 0.018, R^2: 0.088). When HFrEF groups with ischemic and non-ischemic etiology were compared, renal functions were similar. There was also no significant correlation between creatinine and eGFR levels and Beclin-1 (ATG6 analog in yeast cells), an autophagy marker in mammals (p: 0.482). Also, in the subgroup analysis of the heart failure group, statistically significant serum Beclin-1 levels were found in the non-ischemic etiology group. (p: 0.01).

In addition, low-dose colchicine (0.5-1 mg) was added to the treatment in some HF patients who developed hyperuricemia as a result of intensive diuretic therapy. We found lower levels of NT-proBNP that did not reach statistical significance and higher Beclin-1 levels to reach statistical significance in these cases (p: 0.015).

Discussion and Conclusions

We found that patients with lower ejection fraction had higher Beclin-1 levels because of higher autophagic activity compared to the control groups. Also, in the subgroup analysis of the heart failure group, statistically significant serum Beclin-1 levels because of higher autophagic activity were found in the non-ischemic etiology group. Although colchicine has been used in our patients with terminal, worse left ventricular function; low levels of NT-proBNP and higher Beclin-1 levels in low-dose colchicine-using HF patients; autophagy in these cases did not correspond to cell death, but rather on cytoprotective and selective autophagic clearance and regeneration activities. This discordance suggest that low dose colchicine clearly demonstrates selective and cytoprotective autophagic clearance and regeneration activities. There was also no significant correlation between creatinine and eGFR levels and autophagic activity. Our study reveals that when repeated in larger patient populations, results may be revealed to illuminate the place of autophagy in the etiology of heart

ID: **56**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

NT-PROBNP LEVELS IN PATIENTS WITH ATRIAL FIBRILLATION AND PRESERVED EJECTION FRACTION HEART FAILURE: LONG TERM CLOSED COHORT DATA OF REAL WORLD

Ebru Ipek Turkoglu

İzmir Kemalpasa State Hospital, İzmir, Turkey

**Corresponding Author (dripek73@yahoo.com)*

Purpose: Heart failure with preserved ejection fraction (HFpEF) is defined as clinical heart failure in patients with a left ventricle ejection fraction (LVEF) ≥%50 and natriuretic peptides (NP) such as NT-proBNP are crucial for the diagnosis. The presence of atrial fibrillation (AF) in this population may cause some diagnostic difficulties, because AF itself is related with elevated levels of NT-proBNP. In the present study we aimed to investigate general features and NT-proBNP levels of patients with HFpEF and AF, who followed up in our clinic.

Materials and methods: Outpatient's data of İzmir Kemalpasa State hospital's clinic of cardiology between January and June 2018 is reviewed retrospectively through the hospital data management system (HDMS). Patients with the diagnosis of HFpEF and AF, who has at least one NT-proBNP result in the stable phase of HF, are included to the study. Demographics, laboratory, imaging studies and medication of the study group are searched through the HDMS.

Results: Study population consists of 244 patients. Mean age, LVEF, CHA2DS2 and CHA2DS2 VASc scores were 72.06±9.48 years, 52.92±2.37%, 3.29±1.46 and 4.63±1.48 respectively. Patients were followed up for 2.58±1.26 years by the same clinic. Mean NT-proBNP was 1456.24±1376.38 pg/ml in the stable phase. During follow-up, 48 patients present with decompensation and the mean NT_proBNP was 3385.9±3082.13 pg/ml. The level of NT-proBNP was correlated with age, CHA2DS2 and CHA2DS2 VASc scores, left atrial diameter and systolic pulmonary artery pressure positively, but with LVEF and hemoglobin negatively. The change in the NT-proBNP was correlated only with heart rate and left atrial diameter positively.

Conclusion: Patients with HFpEF and AF have higher levels of NT-proBNP in the stable phase and in the decompensated phase, it is expected that the NT-proBNP level of these patients may exceed the upper limits, which defined in the guidelines. Therefore, some new upper limits for the patients with AF are needed. The most important contribution of this study is to give us some idea about the NT-proBNP levels in stable and decompensated phases in patients with HFpEF and AF.

Key words: Heart failure with preserved ejection fraction, atrial fibrillation, NT-proBNP

ID: **5**

Topic: **Cardiology » Acute heart failure**

Presentation Type: **Oral**

INTRA-AORTIC BALLOON PUMP-RELATED THROMBOCYTOPENIA: ITS EFFECTS ON IN-HOSPITAL MORTALITY IN CARDIOGENIC SHOCK PATIENTS

Mert Ilker Hayıroğlu[1], **Tufan Çınar**[1], Ahmet Ilker Tekkeşin[2]

[1]*Sultan Abdulhamid Han Training and Research Hospital, Istanbul, Turkey*

[2]*Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (mertilkerh@yahoo.com)*

Background: The present study aimed to evaluate the potential role of intra-aortic balloon pump (IABP)-related thrombocytopenia in patients with cardiogenic shock (CS) due to ST elevation myocardial infarction (STEMI) died in hospital.

Material and Methods: We retrospectively included 142 consecutive CS patients who were treated with IABP support from September 2013 to March 2017 in a tertiary heart center. IABP-related thrombocytopenia was defined as a platelet count of 150.000 mm3 or a 50% or greater reduction in the platelet count from the baseline following the IABP's insertion. In-hospital, all-cause mortality was the primary endpoint.

Results: The incidence rate of thrombocytopenia was 19% (n=27 patients). In-hospital mortality was significantly higher in patients who experienced thrombocytopenia compared to those who did not [22 patients (81.5%) vs. 56 patients (48.7%), respectively; p=0.004]. In a multivariate analysis, a decline in platelet count (OR: 1.037, 95%; CI: 1.011–1.064; p=0.005) was found to be independently associated with in-hospital mortality. In a receiver operating characteristic curve analysis, the optimal cut-off value of the decline in platelet count for the prediction of in-hospital mortality was ≥ 18.2%, with a sensitivity of 60% and a specificity of 77% [area under curve (AUC): 0.70, 95%; CI:0.61–0.78; p0.001].

Conclusion: In the present study, we observed that the development of thrombocytopenia during IABP support was independently associated with in-hospital mortality in CS patients.

Figure 1 A receiver operating curve analysis of decline in platelet count for prediction of in-hospital mortality

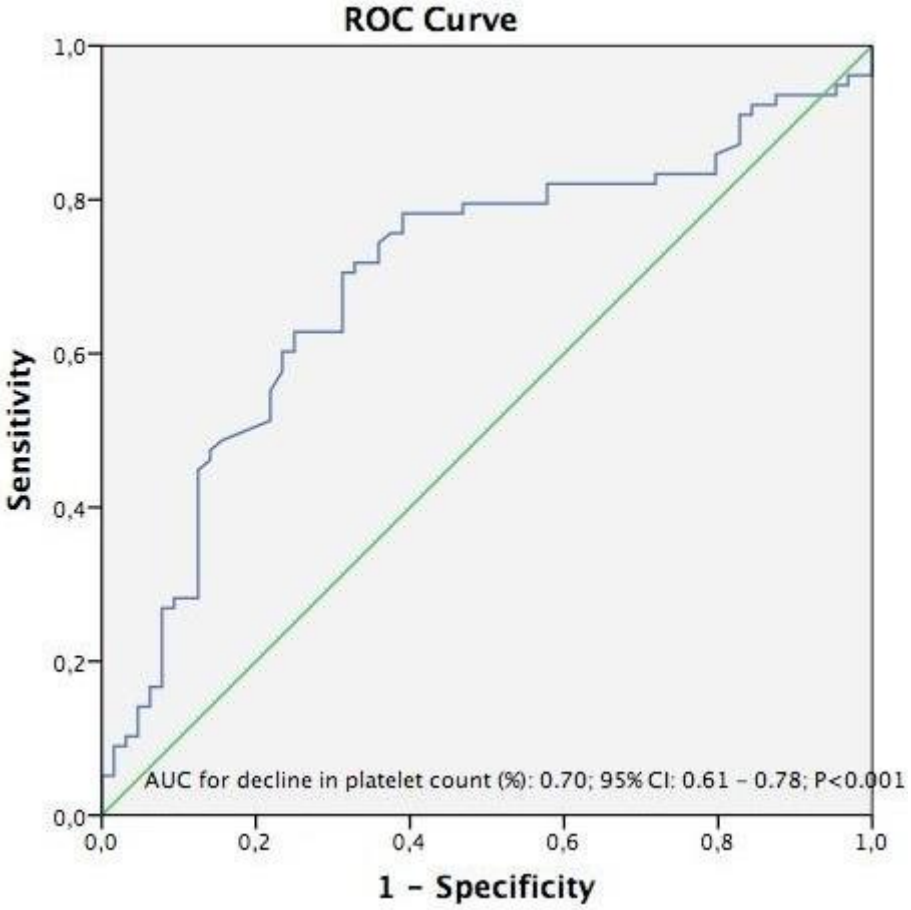


Table 1 Univariate and multivariate analyses of in-hospital mortality

	Univariate analysis			Multivariate analysis		
	P value	OR	95% CI	P value	OR	95% CI
Age	<0.001	1.079	1.038–1.122	-	-	-
CRF	<0.001	3.882	1.887–7.987	-	-	-
TIMI ≤2 after intervention	<0.001	9.545	4.014–22.701	<0.001	6.440	2.882–15.362
LVEF	<0.001	0.962	0.931–0.995	0.004	0.944	0.921–0.969
LVESD	0.022	1.837	1.211–2.787	-	-	-
BUN	0.007	1.031	1.008–1.054	-	-	-
Decline in platelet count	0.003	1.035	1.012–1.059	0.005	1.037	1.011–1.064

OR, odds ratio; CI, confidence interval.

Abbreviations: CRF, chronic renal failure; TIMI, thrombolysis in myocardial infarction; LVEF, left ventricle ejection fraction; LVESD, left ventricle end-systolic diameter; BUN, blood urea nitrogen.

ID: **593**

Topic: **Cardiology » Diabetes Mellitus and Cardiovascular Disease**

Presentation Type: **Oral**

DIAGNOSTIC UTILITY OF GALANIN, GALACTIN AND PROBNP AS BIOMARKERS FOR SUBCLINICAL DIASTOLIC DYSFUNCTION IN PATIENTS WITH DIABETES MELLITUS

Burcak Kılıckıran Avcı[1], Hasan Ali Barman[2], Cansu Ebren[1], Özge Özden Tok[3], Murat Cimci[4], Fuat Polat[4], Merve Kurt[4], Mücahit Özyazar[4], Rasim Enar[5]

[1]*Istanbul University Cerrahpasa, Cerrahpasa Faculty of Medicine, Istanbul, Turkey*

[2]*Okmeydanı Research and Training Hospital, İstanbul, Turkey*

[3]*Memorial Hospital, Istanbul, Turkey*

[4]*İstanbul University Cerrahpasa, Cerrahpasa Faculty of Medicine, Istanbul, Turkey*

[5]*İstanbul University Cerrahpasa, Cerrahpasa Faculty of Medicine, IStanbul, Turkey*

[*]*Corresponding Author (burcakdr@yahoo.com)*

OBJECTIVE: Cardiac disease in diabetes mellitus (DM) consists of both vascular and myocardial abnormalities. The latter are characterized predominantly by diastolic dysfunction, which has been difficult to evaluate. Diastolic dysfunction reflects the structural and metabolic milieu in the myocardium. This study was aimed to investigate the potential role of NT-proBNP, galanin, galactin, and hsCRP as biomarkers for predicting subclinical diastolic dysfunction in patients with type 2 DM.

METHODS: Asymptomatic patients with DM without known cardiac disease underwent clinical evaluation, measurement of NT-proBNP, galanin, galactin, hsCRP, electrocardiography and detailed echocardiographic assessment. After exclusion of overt left ventricular (LV) dysfunction (LVEF ≤50%) or ischemia (positive treadmill exercise test or myocardial perfusion imaging), subclinical myocardial diastolic dysfunction was sought on the basis of E/A ratio, E/Ea ratio, left atrial volume index (LAVi) and peak tricuspid regurgitation (TR) velocity.

RESULTS: Of the 117 patients, 50 (45.5%) had left ventricular hypertrophy. The average NT-proBNP was 51.1+ 30.3 pg/ml and only 5 patients had NT-proBNP levels exceeding the normal range. NT-proBNP levels were correlated with galanin (r: 0.635) and hsCRP (0.529) levels. However, there was no correlation between NT-proBNP, galanin, galaktin, hsCRP with either LV mass index or LAVi. Abnormal E/A ratio (<0.8) was identified in 44 (37.6%) patients. Three patients had E/Eamean of >14 and 43 patients had E/Eamean of 8-14. Increased LAVi (>28 ml/m2) was identified in 13 (11.1%) patients. None of patients had a peak TR velocity >2.8 m/s. None of the markers were significantly changed in patients with abnormal parameters of diastolic function

CONCLUSIONS: Our results showed that none of NTproBNP, galanin, galactin or hsCRP measurements seems to be sufficiently sensitive to identification of subclinical LV diastolic dysfunction in diabetic patients without known heart disease.

Characteristics of the diabetic patients	
Age	54 +/- 6.2
Men (%)	46 (39.3)
Hypertension (%)	72 (61.5)
Hyperlipidemia	76 (65.5)
Current smoker	26 (23.0)
HbA1c	7.6 +/-1.7

Creatinine (mg/dl)	0.77 +/-0.19
NT-proBNP	51.1 +/-30.3
Galactin	87.6 +/-55.5
Galanin	25.8 +/-15.6
hsCRP	3.6 +/-2.0
Systolic blood pressure (mmHg)	138.4+/-19.4
Diastolic blood pressure (mmHg)	76.7 +/-10.8
Heart rate (bpm)	81.1 +/-12.8

ID: **577**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Oral**

RBM SCORING SYSTEM FOR THE ASSESSMENT OF OPTIMAL VS. SUBOPTIMAL ADHERENCE TO THE GUIDELINE-DIRECTED MEDICAL THERAPY IN PATIENTS WITH CHRONIC HEART FAILURE AND REDUCED EJECTION FRACTION: RESULTS FROM ATA STUDY

Umut Kocabaş[1], Taner Şen[2], Mehmet Ali Astarcıoğlu[2], Mustafa Kınık[3], Özge Özden Tok[4], Begüm Uygur[5], Mehtap Yeni[6], Bahadır Alan[7], Onur Dalgıç[8], Ümit Yaşar Sinan[9], Seçkin Pehlivanoğlu[1]

[1]*Başkent University Istanbul Hospital, Istanbul, Turkey*

[2]*Kütahya Health Science University Evliya Çelebi Research and Training Hospital, Kütahya, Turkey*

[3]*Recep Tayyip Erdogan University Education and Research Hospital, Rize, Turkey*

[4]*Memorial Bahçelievler Hospital, Istanbul, Turkey*

[5]*Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey*

[6]*Isparta City Hospital, Isparta, Turkey*

[7]*Okan University, School of Medicine, Istanbul, Turkey*

[8]*A Life Hospital, Sivas, Turkey*

[9]*İstanbul Üniversitesi Kardiyoloji Enstitüsü, Kardiyoloji Anabilim Dalı İstanbul, Turkey*

[*]*Corresponding Author (umutkocabas@hotmail.com)*

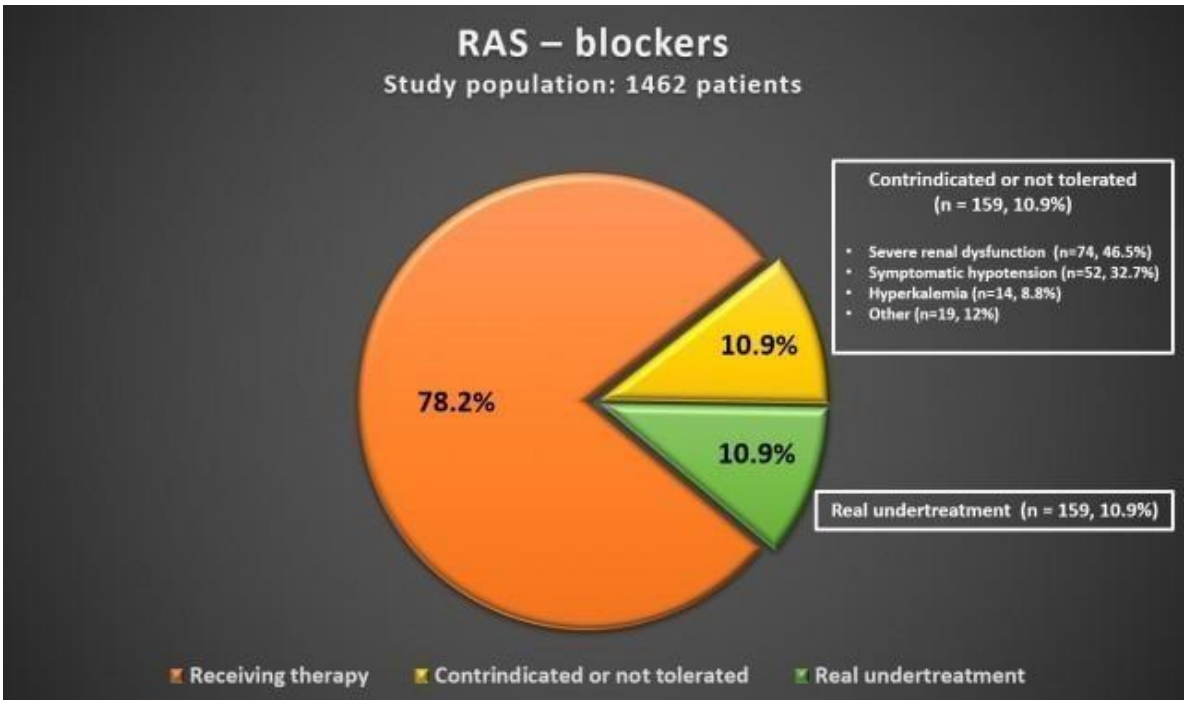
Background: Current heart failure guidelines recommend the use of medical therapies including renin–angiotensin system (RAS) blockers, beta-blockers, mineralocorticoid antagonists (MRAs) in patients with chronic heart failure and reduced ejection fraction (HFrEF). Despite the evidence-based recommendations to use of medical therapies at maximally tolerated target doses, many studies suggest that HFrEF patients are rarely received medical therapies at the target doses. The aims of this study were to determine: i) rate of optimal vs. suboptimal adherence to guidelines in according to use of guideline-directed medical therapies (GDMT), and ii) demographic and clinical differences between patients with optimal vs. suboptimal adherence to guidelines.

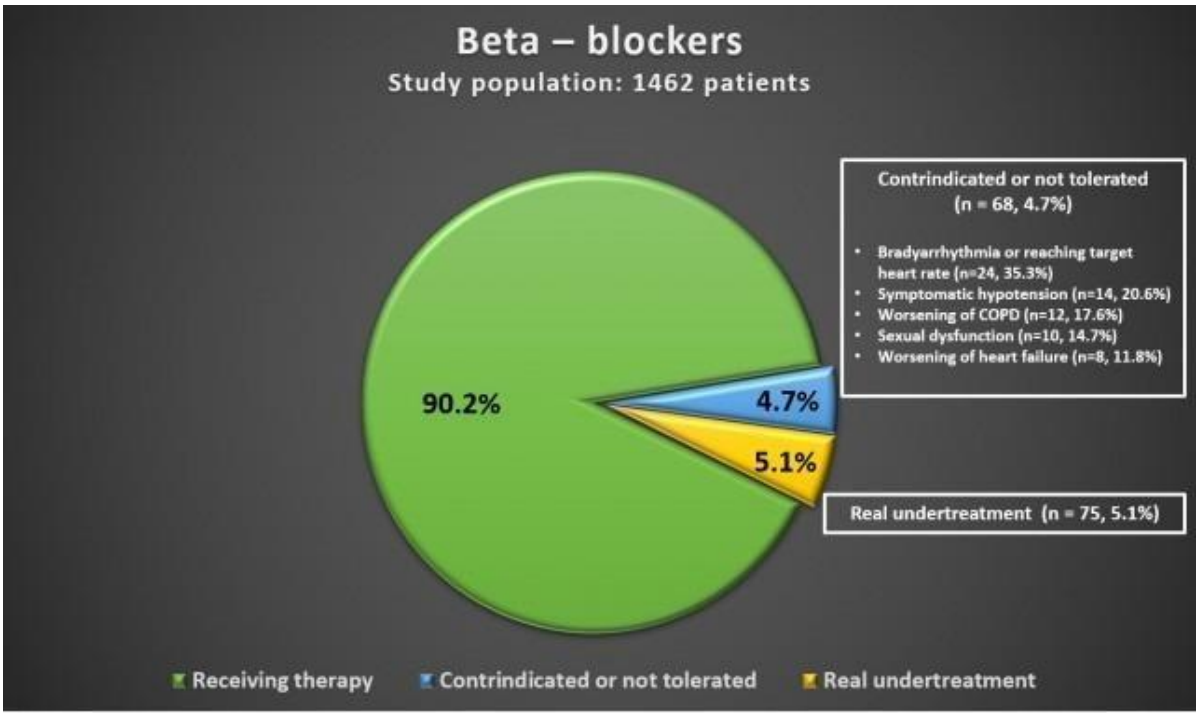
Methods: Adherence to guideline-directed medical and device **T**herapy in heart failure with reduced ejection fraction: **ATA** study is a prospective, multicenter, observational study conducted in 24 centers from seven geographical regions of Turkey from January 2019 to June 2019. For the assessment of optimal vs. suboptimal adherence to the GDMT, we designed a new **RBM** scoring system (**R**AS blockers + **B**eta-blockers + **M**RAs) on the basis of the use of target doses of HF therapies (Figure 1). A high RBM score (≥6) –in other words, use of RAS blockers, beta-blockers, and MRAs at least 50% of target doses– is indicative of the optimal adherence to the GDMT.

Results: The study included 1,462 outpatients (male: 70.1%, mean age: 67 ± 11 years, mean LVEF: 30 ± 6%) with chronic HFrEF. RAS blockers, beta-blockers, and MRAs were used in 78.2, 90.2, and 55.4% of patients, respectively. When we exclude medical reasons for non-use of RAS blockers, beta-blockers, and MRAs such as drug intolerance or contraindication, 'the real rate of undertreatment' can be given as 10.9, 5.1, and 28.8%, respectively (Figure 2–4). The proportion of patients receiving target doses of GDMT were 24.6% for RAS blockers, 9.9% for beta-blockers and 10.5% for MRAs. When we exclude medical reasons for inadequate up-titration of RAS blockers, beta-blockers, and MRAs such as drug intolerance or contraindication, 'the real rate of under up-titration' can be given as 46.8, 48.3, and 59.8%, respectively (Table 1). The proportions of patients according to RBM score are presented in Figure 5. Among study population, only 22.9% of HFrEF patients had optimal adherence to the GDMT (RBM score ≥6). Patients with suboptimal adherence to the GDMT were older and had low level of education and low household income than those presenting with optimal adherence. Patients with optimal adherence had more co-morbidities, including hypertension, diabetes mellitus, peripheral arterial disease, and smoking. Patients with optimal adherence were more likely to be on treatment with ivabradine, statins, and diuretics (Table 2a-b).

Conclusion: Although majority of HFrEF patients in ATA study population receive RAS blockers and beta-blockers –but not MRAs–, only 22.9% of HFrEF patients were treated with target doses of medications. Even after excluding medical reasons for inadequate up-titration, nearly half of the patients did not receive GDMT at target doses. Suboptimal adherence to the GDMT was related to older age and low level of household income and education. In our opinion, RBM score as an assessment tool of adherence to the GDMT can be used for individual risk analysis of HFrEF patients. This new score system should be tested in larger cohorts to predict mortality and morbidity in patients with HFrEF.

RBM score				
Dose	**RAS – blockers**	**Beta – blockers**	**MRAs**	**Total**
None	0	0	0	0
<50% of target dose	1	1	1	3
≥50% – <100% of target dose	2	2	2	6
≥100% of target dose	3	3	3	9
Suboptimal adherence: <6 Optimal adherence: ≥6 (use of RAS blockers, beta-blockers, and MRAs at least 50% of target doses)				




Beta – blockers
Study population: 1462 patients
Contrindicated or not tolerated
(n = 68, 4.7%)
Bradyarrhythmia or reaching target heart rate (n=24, 35.3%)
Symptomatic hypotension (n=14, 20.6%)
Worsening of COPD (n=12, 17.6%)
Sexual dysfunction (n=10, 14.7%)
Worsening of heart failure (n=8, 11.8%)
90.2%
4.7%
5.1%
Real undertreatment (n = 75, 5.1%)
Receiving therapy
Contrindicated or not tolerated
Real undertreatment

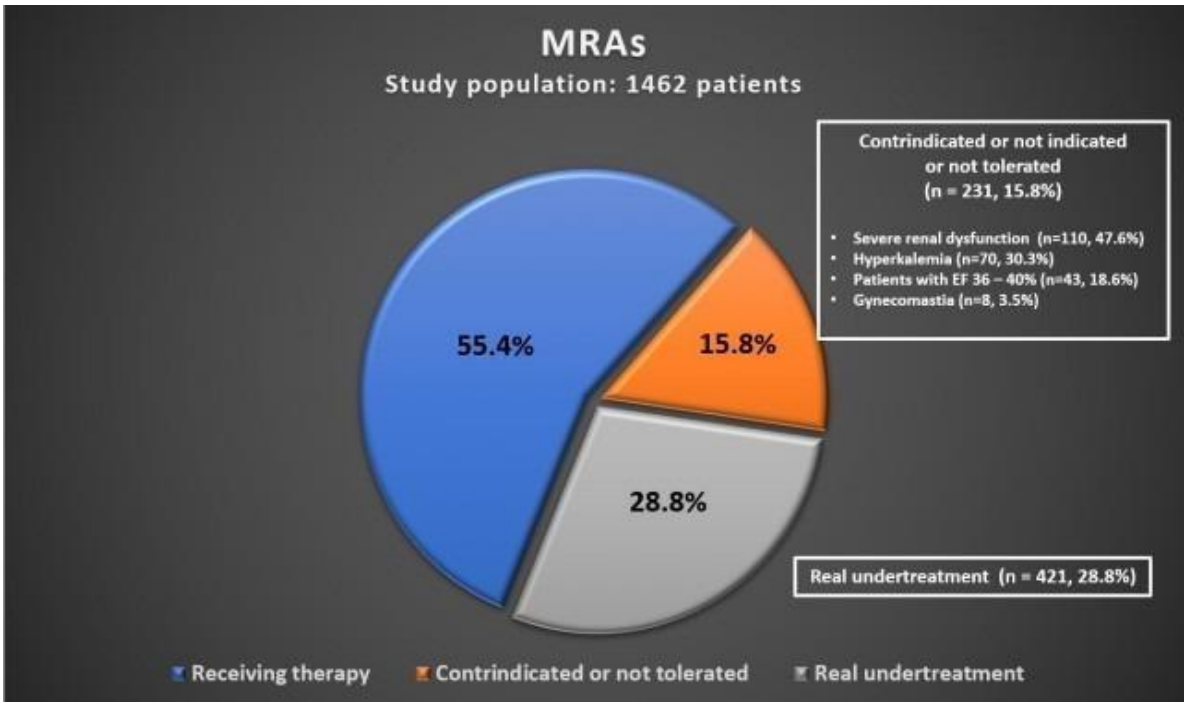

MRAs
Study population: 1462 patients
Contrindicated or not indicated
or not tolerated
(n = 231, 15.8%)
Severe renal dysfunction (n=110, 47.6%)
Hyperkalemia (n=70, 30.3%)
Patients with EF 36 – 40% (n=43, 18.6%)
Gynecomastia (n=8, 3.5%)
55.4%
15.8%
28.8%
Real undertreatment (n = 421, 28.8%)
Receiving therapy
Contrindicated or not tolerated
Real undertreatment

Table. Heart failure patients at target dosages of recommended pharmacological treatments and reasons for not achieving target dosages					
Study population: 1462 patients	Achieved target dose	Achieved ≥50% - <100% of target dose	Did not achieve target dose (<50% of target dose)	Reason for not achieving target dose	
RAS – inhibitors (1144 patients, 78.3%)	282 (24.6)	478 (41.9)	384 (33.5)	Symptomatic hypotension	196 (22.7)
				Still in up-titration	171 (19.8)
				Worsening renal function	67 (7.8)
				Hyperkalemia	16 (1.9)
				Others	9 (1)
				No clear medical reason	403 (46.8)
Beta – blockers (1319 patients, 90.2%)	130 (9.9)	412 (31.2)	777 (58.9)	Bradyarrhythmia or reaching target heart rate	232 (19.5)
				Still in up-titration	229 (19.3)
				Symptomatic hypotension	96 (8.1)
				Worsening of COPD	32 (2.7)
				Worsening of heart failure	16 (1.3)
				Sexuel dysfunction	7 (0.6)
				Others	3 (0.2)
				No clear medical reason	574 (48.5)
MRAs (810 patients, 55.4%)	85 (10.5)		725 (89.5)	Still in up-titration	144 (19.9)
				Hyperkalemia	72 (9.9)
				Renal dysfunction	52 (7.2)
				Gynecomastia	7 (0.9)
				Others	17 (2.3)
				No clear medical reason	433 (59.8)



Variable	RBM score <6 (n=1127, 77.1%)	RBM score ≥6 (n=335, 22.9%)	*P* – value
Age (years)	67.8 ± 11.4	64.4 ± 11	<0.001
Males	69.6	71.9	0.45
Marital status (single or divorced)	13.3	9.6	0.07
Low level of education	34.6	19.4	<0.001
Low household income	56.4	46.3	<0.001
Vital signs			
• Systolic BP (mm Hg)	120 ± 18	120 ± 17	0.95
• Systolic BP ≤110 mmHg	24.6	24.2	0.73
• Heart rate (b.p.m.)	78 ± 16	77 ± 16	0.48
• Heart rate ≥70 b.p.m.	65.9	62.4	0.34
Functional class, NYHA I–II	74.2	80.3	0.09
Prior HF hospitalization	43.3	42.1	0.91
Ischemic etiology	67.1	68.1	0.68
Comorbidities and risk factors			
• Coronary artery disease	72.6	74	0.66
• Myocardial infarction	51.6	55.2	0.26
• PCI	49.1	49.6	0.90
• Coronary artery bypass graft	20.3	19.7	0.87
• Hypertension	55.8	64.5	0.006
• Diabetes mellitus	33.3	39.4	0.04
• Dyslipidemia	37.5	39.7	0.48
• Atrial fibrillation	23.4	25.1	0.51
• Stroke or TIA	5.6	6	0.78
• Peripheral arterial disease	5	9.3	0.005
• Chronic kidney disease	19.2	14.6	0.06
• Asthma or COPD	22.6	25.4	0.30
• Anemia	17	18.5	0.56
• Thyroid disease	9.1	11	0.28
• Depression	6.1	9.6	0.03
• Cancer	4.4	5.1	0.65
• Current smoker	20.9	29.3	<0.001

Variable	RBM score <6 (n=1127, 77.1%)	RBM score ≥6 (n=335, 22.9%)	*P* – value
Electrocardiographic data			
• Sinus rhythm	72.8	71.6	0.72
• Left bundle branch block	17.3	12	0.06
Echocardiographic data			
• LVEF (%)	30 ± 6	30 ± 6	0.07
• Left atrial dilatation	74.2	75.5	0.67
• Moderate–to–severe VHD	52.3	49.6	0.63
• SPAP (mm Hg)	39 ± 14	40 ± 13	0.37
Laboratory data			
• Serum creatinine (mg/dL)	1.1 ± 0.6	1.1 ± 0.3	0.27
• GFR (ml/dk/1.73 m²)	68 ± 22	67 ± 20	0.08
• Hemoglobin (g/L)	13.1 ± 1.8	13 ± 1.9	0.89
• NT-proBNP (pg/mL)	4040 ± 12021	3495 ± 9047	0.59
• TSH (mU/L)	1.9 ± 2.8	1.8 ± 1.4	0.37
• LDL – cholesterol (mg/dL)	105 ± 32	98 ± 36	<0.001
Medical treatments			
• Ivabradin	9.2	21.8	<0.001
• Statins	41.8	58.5	<0.001
• Diuretics	66.4	73.1	0.02
• Digoxin	11.6	14	0.25
• Amiodarone	5.6	8.1	0.11
• Antiplatelets	67.9	64.5	0.26
• Warfarin	11.5	9	0.19
• DOACs	14.5	18.5	0.08
• DHP-CCB	12.3	16.2	0.08
• Nitrats	11.1	11.3	0.92
• Ranolazine	4.9	11.3	<0.001
• Trimetazidine	12.7	18.8	0.007

BP indicates blood pressure; NYHA, New York Heart Association; HF, heart failure; PCI, percutaneous coronary intervention; TIA, transient ischemic attack; COPD, chronic obstructive pulmonary disease; LVEF, left ventricular ejection fraction; VHD, valvular heart disease; SPAP, systolic pulmonary artery pressure; GFR, glomerular filtration rate; NT-proBNP, N-terminal pro–B-type natriuretic peptide; TSH, thyroid stimulating hormone; LDL, low-density lipoprotein; DOACs, direct oral anticoagulants; DHP-CCB, dihydropyridine calcium channel blockers.

Oral Presentation Session

A Glimpse into Percutaneous Transcatheter Valve Therapy

Date: 12.03.2020 Time: 15:15 – 16:15 Hall: 5

ID: **534**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

EVALUATION OF PERCUTANEOUS ANNULOPLASTY FOR TREATMENT OF FUNCTIONAL MITRAL REGURGITATION: A RETROSPECTIVE STUDY FROM TURKEY

Suat Görmel, Salim Yaşar, Erkan Yıldırım, Yalçın Gökoğlan, Serkan Asil, Mustafa Köklü, Barış Bugan, Murat Çelik, Uygar Çağdaş Yüksel, Hasan Kutsi Kabul, Cem Barçın

Gulhane Treatment and Research Hospital, Ankara, Turkey

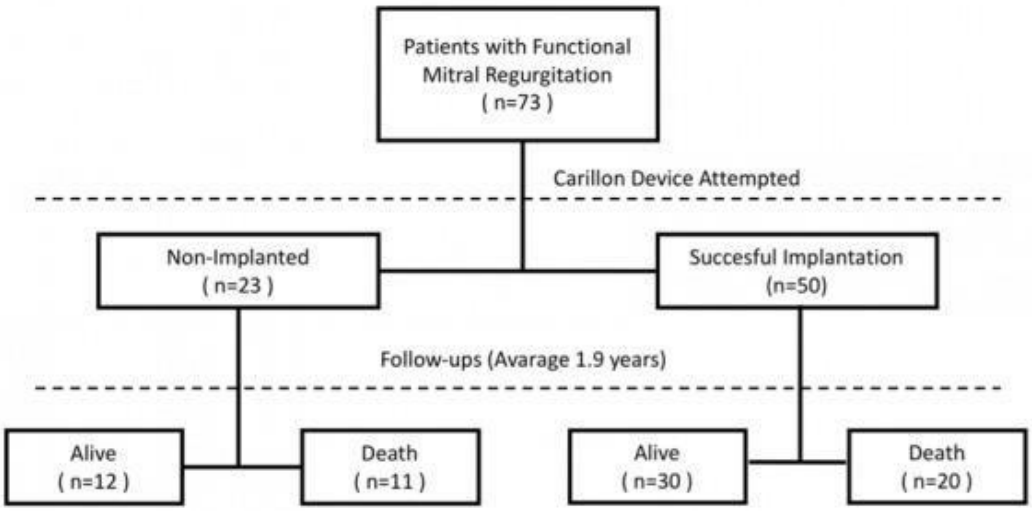
**Corresponding Author (suatgormel@yahoo.com)*

Objective: The management of severe functional mitral regurgitation (FMR) in patients with heart failure and low ejection fraction is controversial. Percutaneous transcatheter procedures are promising in this scenario. We currently report a retrospective analysis of our single center experience in inoperable severe FMR patients treated with Carillon Mitral Contour System focusing on its possible survival benefit.

Methods: A total of 73 patients with congestive heart failure (CHF), depressed left ventricular function (ejection fraction <35%) and severe FMR who underwent Carillon device implantation were analyzed retrospectively. Patients with successfully implanted device were compared with the ones in whom the device implantation was a failure.

Results: In six – year follow up, mortality rate was lower (40.0 % vs 47.8 %; HR: 0.83 95 % CI: 0.48 – 1.44) and life span after index procedure was longer (1.27 years vs 0.84 years; p=0.315) in device implanted group compared to non-implanted group. Postoperative 30-day rate of major adverse events was 1.3 % in spite of our more fragile study population.

Conclusion: Carillon Mitral Contour System implantation is an alternative and effective percutaneous transcatheter procedure especially in inoperable severe heart failure patients with FMR. The procedure has possible long-term survival benefits with high safety profile.


Patients with Functional Mitral Regurgitation (n=73)
Carillon Device Attempted
Non-Implanted (n=23)
Succesful Implantation (n=50)
Follow-ups (Avarage 1.9 years)
Alive (n=12)
Death (n=11)
Alive (n=30)
Death (n=20)

ID: **451**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

LONGTERM RESULTS OF MITRACLIP SYSTEM IMPLANTATION BY TWO-DIMENSIONAL SPECKLE-TRACKING BI-VENTRICLE ANALYSIS

Cüneyt Toprak

İstanbul Sancaktepe Şehit Prof. Dr. İlhan Varank Education and Research Hospital, Istanbul, Turkey

**Corresponding Author (cuneytoprak@hotmail.com)*

BACKGROUND AND AIM: The goal of this study was to determine changes in left ventricular (LV) and right ventricular (RV) function with two-dimensional speckle tracking echocardiography (2DSTE) after percutaneous mitral valve repair with the MitraClip system. Furthermore, we investigated whether baseline and/or changes in ventricles function after MitraClip repair had any impact on prognosis.

METHODS: A total of 25 consecutive patients (age: 57±12 years, 76% male) with moderate-to-severe or severe mitral regurgitation (MR) were included. Patients underwent two-dimensional transthoracic echocardiography before clip implantation and after 24-month follow-up. LV global longitudinal, radial and circumferential strain and RV free-wall longitudinal strain were obtained by 2D STE. Data analysis was performed offline. Prognostic data were also recorded via the use of telephone calls and follow-up visits for 24 months after the procedure.

RESULTS: During a follow-up of 24 months, LV global longitudinal strain and RV free-wall longitudinal strain were significantly improved (p = 0.001, p = 0.004 respectively). Of note, procedural success had a significant impact on reverse LV remodeling: (91%) patients with residual MR ≤ 1 showed a ≥10% increase in GLS in contrast to (50%) patients with residual MR grade 2 (p = 0.001). LV global radial and circumferential strain showed no significant improvement (p N 0.05 for all). On the other hand, conventional LV and RV indices did not change. The areas under the receiver operating characteristic curves for RV free-wall longitudinal strain showed high discriminative values (range, 0.85–0.92) in predicting unfavorable outcomes with persistent symptoms (New York Heart Association class > II) after the procedure. Clinically, reverse LV remodeling was accompanied by improved NYHA-class (p = 0.001), 6-minutes walk test (p = 0.007) and Minnesota Living with Heart Failure quality of life questionnaire (MLHFQ) (p = 0.012).

CONCLUSIONS: In conclusion, a successful MitraClip procedure can reverse the process of LV remodeling within 24 months, and this can be detected by 2DSTE. Also, patients with preprocedural lower RV free-wall longitudinal strain had the worst prognoses at the 2-year follow-up.

ID: **379**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

SINGLE CENTER EXPERIENCE IN TRANSCATHETER AORTIC VALVE IMPLANTATION FOR 7 YEARS

Hakan Taş, Yavuzer Koza

Atatürk University, Erzurum, Turkey

**Corresponding Author (mhakantas@gmail.com)*

Objective: Many patients have limited life expectancy or comorbid conditions that may limit the benefits of transcatheter aortic valve implantation (TAVI) and little is known about long-term durability of transcatheter heart valves. The purpose of this study was to investigate the long-term outcome after TAVI.

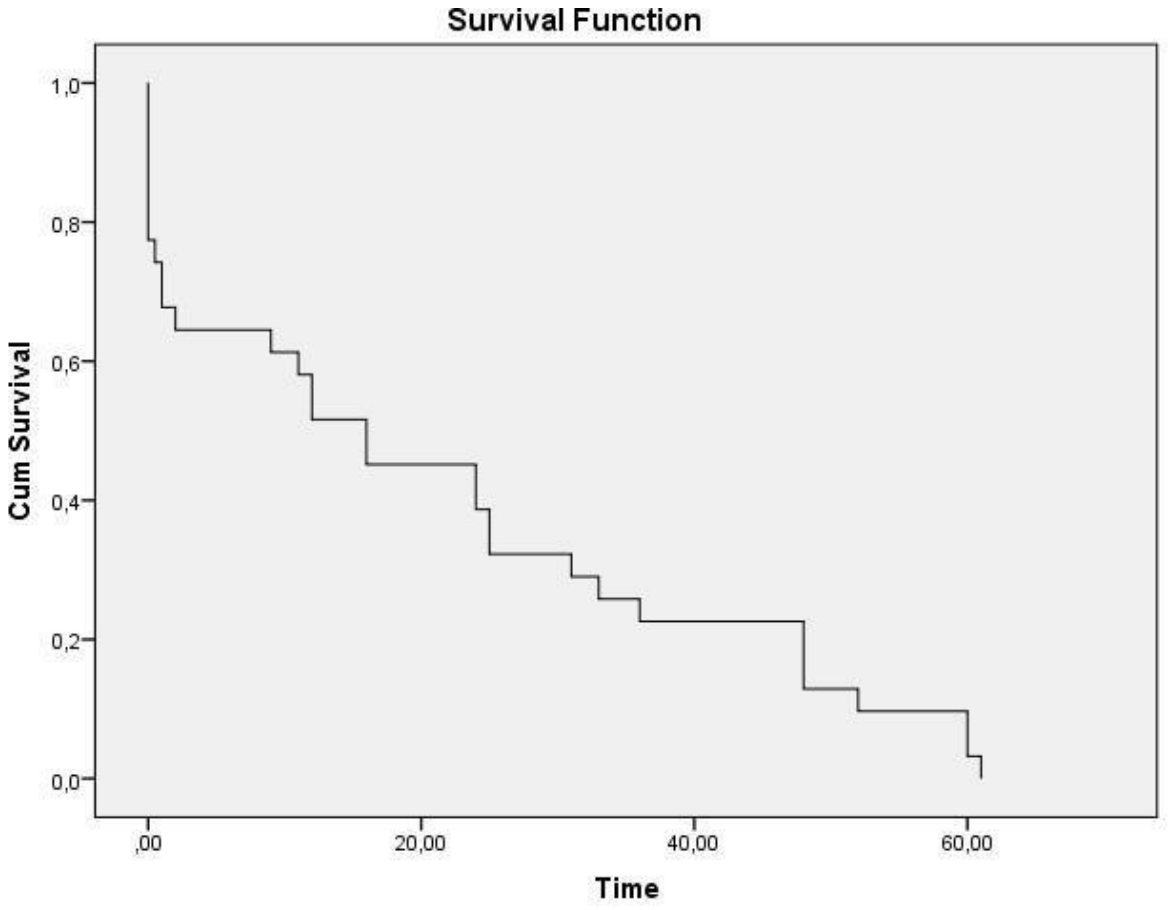
Methods: A total of 82 patients following successful TAVI with balloon-expandable or self- expandable heart valve between 2012-2019 October were evaluated retrospectively. Preoperative demographic data, postoperative clinic results and long-term mortality of patients were analyzed.

Results: Mean age of patients was 76.9±10.3 and 35.3% were female. Mean logistic Euroscore was 15.1±6.5 (Table 1). TAVI was performed with transfemoral route in all patients except in one (transapical). In 17.6% (n=15) of cases we used self-expandable heart valve. Mortality rate was 36% (n=19) in average follow up time of 22.6±20.5 months (1-72 months). In-hospital mortality rate was 14.1% (n=12). The operation was accepted as unsuccessful due to aortic perforation in one patient, left ventricular perforation in one patient and valve embolization to the left ventricle in another one. These three patients died during emergency operation. Permanent pacemaker implantation was required in two patients in the early period (1< month) and three patients in the late period (1> month). The overall neurologic event rate was 6.8% in five patients (n=73). Among all re-hospitalizations (n=29) (39.7%) heart failure (n=8) (30.6%) was the most frequently reported. Median lifetime was 16 months (n=31) (95% CI 4,23-27,7) (Figure 1). Valve thrombosis or late valve embolization were not reported.

Conclusions: Our study demonstrated favorably long-term outcomes after TAVI. No patients demonstrated severe prosthetic regurgitation or stenosis. Comorbidities, notably permanent atrial fibrillation (95% CI 0.09-0,61, p:0.003) and chronic heart failure (95% CI 0.95-2.66, p: 0.02) with Euroscore (95% CI 1.04-1.19, p: 0.001) and STS score (95% CI 1.04-1.20, p: 0.001) were the predictors of the long-term mortality.

Basal demographic data of patients		
n	%	Mean±SD
Age(years)	85	76.9±10.3
Average follow up(months)	73	22.6±20.5
Gender (Male)	55	64.7
Euroscore	85	15.1±6.5
STS score	85	15.0±6.7
Creatinine	85	1.2±0.8
Chronic renal failure	26	30.6
Hypertension	40	47.1
Diabetes Mellitus	23	27.1
Previous Stroke	12	14.1
Permanent AF	22	25.9
Previous PCI	12	14.1

Previous CABG	8	9.4
COPD	27	31.8
Peripheral artery disease	19	22.4



ID: **562**

Topic: **Cardiovascular Surgery » Transcatheter Aortic Valve Replacement**

Presentation Type: **Oral**

SURGICAL TREATMENT OF INFECTIVE ENDOCARDITIS AFTER TRANSCATHETER AORTIC VALVE IMPLANTATION IN EARLY PERIOD

Cengiz Bolcal, Kubilay Karabacak, **Emre Kubat**, Murat Çelik, Gökhan Erol

Gülhane Training and Research Hospital, Ankara, Turkey

**Corresponding Author (bolcalc@yahoo.com)*

Introduction
Aortic stenosis (AS) is one of the most common valvular diseases in adults and the prevalence of AS increases with age. Transcatheter aortic valve implantation is an aortic stenosis treatment option for patient with high surgical risk factors such as advance aged, low ejection fraction. Prosthetic valve endocarditis is an important complication of any kind of valve replacement. Herein, we present a case who underwent successful surgical intervention due to transcatheter aortic valve endocarditis

Method:
83 years old male patient with high surgical risk factors for cardiac surgery. TAVI was performed three months ago before the admission. The patient has fever and dyspnea. 3/6 systolic murmur in aortic area and fever (37 0C) were noted in physical examination. Transthoracic echocardiography, which revealed a moderately reduced ejection fraction (40%), grade 2-3 mitral regurgitation, grade 2-3 paravalvular aortic leak. Transesophageal echocardiography revealed that grade 2-30 paravalvular leak of aortic left coronary cusp and 2-30 mitral regurgitation due to mitral anterior valve leaflet disruption. TAVI endocarditis was diagnosed after evaluation. Surgical procedure was planned to the patient.

Results:
Infected transcatheter aortic valve was removed. Calcified aortic cusps were excised. Defect of mitral anterior leaflet was repaired with pericardial patch using 5-0 polypropylene suture. After that, Edwards Intuity Elite no:25 sutureless valve was implanted to the aortic position. The patient had an uneventful postoperative period. The patient was discharged on the postoperative 6th day after the operation

Conclusion
Valve endocarditis after TAVI procedure in early period should be suspected if the patient has resistant fever. It should be noted that there is a possibility of valve endocarditis in early period after TAVI procedure.

Oral Presentation Session

Update in Biomarkers in Acute Coronary Syndromes

Date: 12.03.2020 Time: 16:15 - 17:15 Hall: 5

ID: **433**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

PREDICTING LONG TERM CARDIOVASCULAR OUTCOMES IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION FOLLOWING DISCHARGE USING MULTIPLE BIOMARKERS

Mustafa Umut Somuncu[1], **Ali Rıza Demir**[2]

[1]*Bulent Ecevit University, Zonguldak, Turkey*

[2]*Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Center, Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (umutsomuncu@hotmail.com)*

Objectives: Although there are short and long-term prognostic studies in patients with myocardial infarction (MI), the data that can be used to predict the clinical outcome following discharge is limited. This study aimed to assess the clinical significance of mutibiomarker analysis consisting of three different pathways (myonecrosis, myocardial stress, inflammation) in predicting 1-year major adverse cardiovascular events (MACE) in MI survivors.

Methods: 259 patients with MI undergoing successful percutaneous coronary intervention were included. Peripheral venous blood was taken from all patients for performing multimarker risk stratification. NT-pro B-type natriuretic peptide (NT-proBNP) and suppression of tumorigenicity 2 (sST2) were used to determine myocardial stress, creatinine kinase-MB (CK-MB) and troponin were used to determine myonecrosis, and C-reactive protein (CRP) and procalcitonin were used to determine inflammation. Both the effect of these markers alone and the group effect were investigated. Clinical outcomes were defined as cardiovascular mortality, target vessel revascularization (TVR), nonfatal reinfarction, stroke, and heart failure following discharge. The sum of clinical outcomes was accepted as MACE.

Results: When we analyzed subgroups of MACE, inflammation and cardiac stress markers were high in all patients with cardiovascular mortality. All patients who have non-fatal MI had a combined elevation of CRP and procalcitonin. The co-elevation sST2 and NT-proBNP were the highest among the groups (80.0%) in heart failure patients and the co-elevation of CRP and procalcitonin was prominent in patients with TVR (75%). High sST2 (OR:2.56 CI 95% 1.002-6.571, p=0.050) and high CRP (OR:3.27 CI 95% 1.222-8.782, p=0.018) were determined as independent predictors of MACE. Being in the high group for myocardial stress (OR: 3.45 CI 95% 1.398-8.547, p=0.004) and inflammation markers (OR:4.30 CI 95% 1.690-10.899%, p=0.001) predicted MACE while myonecrosis markers could not (OR:1.70 CI 95% 0.671-4.306, p=0.263) in comparison of different pathobiological axes. Each added factor increased the prediction of MACE in the modeling performed by giving 1 point to the high group for inflammation and myocardial stress markers and the maximum effect was reached by being in the high group for all four markers (OR:23.4 CI 95% 4.72-115.64, p<0.001).

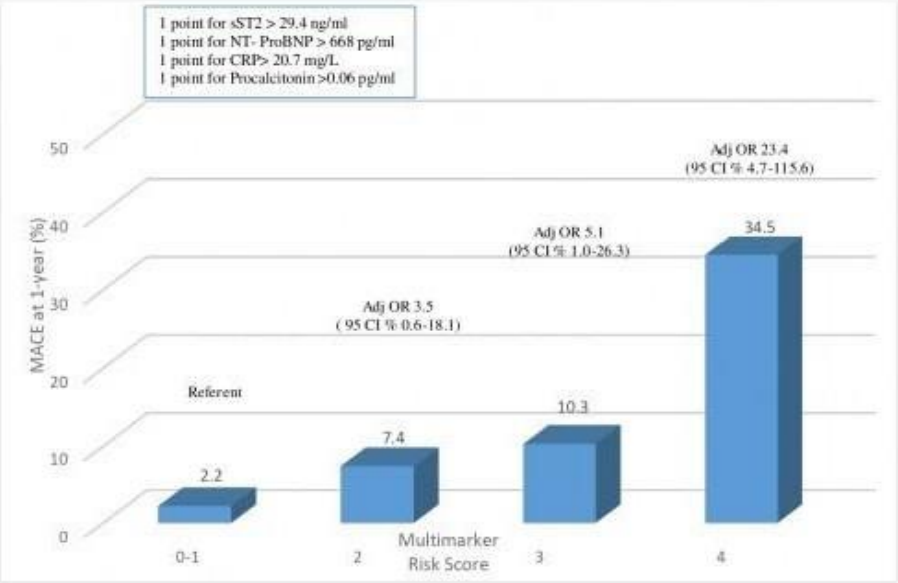
Conclusions: These findings emerge the incremental value of using markers that reflect complementary axes of cardiac pathologies. Combining inflammation and myocardial stress markers that act through different mechanisms can help us predict poor cardiovascular events during one year of follow-up in hemodynamically stable MI survivors.

Table 1: Association Between Each Marker Individually When Modeled as a Categorical Variable and the Odds of MACE Following Discharge After Multivariable Adjustment¶

-	Biomarker	OR (95% CI)	P value
Myocardial stress	sST2	2.566 (1.002 – 6.571)	**0.050**
-	NT-pro BNP	2.578 (0.961-6.914)	0.060

-	sST2 & NT-pro BNP	3.456 (1.398 –8.547)	**0.004**
Myonecrosis	CK-MB	1.017 (0,348-2.973)	0.975
-	Troponin	1.769 (0.745-4.202)	0.196
-	CK-MB & Troponin	1.701 (0.671-4.306)	0.263
Inflammation	CRP	3.277 (1.222-8.782)	**0.018**
-	Procalcitonin	2.209 (0.794-6.145)	0.129
-	CRP & Procalcitonin	4.301 (1.690- 10.899)	**0.001**

¶ Multivariable model included age, sex, past hypertension, diabetes mellitus, LVEF, systolic blood pressure, heart rate Killip class > 1 ratio and MI type.


1 point for sST2 > 29.4 ng/ml
1 point for NT- ProBNP > 668 pg/ml
1 point for CRP> 20.7 mg/L
1 point for Procalcitonin >0.06 pg/ml
MACE at 1-year (%)
50
40
30
20
10
0
Adj OR 23.4
(95 CI % 4.7-115.6)
Adj OR 5.1
(95 CI % 1.0-26.3)
Adj OR 3.5
(95 CI % 0.6-18.1)
Referent
34.5
10.3
7.4
2.2
0-1
2
3
4
Multimarker
Risk Score

ID: **443**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN SERUM HOMOCYSTEINE LEVELS AND DEVELOPMENT OF CORONARY COLLATERAL CIRCULATION IN PATIENTS WITH ACUTE CORONARY SYNDROME

Taner Sarak, Muhammed Karadeniz

Kırıkkale University, Kırıkkale, Turkey

**Corresponding Author (tansara@ttmail.com)*

Group I (n=120)	Group II (n=56)	p	
White blood cells (×103 µL)	9,9 ±3 ,2	10,0 ±3,1	0,91
Hemoglobin (gr/dl)	13,7±1,9	13,4 ± 1,9	0,28
Mean platelet volume (fL)	9,0 ± 1,1	8,6 ± 1,0	**0,03**
Homocysteine (µmol/L)	18,2±7,0	15,7±5,1	**0,02**

OBJECTIVE: Coronary collateral circulation is a potential vessel that develops between different coronary arteries or sections of the same coronary artery to provide blood flow to the ischemic area in order to maintain the viability of the myocardium when a severe stenosis or total occlusion occurs that reduces blood flow in the coronary artery. Homocysteine is an amino acid that plays a role in folate metabolism and inhibits endothelial cell proliferation which is important for angiogenesis. In this study, we aimed to investigate the relationship between serum homocysteine levels and coronary collateral development.

METHODS: 176 consecutive patients, with acute coronary syndrome and chronic total occlusion, were divided into two groups according to coronary collateral development. Rentrop 0 and 1 were regarded as group I and Rentrop 2 and 3 as group II.
RESULTS: A total of 176 patients with 120 group I and 56 group II included in this study. The mean age of the patients was higher in group II than group I (p=0,04). Mean platelet volume was higher in the group I. There was no difference between the groups in terms of biochemical parameters except homocysteine. Plasma homocysteine levels were 18,2 ± 7,0 µmol/L in the group I and 15,7 ± 5,1 µmol/L in the group II. Homocysteine levels were higher in the group I compared to the group II (p= 0,02). Univariate logistic regression analysis showed that mean platelet volume and homocysteine were associated with poor coronary collateral. Multivariate logistic regression analysis showed that homocysteine level was independently associated with poor coronary collateral circulation (OR 1,069 [95% CI 1,012-1,130]; P=0,018).

CONCLUSIONS: In the present study, we investigated the relationship between serum homocysteine levels and coronary collateral development in patients with chronic total occlusion. Our findings showed that serum homocysteine levels were higher in the poor collateral group than the good collateral group in patients with acute coronary syndrome and chronic total occlusion. In addition, higher homocysteine levels were found as an independent predictor of poor collateral development in patients with acute coronary syndrome.

ID: **444**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN SERUM FIBRINOGEN LEVEL AND STENT RESTENOSIS IN PATIENT WITH ACUTE CORONARY SYNDROME

Taner Sarak[1], Muhammed Karadeniz[2]

[1]*Kırıkkale University, Kırıkkale, Turkey*

[2]*KIRIKKALE UNIVERSITY, Kırıkkale, Turkey*

[*]*Corresponding Author (tansara@ttmail.com)*

OBJECTIVE: In-stent restenosis is a gradual re-constriction of the stented area after stent implantation in the coronary arteries. Although the rate of drug-eluting stents has been reduced with the introduction of stents, it remains a major problem. In this study, we aimed to investigate the relationship between stent restenosis and fibrinogen levels in patients undergoing coronary angiography for acute coronary syndrome.

METHODS: We enrolled 321 patients with a history of coronary angioplasty who underwent coronary angiography between December 2014 and June 2019. The patients were divided into two groups with and without stent restenosis and their biochemical data were analyzed.

RESULTS: There was no difference between the groups in terms of age, hypertension, diabetes mellitus, smoking and left ventricular ejection fraction (respectively; p=0,66, p=0,61, p=0,18, p=0,98, p=0,89). Male gender and hyperlipidemia rate was higher in ISR group than non-ISR group (p=0,04 ve p=0,007). Biochemical parameters were not different between the groups except homocysteine and fibrinogen. Serum homocysteine and fibrinogen levels were significantly higher in the ISR group than in the non-ISR group (respectively; p=0,009, p=0,032). Dyslipidemia, homocysteine and fibrinogen identified as independent predictors of ISR.

CONCLUSIONS: Plasma fibrinogen levels may be an important biochemical parameter in predicting the risk of restenosis in patients with bare metal stents implanted for coronary artery disease.

ID: **450**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

FIBRINOPEPTID A IS ASSOCIATED WITH INCREASED CORONARY ARTERY DISEASE SEVERITY IN PATIENTS WITH ACS

Abdulkadir Uslu[1], Ahmet Seyda Yılmaz[2], Pinar Demir Gundogmus[4], Ayhan Küp[1], Faruk Kara[3], Batur Gönenç Kanar[7], Asım Örem[5], Ahmet Çağrı Aykan[6]

[1]*Kartal Kosuyolu Gogus Kalp Ve Damar Cerrahisi Egitim Ve Arastirma Hastanesi, Istanbul, Turkey*

[2]*Recep Tayyip Erdogan University, Rize, Turkey*

[3]*Ahi Evren Gogus Kalp Ve Damar Cerrahisi Egitim Ve Arastirma Hastanesi, Trabzon, Turkey*

[4]*29 Mayis Devlet Hastanesi, Ankara, Turkey*

[5]*Department of Biochemistry, Karadeniz Technic University Faculty of Medicine, Trabzon, Turkey.*

[6]*Department of Cardiology, Kahramanmaras Sutcu Imam University Faculty of Medicine, Kahramanmaras, Turkey.*

[7] *Department of cardiology, Marmara university Faculty of Medicine, İstanbul, Turkey*

[*]*Corresponding Author (dr.akadiruslu@gmail.com)*

Background: ACS is the leading cause of death worldwide despite the development of new treatment modalities. Thrombosis plays an important role on the basis of atherosclerosis which is known to be chronic process. Therefore, interest in hemostatic factors increases. In this study, the impact of FPA which is one of the hemostatic process markers on ACS patients was investigated.

Methods: Between 2015-2017 patients who admitted to emergency service and diagnosed with NSTEMI, STEMI were enrolled. 67 patients were NSTEMI and 40 patients were STEMI. Patients who admitted to outpatient clinics consisting of 69 chronic coronary syndromes were accepted as a control group. Serum FPA levels of a total of 176 patients were measured.

Results: FPA levels were positively correlated with admission level of troponin, maximum troponin, admission level of CK-MB, maximum CKMB, SYNTAX, and Gensini scores; but negatively correlated with admission time and LVEF, significantly. FPA was found to independently predict MI. We performed ROC curve analysis and found that FPA>3.38 ng / mL had sensitivity and specificity of 89.7%, and 78% respectively (% 95 CI 0.745-0.905; P <0.001).

Conclusion: Increased FPA level indicating higher thrombogenic activity, may lead to more aggressive anti-thrombogenic treatment in patients diagnosed with ACS.

Keywords: Acute coronary syndrome, Fibrinopeptide A, Syntax score

ID: **376**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

THE ASSOCIATION BETWEEN SYNTAX SCORE-II AND ERECTILE DYSFUNCTION IN PATIENTS UNDERGOING CORONARY ANGIOGRAPHY DUE TO ANGINA PECTORIS

Cengiz Burak[1], Ayça Gümüşdağ[2], Mehmet Ali Karagöz[2]

[1]*Kafkas University, Kars, Turkey*

[2]*Kafkas University, Kars, Turkey*

[*]*Corresponding Author (cengizburaktyih@yahoo.com.tr)*

Objective: Coronary artery disease (CAD) is one of the leading causes of mortality and morbidity worldwide. Atherosclerosis (AS) is a chronic inflammatory disease caused by chronic endothelial damage. AS can affect different arteries of various diameters, and it can result in tissue ischemia when it causes more than 50% stenosis of the lumen diameter. Syntax score (SS) indicates the severity of CAD according to the number of lesions as well as their functional effects, location, and complexity. SS II is calculated by adding some clinical parameters such as left ventricular ejection fraction, chronic obstructive pulmonary disease (COPD), renal failure, and peripheral arterial disease (PAD), etc. in addition to the severity of CAD. Therefore, it becomes a more comprehensive risk score in the evaluation of the CAD patients compared to the SS alone. Erectile dysfunction (ED) is the inability to achieve and maintain an erection for satisfactory sexual intercourse. ED has similar risk factors and pathophysiology as CAD, and endothelial dysfunction is seen as a common resemblance affecting several vascular beds. ED can be easily evaluated using the shortened International Erectile Function Index (IIEF-5) questionnaire. Our aim was to investigate the relationship between SS II and ED in men undergoing CAG for a stable CAD.

Methods: Male patients over 40 years of age without history of CAD and undergoing CAG between 2018-2019 were included. All demographic data, laboratory parameters as well as ED score determined by IIEF-5 questionnaire were obtained before the procedure. ED was classified into five categories as; severe (5-7), moderate (8-11), mild to moderate (12-16), mild (17-21), and no ED (22-25). For each patient, SS II was calculated after CAG. The patients were divided into two groups according to the SS II and the two groups were compared.

Results: A total of 112 patients were included in the study. The frequency of hypertension, COPD, and PAD were significantly higher in high SS II group than those with low SS II. The ED score was also lower in patients with high SS II than those with low SS II (20 ± 9 vs 25 ± 7, $p<0.05$). Besides that, we observed that patients whose ED scores were moderate and severe had higher SS II compared to those with low SS II.

Conclusion: There was a significant association between the severity of ED assessed by IIEF-5 and the SS II in patients who underwent CAG due to stable CAD.

All patients (n:112)	Patients with high syntax score II (n:56)	Patients with low syntax score II (n:56)	p value	
Age, years	64±12	56 ±10,1	71 ±7,9	<0,001
Diabetes mellitus, n (%)	28 (25,0%)	11 (19,6%)	17,00 (30,4%)	0,192
Hypertension, n (%)	66(58,9%)	25 (44,6%)	41 (73,2%)	0,002
Dyslipidaemia, n (%)	41(36,6%)	24 (42,9%)	17 (30,4%)	0,172
COPD, n (%)	23(20,7%)	4 (7,3%)	19 (33,9%)	0,001
PAD, n (%)	27(24,1%)	0 (0,0%)	27 (48,2%)	<0,001
Haemoglobin, (g/dL)	13,88±1,8	14,44±1,5	13,32±1,9	0,001
WBC Count, 103/µL	8,70±3,4	8,78±2,5	8,63±4,1	0,198
Creatinine, (mg/dl)	0,95±0,3	0,84±0,12	1,06±0,4	<0,001

Left Ventricular Ejection Fraction, (%)	49,83±10,1	54,29±7,5	45,37±10,4	<0,001
Syntax Score II for PCI	31,24±14,29	19,98±4,05	42,50±11,70	<0,001
Syntax Score I	15,00(9-21)	12,50(7,5-19)	16,00(11-24,75)	0,012
ED Score	22±8	25±7	20±9	0,001
ED Group				
None; (%)	62(55,4%)	39 (69,6%)	23(41,1%)	
Mild; (%)	16(14,3%)	7 (12,5%)	9(16,1%)	
Mild- Intermediate; (%)	10(8,9%)	4 (7,1%)	6(10,7%)	
Intermediate; (%)	11(9,8%)	2 (3,6%)	9(16,1%)	
Severe; (%)	13(11,6%)	4 (7,1%)	9(16,1%)	

Oral Presentation Session

Perspectives in Acute Coronary Syndromes

Date: 12.03.2020 Time: 17:15 – 18:30 Hall: 5

ID: **134**

Topic: **Cardiology » Diabetes Mellitus and Cardiovascular Disease**

Presentation Type: **Oral**

DIABETES MELLITUS –BEST PREDICTOR OF WORST PROGNOSIS IN ACQUIRED VENTRICULAR SEPTAL RUPTURE

Sajjad Alı

LADY READING HOSPITAL PESHAWAR, PESHAWAR, Pakistan

**Corresponding Author (greeneyes_146@yahoo.com)*

OBJECTIVE: To determine the predictors of mortality in acquired ventricular septal rupture among various cardiovascular risk factors and clinical parameters and also to compare these variables between diabetics and non-diabetics.

METHODOLOGY: This is a retrospective study done at cardiology department of Lady Reading Hospital, Pakistan in which a data of 69 patients with post myocardial infarction with ventricular septal rupture who admitted over a period of five years between January 2012 and December 2016 were analyzed. Logistic regression model was applied for predictive analysis by determining odds ratio of mortality for various enrollment clinical parameters. P-value of less than or equal to 0.05 was taken as significant.

RESULTS: Mean age of included patients was 63.16 ± 8.8 years which is a decade younger, with 53.6% were male patients. Mean time of development of VSR was 4.1 ± 2.2 days. Diabetes was found to be the best predictor of mortality acquired VSR patients with OR of 13.72, followed by presence of heart block (OR: 13.21), renal impairment (OR: 8.9), higher killip class (OR: 8.5), high admission glucose level (OR: 6.8), multiple VSR, tachycardia and shock with significant P-value. Among diabetics with acquired VSR: only heart block, HTN, and higher killip class were found to be predictors of death.

CONCLUSION: Diabetic status is a strong independent predictor of mortality in acquired VSR patients followed by heart block and renal impairment. HTN only in the presence of diabetes can be a predictor of mortality.

KEY WORDS: Ventricular Septal Rupture, Diabetes mellitus

ID: **322**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

PREDICTION OF IN-HOSPITAL MAJOR ADVERSE CARDIAC EVENTS (MACE) OF PATIENTS WITH ACUTE CORONARY SYNDROME USING GRACE AND TIMI RISK SCORES IN A TERTIARY HOSPITAL OF BANGLADESH

Bishnu Pada Saha

NICVD, Dhaka, Bangladesh

**Corresponding Author (dbps99@gmail.com)*

BACKGROUND: Patient with acute coronary syndrome (ACS) has considerable variability in outcome and mortality risk. Global Registry of Acute Coronary Events (GRACE) & The Thrombolysis in Myocardial Infarction (TIMI) were a convenient bedside clinical risk scores for predicting in-hospital Major Adverse Cardiac Events (MACE) of patients with ACS at presentation. The aim of this study was to predict in-hospital Major Adverse Cardiac Events (MACE) in patients with ACS by using GRACE and TIMI risk scores. Outside the country, several studies have been found to in predicting to MACE of patients with ACS by using GRACE and TIMI risk scores. But in our country even south Asia, no study has been done to compare these scores in predicting of the in-hospital MACE of patients with ACS. So, this study has been undertaken to predicting of the in-hospital MACE of patients with ACS by using the GRACE and TIMI risk scores.

METHODS: This prospective observational study was carried out in the Department of Cardiology, Dhaka Medical College and Hospital (DMCH), Dhaka. After considering all ethical issues data were collected from 279 admitted patients with ACS by using questionnaire, clinical examination, ST changes in electrocardiogram, and relevant laboratory investigations. The GRACE & TIMI risk score was calculated for each patient. Patients were followed up till death or discharge and in-hospital MACE were noted. Tested predictive (sensitivity & specificity) accuracy of both GRACE & TIMI risk score to predict in-hospital MACE of the patients with ACS by receiver operative characteristics (ROC) curve.

RESULTS: The study included 279 patients, 144 (51.6 %) had STEMI & 135 (48.6%) had UA/NSTEMI. In-hospital MACE were significantly ($p<0.001$) higher in patients with STEMI than patients with UA/NSTEMI (53.5% vs 29.6%). Sensitivity of both GRACE & TIMI risk score to predict in-hospital MACE of patients with STEMI as well as patients with UA/NSTEMI remained close to 100% with specificity >60% at the specified best cut off values ($p<0.05$). The best value for predicting of in-hospital MACE was a GRACE score of ≥165 and TIMI score of ≥ 6.0 in patients with STEMI whereas GRACE score of ≥123 and TIMI score of ≥3.0 in patients with UA/NSTEMI that is lower than established studies. Both GRACE & TIMI risk score had high c-statistics (≥ 0.70) but the different was <0.05.

CONCLUSIONS: Both the GRACE and TIMI risk score could predict in-hospital MACE of patients with ACS and may be readily applied as a prognostic tool at the bed side of hospital but no one is superior.

ID: **263**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

PREDICTION OF IN-HOSPITAL MAJOR ADVERSE CARDIAC EVENTS (MACE) OF PATIENTS WITH ACUTE CORONARY SYNDROME USING GRACE AND TIMI RISK SCORES IN A TERTIARY HOSPITAL OF BANGLADESH

Bishnu Pada Saha

NICVD, Dhaka, Bangladesh

**Corresponding Author (dbps99@gmail.com)*

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Conclusions: Both the GRACE & TIMI risk score could predict in-hospital MACE of patients with ACS and may be readily applied as a prognostic tool at the bed side of hospital but no one is superior.

Table-Association of in-hospital MACE and best cut off value of GRACE & TIMI risk score of patients with STEMI & patient with UA/ NSTEMI.

Risk Score	Cut off value	In-Hospital	MACE	of STEMI		p- value
Yes	(n=77)	No	(n=67)			
N	%	N	%			
GRACE Risk Score	≥165	62	80.5%	13	19.4%	<0.001s
GRACE Risk Score	<165	15	19.5%	54	80.6%	<0.001s
TIMI Risk Score	≥6.0	68	88.3%	18	26.9%	<0.001s

TIMI Risk Score	<6.0	09	11.7%	49	73.1%	<0.001s
In-Hospital MACE	of	STEMI				
Yes	(n=40)	No	(n=95)			
GRACE Risk Score	≥123	32	80.0%	27	28.4%	<0.001s
GRACE Risk Score	<123	08	20.0%	68	71.6%	<0.001s
TIMI Risk Score	≥3.0	34	85.0%	31	32.6%	<0.001s
TIMI Risk Score	<3.0	06	15.0%	64	67.4%	<0.001s

ID: **237**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE PATTERN OF CORONARY ARTERY INVOLVEMENT AS DIAGNOSED BY CORONARY ANGIOGRAPHY IN PATIENTS PRESENTED WITH ST-ELEVATION MYOCARDIAL INFARCTION

Hamidullah Ahmadzai, Sher Ahmad Akbari, Ambreen Gowami, Nooria Atta

French Medical Institute for Mother and Children, Kabul, Afghanistan

**Corresponding Author (hamidullah_ahmadzai22@yahoo.com)*

Background: ST-elevation myocardial infarction (STEMI) is considered to be one of the most lethal presentations of myocardial infarction, and the most common cause of mortality and morbidity among cardiovascular diseases in Afghanistan.

Methods: A Descriptive case series design was applied to achieve the study objectives. All patients who visited French Medical Institute for Mother and Children, cardiology department and diagnosed with ST-elevation myocardial infarction between 1st June to 1st December 2018 were included in the study. Participants were recruited via consecutive sampling technique. A data collection form was developed by the investigator to collect the data; descriptive as well as inferential statistics were used to analyze the data.

Results: A total of 107 STEMI patients were enrolled in the study. The mean age at presentation was 57.12 +/-12.32. The predominant gender was male (74.8%). Among the risk factors, Hypertension was the leading risk factor (51.5%), followed by Diabetes Mellitus (29%). Majority of the patients suffered from anterior STEMI (56.1%). There was a statistically significant association between culprit artery and diabetes (p-value 0.035) and also between type of STEMI and culprit artery (p-value <0.001). Among the complications, a statistically significant association was noted between type of STEMI and left ventricular dysfunction (p-value 0.001) and complete heart block (p-value 0.032).

Conclusion: Identification of the patterns of coronary artery disease would help cardiologists understand the etiology and corresponding clinical characteristics of patients with STEMI. This would also guide them to design better treatment options for the patients.

ID: **168**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

STRESS AT WORKPLACE AND RISK OF ACUTE CARDIOVASCULAR DISEASES IN POPULATION 25-64 YEARS IN RUSSIA/SIBERIA. MONICA-PSYCHOSOCIAL EPIDEMIOLOGICAL STUDY

Valery Gafarov[1], Elena Gromova[1], **Dmitriy Panov**[2], Igor Gagulin[2], Almira Gafarova[2], Eldar Krymov[3]

[1]*Research Institute of Internal and Preventive Medicine, branch of Institute of Cytology and Genetics SB RAS, Novosibirsk , Russia*

[2]*Research Institute of Internal and Preventive Medicine, branch of Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia*

[3]*Research Institute of Internal and Preventive Medicine, branch of Institute of Cytology and Genetics SB RAS, Novosibirsk, United States*

[*]*Corresponding Author (valery.gafarov@gmail.com)*

Purpose: To determine the impact of stress on work on the risk of cardiovascular disease over 16-years of follow-up in an open population of 25-64 years in Russia/Siberia.

Methods: Under the third screening of the WHO MONICA-psychosocial program (MOPSY) random representative sample including both genders aged 25–64 years was surveyed in Novosibirsk in 1994 (n=1346, 48.8% males; mean age 44,9 ± 0,4 years; response rate was 77.3%). Stress at work was assessed by means Karazek scale. New-onset cases of myocardial infarction (MI), stroke were identified from 1994 to 2010. This longitudinal survey performed in frame budgetary issue # AAAA-A17-117112850280-2.

Results: A high level of stress at work was in 29.5% of men and in 31.6% of women. The middle level was in 48.9% of men and in 50.7% of women ($\chi 2=2.574$ $\upsilon=2$ $p=0.276$). The risk of MI over 16-years period in persons experiencing stressful situations at work was as follow: in men HR=3.592 and women HR=3.218 (95%CI 1.146-9.042); stroke risk was in men HR=2.603 (95%CI, 1.06-4.153) and in women HR was 1.956 (95%CI 1.008-3.795). In multivariate analysis risk of MI in men was HR=1.15 (95%CI 0.6-2.2) and in women HR=2.543 (95%CI 1.88-7.351); risk of stroke in men was HR=3.8 (95%CI 1.6-8.8) and in women it was HR=1.95 (95%CI 0.984-3.887). The risk of stroke was higher in those who are living alone, divorced and widowed men HR=4.2 (95% CI 1.5-13.2) and in women with high school or primary education degree HR=3 (95%CI 0.852-11.039).

Conclusions: It was established that a high level of stress at work is not gender-specific. The risk of MI incidence over a 16-years period is higher in women than in men but stroke in men; the risk of myocardial infarction and stroke is affected by the social gradient in both genders.

ID: **357**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

ASSOCIATION OF HBA1C LEVEL WITH THE SEVERITY OF CORONARY ARTERY DISEASE IN NON-DIABETIC PATIENT

Masum Mahmudul

Nicvd, Dhaka, Bangladesh

Corresponding Author (mhmasum41@gmail.com)

ABSTRACT

Background: In non-diabetic patients whose HbA1c level exceeded 4.6%; an increase in haemoglobinA1c of 1 percentage point increased the relative risk of coronary artery disease to 2.36%. However, if the HbA1c level was not greater than 4.6%; an increase of HbA1c level was not associated with CAD risk. Diabetes mellitus is an independent risk factor for coronary artery disease. Even in non-diabetic patients who had higher HbA1c levels are significantly associated with the development of coronary artery disease. As the studies related to the HbA1c level and the severity of coronary artery disease in non-diabetic patients with non-ST-segment elevation myocardial infarction have predominantly been carried out in the developed countries, so the data obtained from these studies may not be applicable to other populations including ours.

Method: Cross-sectional study was done in department of Cardiology National Institute of Cardiovascular Diseases in July 2015 to 2018 July all patients with NSTEMI without diabetes mellitus.

ID: **133**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

ANTHROPOMETRIC MEASUREMENTS – PREDICTORS OF MAJOR ADVERSE EVENTS IN NON-ST ELEVATION MYOCARDIAL INFARCTION PATIENTS AND THEIR SURVIVAL – A COHORT STUDY

Sajjad Alı

LADY READING HOSPITAL PESHAWAR, PESHAWAR, Pakistan

**Corresponding Author (greeneyes_146@yahoo.com)*

OBJECTIVE: The objectives of this study is to determine the anthropometric measurement that best associated with angiographic severity and best predictor of major adverse cardiovascular and cerebrovascular event in patients who are successfully re-vascularized after non-ST elevation myocardial infarction.

METHODOLOGY: This is a prospective cohort study done in Cardiology unit, Lady Reading Hospital, Peshawar from 1st July, 2016 to 31st December, 2017. Cohort was selected on the basis of complete revascularization after non-ST elevation MI in the first 6-months period and were followed over a period of 12 months with a 3-months clinical and monthly telephonic follow-up, to observe for any major adverse cardiovascular and cerebrovascular events (MACCE). Raised level of BMI, waist, wrist, neck circumferences and waist-to-hip ratio were defined as >25 kg/m2, >102cm & >88cm, >20cm & >18cm, ≥40cm & ≥37cm for male and female, and ≥0.55 ratio respectively. Chi-square test used to correlate anthropometric values with angiographic severity and incidence of MACCE. Logistic regression model was applied for prediction of MACCE. Kaplan-Meier curve used for survival of these patients through one year.

RESULTS: Total of seventy-three patients having successful revascularization after NSTEMI, with a mean age of 59.25 ± 10.34 years were enrolled in the study. Of these 47.9% were males. 31 (42.4%) patients had triple vessel disease. Neck circumference is best correlated with angiographic severity (X2= 22.59) followed by BMI (X2= 22.2) with significant P-value for all except for waist circumference. Similarly, all were associated with incidence of MACCE, with WrC as the best (X2= 16.12) followed by NC. Relative risk for occurrence of MACCE was with NC (RR=4.5) and also, NC best predicts MACCE. Kaplan Meier curves show significant correlation of raised anthropometric values with incidence of MACCE i.e. all patients who had MACCE had raised anthropometric values except for two cases who had normal WrC.

CONCLUSIONS: Raised anthropometric values are significantly associated with angiographic severity (NC as best) and incidence of MACCE (WrC as best) in NSTEMI patients, with the neck circumference as its best predictor. Follow-up of these patients show similar significant results for MACCE occurrence.

KEY WORDS: Anthropometric measurements, angiographic severity, MACCE, non-ST elevation MI

ID: **71**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

CLINICAL INDICATIONS FOR REQUESTING HIGH-SENSITIVITY TROPONIN I IN THE EMERGENCY DEPARTMENT

Atif Alqubbany[1], Ziad Taher[2], Abdullah Altalhi[2], Moaffaq Mahdi[2], Abdulrahman Aldainy[2], **Aida Darwish** [2], Abdulhalim Kinsara[1]

[1]*Ministry of National Guard Health Affair, King Saud Bin Abdulaziz University for Health Sciences, COM-WR, King Abdullah Internat, Jeddah, United States*

[2]*Ministry of National Guard Health Affair, King Saud Bin Abdulaziz University for Health Sciences, COM-WR, King Abdullah Internat, Jeddah, Saudi Arabia*

[*]*Corresponding Author (ziadaaot@gmail.com)*

Objective: The objective of this study is to evaluate the presenting symptoms, risk factors and cardiac origin of High Sensitivity Troponin I (Hs-TnI) and to investigate the validity of requesting an Hs-TnI routinely.

Method: A retrospective cohort study with 904 patients presenting at a tertiary hospital Emergency (ER) with an Hs-TnI requested. The study was conducted over a period of 15 months.

Results: Of the sample, 20.4% (n=184) presented with dyspnea, 18.03% (n=163) with chest pain and a small proportion (12.94%, n=117) with epigastric abdominal pain. Patients presenting with chest pain and a history of dyslipidemia were at a higher risk of developing Acute coronary syndrome (ACS) compared to the group without dyslipidemia (RR=1.62 (1.01-2.58) P=0.044). Diabetes and hypertension were the most prevalent chronic co-morbidities in patients with dyspnea with a risk of (RR=5.19 (0.68-39.27) P<0.068). Patients who presented with epigastric pain and had a history of dyslipidemia had a risk of (RR=5.23 (1.33-20.54) P=0.009).

Conclusion: The presenting symptoms should be taken in consideration by the ED physician to support the request for an Hs-TnI laboratory test. The yield and risk were both low in random screening.

Oral Presentation Session

Surgical Perspectives in Congenital Cardiac Defects

Date: 12.03.2020 Time: 10:00 – 11:00 Hall: 6

ID: **286**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Oral**

GENDER-RELATED DIFFERENCES IN ADULTS WITH CONGENITAL HEART DEFECTS: A CALL FOR GENDER-SENSITIVE, SPECIALIZED AND INTEGRATIVE CARE

Sebastian Freilinger[1], Maximilian Chwarz[2], Lars Pieper[3], Nicole Nagdyman[1], Peter Ewert[4], Renate Oberhoffer-fritz[5], Harald Kaemmerer[1], Rhoia Clara Neidenbach[1]

[1]*German Heart Centre Munich, Technical University Munich, München, Germany*

[2]*German Heart Centre Munich, Technical University Munich, München , Germany*

[3]*Technical University of Dresden, Dresden, Germany*

[4]*German Heart Centre Munich, Technical University Munich, München, United States*

[5]*Technical University of Munich, München, Germany*

[*]*Corresponding Author (freilinger@dhm.mhn.de)*

Background:
Currently, far more than 1.2 - 2.7 million adults with congenital heart disease (ACHD) are expected to live across Europe. There are major research gaps regarding gender differences in patients with congenital heart defects (CHD), although there is evidence, that gender differences can influence treatment decisions and medical health care. Therefore, the aim of the present study was to assess and evaluate gender-specific differences in a large ACHD cohort.

Methods:
This cross-sectional, questionnaire-based study included 1597 ACHD (53.1% female; 37.5 ± 13.1 [18 - 86] years). Gender-related differences concerning diagnosis, comorbidities, the medical health care situation, individual need for counselling and quality of life (QOL) were assessed by patient reported outcome measures (PROM) from February to October 2018.

Results:
Significant differences were observed concerning the patient reported gender distribution with a female predominance in tetralogy of Fallot (p<.001), atrial septal defect (p<.001) and Ehlers-Danlos syndrome (p=.028) and a male predominance in coarctation of the aorta (p<.001) and aortic valve stenosis/ insufficiency (p=.001). The prevalence of comorbidities was significantly higher in men (p<.001), whereas women reported pulmonary hypertension (p<.001), cardiac arrhythmia (p<.001) and mental impairment (p=.003) more often. Male patients with CHD consulted their general practitioners (GP) more often than woman, if a medical problem concerning the CHD was suspected (52% vs. 48%; p<.001).
A total of 772 patients (403 female) stated that they had never been referred to an institution specialized in CHD. 36% of all respondents had no awareness of CHD specialized institutions (no gender differences). Both sexes had a high demand for counselling (see Table 1). In terms of QOL, women reported greater impairments than men, especially in the dimensions of everyday activities, pain/ physical complaints and anxiety/ depression (p<.001). This resulted in a generally lower perceived QOL in woman (77.0 ± 18.1) than men (79.3 ± 16.4) respectively (p=.01).

Conclusion:
There are major gender differences in patients with CHD. Based on the PROMs, gender differences in diagnosis, comorbidities, medical care, counselling needs and QOL must be considered in future medical treatment. In addition to CHD specialists, GPs must be sensitised about the importance of gender differences in ACHD, since they are the first contact persons when it comes to medical questions for the majority of ACHD, especially for men.

Keywords: congenital heart defect (CHD), gender differences, sex, quality of life, adults with congenital heart defects (ACHD)

ID: **445**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

FLUOROPOLYMER CARDIOVASCULAR PATCH VERSUS SALINE UTILIZATION FOR REDUCTION OF POSTOPERATIVE ADHESIONS IN STAGED CONGENITAL HEART SURGERY PROCEDURES

Nur Dikmen Yaman[1], Zeynep Eyileten[1], Adnan Uysalel[2]

[1]*Ankara University Faculty of Medicine, Ankara, Turkey*

[2]*Ankara University Faculty of Medicin, Ankara, Turkey*

[*]*Corresponding Author (ndikmenyaman@gmail.com)*

Introduction

The formation of postoperative cardiac adhesions makes a repeat sternotomy time consuming and dangerous.
We aim to offer an option for this common surgical problem in congenital heart surgery.

Patients and Methods

Between January 2015 and December 2019, we evaluated 68 patients who underwent redo sternotomy, for staged congenital heart surgery procedures, according to two groups of only saline and fluoropolymer cardiovascular patch utilization for reduction of pericardial and retrosternal adhesion.

Evaluation of adhesion formation between the pericardium and the epicardium and also retrosternal adhesions were performed by the same surgeon according to opening times, major injuries and macroscopically appearance.

The following grading system was used to evaluate;

0: no adhesions;
1+: mild adhesions [easy to dissect manually];
2+: moderate adhesions [cohesive and can be dissected manually];
3+: severe adhesions [cohesive, requires sharp dissection] or nondissectable

As a result, the surgical barrier significantly reduced retrosternal adhesions. However, severe adhesions were observed between the epicardium and the pericardium in both groups.
According to comparison of opening times, surgical barrier group was significantly lower than saline group.
Major injuries were seen more frequently in saline group.
In surgical barrier group, epicardial architecture and landmarks were more difficult to identify because of tight adhesion of the material to epicardium.

Discussion

At the time of reoperation in cardiac procedures, the risks caused by retrosternal adhesions include injury to the right ventricle, aorta, right atrium, innominate vein, and any aortocoronary bypass graft. These injuries often result in severe hemorrhage with significant morbidity and mortality.

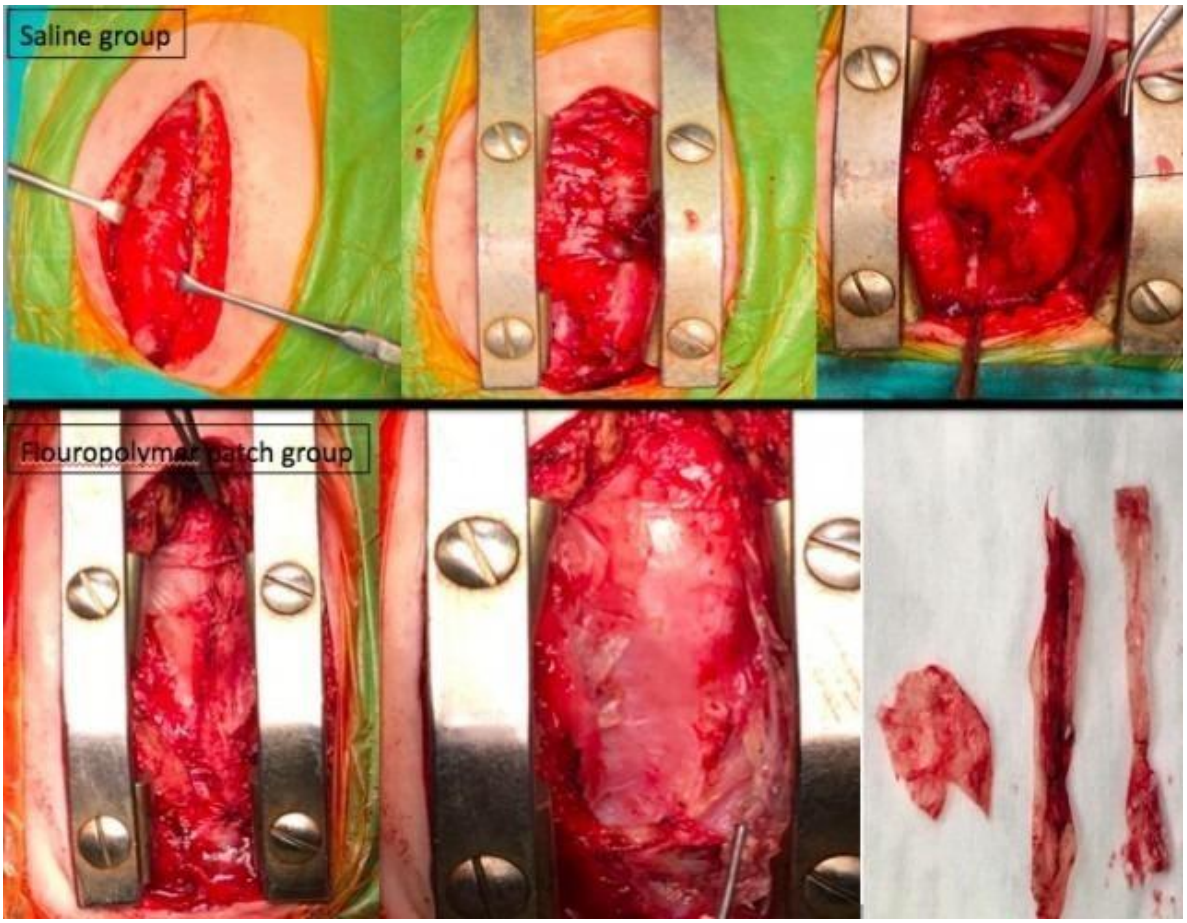
In addition to these injuries, adhesions between the pericardium and the epicardium after pericardial closure will obscure epicardial architecture and landmarks, making prevention of these adhesions important.

Fluoropolymer cardiovascular patch material can shorten operation times and reduce major injuries, but cannot prevent epicardial adhesions and can complicate identifying epicardial structures. Also it has a cost when compared to saline application.

Table 1: Demographic data of patients and comparative results

Saline group (n:29)	**Fluoropolymer patch group (n: 39)**	**P value**	
Mean age (years)	1,3 ± 0,5	1,6 ± 0,7	-
Weight (kg)	9,4 ± 2,3	10,3 ± 3,7	-
Duration times between two stages of procedures (months)	9,1	13,6	-
Repeat sternotomy procedure times (min)	54 ± 13	39 ± 11	P:0,001
Major injuries requiring stitch repair (n)	9	5	P:0,003
0: no adhesions; **1+: mild adhesions** **2+:moderate adhesions 3+:severe adhesions (n)**	4 7 16	11 19 9	P<0,005
Major bleeding (>10cc/kg/24h) after surgery (n)	3	2	P:0,07* (not statistically significant)

Figure 1: Intraoperative appearance of two strategies


Saline group
Flouropolymer patch group

ID: **629**

Topic: **Cardiology » Acute heart failure**

Presentation Type: **Oral**

TWO NEWBORNS WITH HEART FAILURE DUE TO VEIN OF GALEN ANEURYSMAL MALFORMATION

Nuh Yılmaz[1], Hasan Bilen Onan[2], Yılmaz Akbaş[1], Alperen Kayalı[1], Edip Gali[3]

[1]*Hatay Mustafa Kemal University, Hatay, Turkey*

[2]*Çukurova University, Adana, Turkey*

[3]*The Private Mozaik Hospital, Hatay, Turkey*

[*]*Corresponding Author (nuhyilmas@gmail.com)*

BACKGROUND

Although higher rates have been reported in newborns, vein of Galen aneurysmal malformation (VGAM) accounts for 1% of all cerebral arteriovenous shunts. While it's diagnosed with mild symptoms in older ages, it can lead to severe clinical conditions in newborn progressing to systemic circulatory disorder and secondary multiorgan failures because of increased preload in the right heart, severe heart failure, pulmonary congestion and pulmonary hypertension.

METHODS

In this article, we wanted to share our experience with the management of two newborns with VGAM who have had different shunt flow.

Case 1

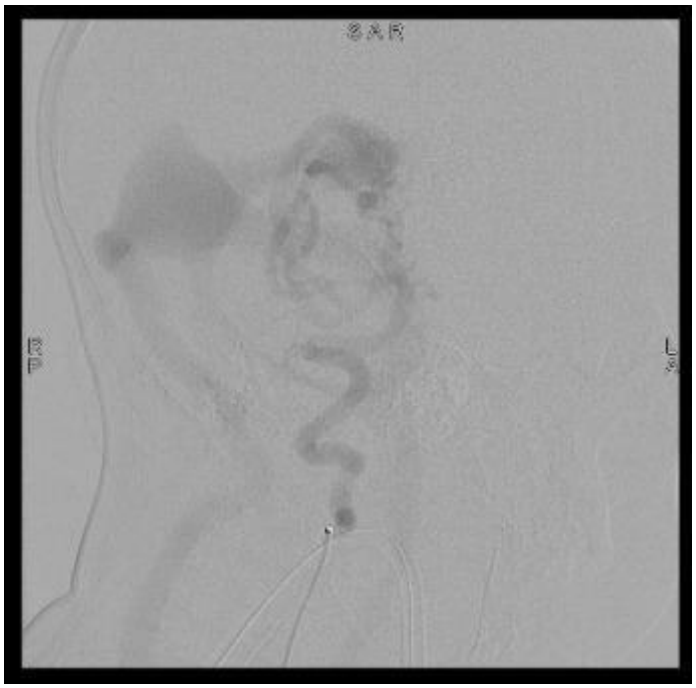
The baby girl who was born as 2640 gr at 38'th gestational week, was hospitalized in the neonatal intensive care unit (NICU) due to groaning and respiratory distress. On her physical examination, she had tachycardia and 2/6 systolic murmur in the pulmonary focus. Severe dilatation of the right heart cavities, small ASD and pulmonary hypertension were detected by echocardiography. VGAM was detected in cranial USG and MRI. Continuous murmur at cranial auscultation supported the diagnosis. The patient was started on digoxin, furosemide and spironolactone treatment and was followed up in the outpatient clinic. When the baby was 45 days old, a 4F sheath was placed percutaneously in the right femoral artery under general anesthesia. It was observed that there was one AV malformation opening to the Galen vein in the left vertebral artery injection, and an AV malformation originating from the anterior cerebral artery associated with the Galen vein in the left internal carotid injection. The two arteries feeding the aneurysm were successfully occluded. No bleeding or hydrocephalus developed. The patient's decongestive treatments were discontinued after the first month and she continues the outpatient follow-up.

Case 2

The baby boy who was born as 3000 g at term was accepted to the pediatric emergency service with a preliminary diagnosis of cardiopathy. Echocardiography revealed dilatation in the right heart, pulmonary hypertension, retrograde flow in the arcus aorta, and an increase in superior vena caval diameter. There was continuous murmur in fontanelle auscultation. Galen vein aneurysmal malformation and communican hydrocephalus were detected in cranial USG. The patient was started to treatment with furosemide, spironolactone and digoxin. The patient developed severe lung congestion during the follow-up in NICU and the symptoms of heart failure remained resistant to treatment.The liver and kidney functions were impaired. A dilutional hyponatremia developed. Serum sodium dropped to 118 meq / L. Tolvaptan was added to the treatment. The patient is still being followed up with tolvaptan treatment, and appropriate timing is being waited for interventional treatment.

CONCLUSION

VGAM should be considered in differential diagnosis in a newborn with dilatation of the right heart structures and heart failure. The greater the amounts of arteriovenous shunt of the aneurysm, the more difficult it is to control heart failure. In such patients, the presence of retrograde flow in the aortic arch should be sought by echocardiography, and fontanelle auscultation should be performed at physical examination. The main treatment is interventional aneurysm occlusion while surgical treatment is not recommended due to high mortality. In patients with poor general condition and planned to be waited until interventional treatment, tolvaptan should be kept in mind as a useful option.



ID: **182**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

PREDICTORS OF REOPENING THE STERNUM IN CHILDREN AFTER CARDIAC SURGERY

Ghassan Shaath[1], **Abdulraouf Jijeh**[1], Mohammad Kabbani[1], Hani Najm[2]

[1]*King Abdulaziz Cardiac Center, Riyadh, Saudi Arabia*

[2]*Cleveland Clinic, Ohio, United States*

[*]*Corresponding Author (ajijeh@yahoo.com)*

Background:

Capillary leak syndrome can be severe in children after open-heart surgery which may hinder sternum closure and described as mediastinal tamponade. Reopening the sternum postoperatively may help maintaining hemodynamics and respiratory function. We looked for predictors that indicate the need for reopening the sternum.

Methods:

This is a retrospective cohort study in a single cardiac center experience between 2009 and 2015. All children who required emergent reopening the sternum in the pediatric cardiac ICU after cardiac surgery were grouped as index cases and matched to a control group for age, body weight, cardiac diagnosis, and type of repair (single vs biventricular). With a ratio of two control cases for each index case, variables related to cardiac output (predictors) were collected in a time line of 12, 6 hours, and just before reopening the sternum. Morbidities and mortality were also reviewed

Results:

Thirty-three index cases were compared with 63 control cases. Hospital stay and hospital-acquired infections were the same between the groups. Ventilation hours were longer in the index cases. Temperature gap more than 3°C, inotropic score more than 14, and acute kidney injury indicated by doubled blood urea nitrogen and creatinine were higher in the index group 6 hours before reopening the sternum. Mortality was more in the reopening sternum group with higher risk when extracorporeal membrane oxygenation was needed.

Conclusions:

Low cardiac output after cardiac surgery in children in form of temperature gap more than 3°C, inotropic score more than 14, and acute kidney injury may predict the need of reopening the sternum. Rate of mortality was higher in the reopening sternum group when extracorporeal membrane oxygenation was needed.

ID: **287**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Oral**

MEDICAL HEALTH SUPPLY OF ADULTS WITH CONGENITAL DISEASE ASSOCIATED WITH AORTIC INVOLVEMENT

Ann-sophie Kaemmerer[1], Sebastian Freilinger[2], Kálman Havasi[3], Lars Pieper[4], Caroline Andonian[2], Nicole Nagdyman[2], Peter Ewert[2], Neidenbach Rhoia[2], Attila Nemes[5]

[1]*Albert Szent-Györgyi Clinical Center, University of Szeged, Szeged, Hungary*

[2]*German Heart Centre Munich, Technical University Munich, München, Germany*

[3]*Albert Szent-Györgyi Clinical Center, University of Szeged, Szeged, Hungary*

[4]*Technical University of Dresden, Dresden, Germany*

[5]*University of Szeged, Szeged, Hungary*

[*]*Corresponding Author (kaemmerer@lrz.mwn.de)*

Background:
All patients with CHD are chronically ill from their cardiac disease. Even after a primarily successful operative or interventional treatment, many of them have residua and sequelae of their CHD.
Although there is an increasing evidence that aortic alterations become relevant in CHD the importance of aortopathy in CHD has been largely neglected.
This study is performed to determine the “real life” primary care of adults with CHD, focusing on patients with manifest aortopathy or at risk thereof.

Methods:
In a questionnaire-based cross-sectional survey, the “real life”-care of 563 consecutive adults with CHD (49.6 % female, mean age 35.8 ± 12.1, 18 - 86 years) was analyzed, comparing patients with and without risk or with manifest aortopathy.

Results:
Out of the 563 consecutively enrolled adults with CHD, 320 (56.8 %) had a risk of developing aortopathy and/or manifest aortopathy. Of the 320 patients at risk, 183 (32.5 % of total) had a proven aortopathy.

Basic medical care for CHD-independent medical problems is given by primary medical care providers (family doctors or general practitioners in 89.4 % (n = 286), internists in 13.4 % (n = 43), physicians of another specialty in 2.5 % (n = 8)). 95.3 % of these primary medical care providers are aware that their patient has CHD.

Even for CHD-specific health problems, basic medical care is given by a primary medical care provider (family doctor or general practitioner in 56.6 % (n = 181), internist in 18.4 % (n = 59)), while 96 (30.0 %) patients primarily consult a doctor of another specialty, including cardiology.

Only 32.8 % of CHD-patients answered positively to the question whether a general practitioner/family doctor had ever referred them to a CHD-specialist because of cardiac problems related to their CHD.
By contrast, the need and demand for advice of patients with CHD and aortopathy are high and mainly related to physical activity, employment and education, to pregnancy and inheritance, rehabilitation measures as well as health and life insurance.

Only 36 % of all patients who responded indicated that their information on specific care structures for CHD was sufficient. Furthermore, only 37 % of all patients who responded were aware of patient organizations for CHD.
Nevertheless, more than 90 % of all CHD-patient considered their satisfaction with medical care as very good or good.

Summary and Conclusion:
Aortic involvement in CHD has been largely neglected, although considerable negative effects on morbidity and mortality exist. As aortopathy becomes more important with increasing age and complexity of CHD, almost all affected CHD patients need lifelong medical advice and access to modern, scientifically based therapy and care concepts.
According to study-results primary care providers who have to advise CHD-patients about adequate diagnosis, treatment, prognosis and preventive measures, are mostly insufficiently informed about the specialized CHD facilities. In the future, experts and centers must become more visible and cooperate stronger with referring doctors to provide modern management in treatment and therapy. In addition, also affected patients are insufficiently informed in this respect

As a future goal, a better awareness of the CHD problem should be created among primary care physicians as well as among the patients concerned.

Keywords: congenital heart disease; adults with congenital heart disease; aortopathy, follow-up, care, prevention

ID: **8**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

EFFECT OF DIETRY INTERVENTION ON ANTHROPOMETRY AND SCHOLASTIC PERFORMANCE IN CHILDREN WITH CONGENITAL HEART DISEASES

Sathul Hak

SHRI SATHYA SAI MEDICAL COLLEGE AND RESEARCH INSTITUTE, CHENNAI, India

**Corresponding Author (sathulhak@gmail.com)*

OBJECTIVE

To assess the effect of dietary intervention on anthropometry and scholastic performance in children with congenital heart diseases.

NEED FOR STUDY
To assess the benefit of dietary intervention in children with congenital heart diseases

SUBJECTS AND METHODS

STUDY SUBJECTS: The study involves children aged 5-10 years
TYPE OF STUDY: Prospective observational study

C PLACE OF THE STUDY
Pediatrics OPD of Shri Sathya Sai Medical College and Research Institute, Ammapettai, Kancheepuram District.

II. INCLUSION CRITERIA

Children with congenital heart diseases aged between 5-10 years visiting Pediatrics OPD in Shri Sathya Sai Medical College and Research Institute.
III EXCLUSION CRITERIA

Hemodynamically unstable Child with cerebral palsy or other neurological defects.

III STUDY PERIOD

6 MONTH

DATA COLLECTED
The total calories in the child's diet are taken by 24 hours recall method. The percentage calorie deficit is calculated. The child's anthropometric measurements are taken. If weight for age is less than -2 SD the child is considered as underweight.

Child scholastic performance was measured using five-point Likert scale for reading, writing and mathematics Dietary advice is given to the child. After 6 months, the children were reassessed. Weight and height were measured and scholastic performance was measured.

STASTICAL ANALYSIS
Data was entered in MS-Excel and Statistical Analysis was done by SPSS 23 software. 5 % level of significance and 95 % confidence interval was used.

RESULTS
60% of children with congenital heart diseases were undernourished. Diet intake and scholastic performance were low in these children. At the end of study period, as a result of dietary intervention there was significant improvement in weight for age and scholastic performance.

ID: **290**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

ASSESSMENT OF THE PSYCHOLOGICAL SITUATION IN ADULTS WITH CONGENITAL HEART DISEASE

Caroline Andonian[1], Jürgen Beckmann[2], Sebastian Freilinger[1], Nicole Nagdyman[1], Peter Ewert[3], Lars Pieper[4], Harald Kaemmerer[1], Renate Oberhoffer-fritz[5], Rhoia Neidenbach[1]

[1]*German Heart Centre Munich, Technical University Munich, München, Germany*

[2]*Technical University Munich, München, Germany*

[3]*German Heart Centre Munich, Technical University Munich, München, United States*

[4]*Technical University of Dresden, Dresden, Germany*

[5]*Technical University of Munich, München, Germany*

[*]*Corresponding Author (andonian@dhm.mhn.de)*

Background:
Due to medical advances in diagnosis and treatment of congenital heart disease (CHD), the population of adults with congenital heart disease (ACHD) is constantly growing. The psychological effects of CHD had been widely neglected. Current evidence points towards an increased risk for mental health issues in ACHD, including depression, anxiety and posttraumatic stress disorder. The newly developed concept of illness identity, or the extent to which ACHD integrate their illness into their sense of self, may play an important role in explaining why some patients experience emotional distress in the face of their chronic illness, while others remain unaffected. The present study investigated the concept of illness identity in relation to clinical parameters, psychological functioning and information needs. Psychometric properties of the German version of the Illness Identity Questionnaire (IIQ-D) were examined.

Methods:
Self-report questionnaires on illness identity (IIQ-D), psychological functioning (HADS-D) and information needs were assessed within a representative sample of 229 ACHD (38 ± 12.5 [18-73]; 45% female) at the German Heart Center of Munich. Descriptive analyses and multiple regression models were conducted. Confirmatory Factor Analysis (CFA) was performed to validate the IIQ-D.

Results:
The IIQ-D demonstrated good reliability (Cronbach's $\alpha = 0.79–0.93$). The originally postulated four-factor structure could not be replicated in the current sample. Both, anatomic disease complexity (Wilk's $\lambda = .87$, $p < .01$) and functional status (Wilk's $\lambda = .87$, $p < .01$) significantly influenced illness identity. Illness identity accounted for unique variances in depression and anxiety: Maladaptive illness identity states (i.e., engulfment and rejection) were associated with higher emotional distress, whereas adaptive illness (i.e., acceptance and enrichment) identity states were linked to lower emotional distress. Further, engulfment ($t = 2.31$, $p = .02$) and enrichment ($t = 2.42$, $p = .01$) predicted higher information needs in ACHD.

Conclusions:
Illness Identity emerged as a strong predictor of emotional distress in ACHD. Findings raise the possibility that interventions designed to target a patient's illness identity may improve psychological well-being and cardiac outcomes in ACHD.

Keywords: congenital heart disease; adults with congenital heart disease; psychological situation; illness identity; prevention

ID: **512**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Oral**

CLOSING OF ASD IN CHECK VALVE DESIGN FOLLOWING CONE RECONSTRUCTION IN EBSTEIN'S ANOMALY: CASE REPORT OF AN ELDERLY PATIENT

Ferşat Kolbakır, Semih Murat Yücel, Murat Muzaffer Güçlü, Merve Polat, Serkan Burç Deşer

Ondokuz Mayıs University, Samsun, Turkey

**Corresponding Author (fersatkolbakir@gmail.com)*

BACKGROUND

Cone reconstruction, first described by da Silva and modified by Dearani et al., is a method of forming a functional valve by converting the functionally inadequate Tricuspid valve to the cone shape using its own tissue. This method of treatment has been applied in recent years especially in pediatric patients who are not suitable for valve replacement.

In adult patients, anticoagulation after valve replacement is necessary and it is considered to be a preferable application in order to prevent complications.

METHODS

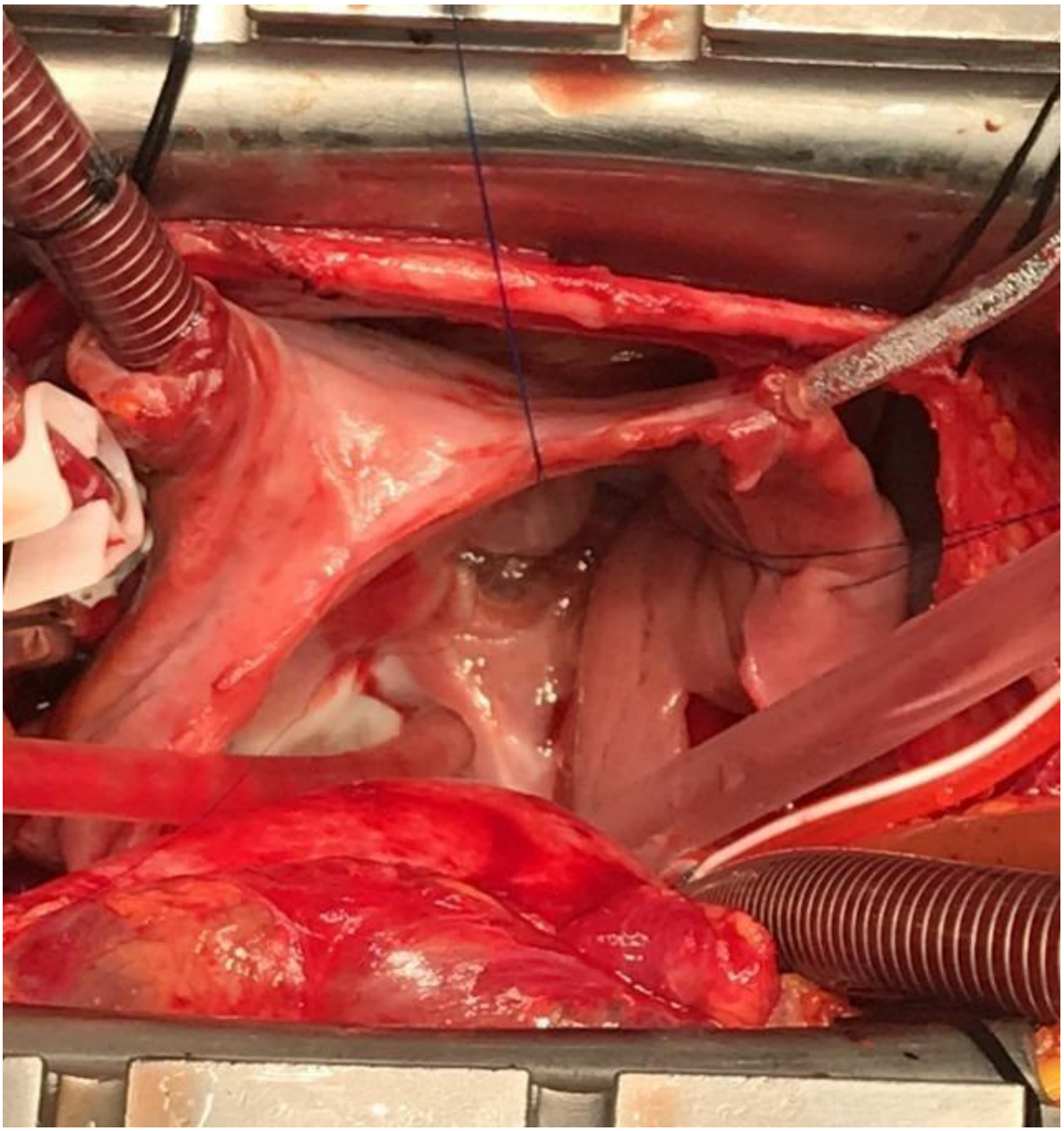
A 43-year-old female patient had been diagnosed with ASD at the external center where she had been going for dyspnea, palpitation, fatigue and cyanosis for the last year. ECG showed AF, RBBB, DIII-aVF T (-). In the ECO evaluation, EF 60%, aorta 26 mm, LA 23 mm, LV 30/20 mm, MI 1-2, right cavities were extremely wide (RV 51 mm, RA 85x55 mm), near tricuspid valve RV apex (Ebstein's anomaly), severe tricuspid failure, PAB 35 + 5 mmHg, ASD closure device in IAS.

RESULTS

The patient was operated on October 8, 2019. In exploration, tricuspid valves were located close to the apex of the ventricle and 1 small ASD of 1 cm diameter was observed. The tricuspid valves were completely released from the tissue of origin with the procedure described by da Silva, leaving only the papillary muscles. Thus, a new heart valve structure was created in the cone design. The cone was then sutured here following vertical plication. 33 mm flexible annuloplasty ring was placed on it. Leak test showed no failure. A pericardial patch was placed for the ASD in the check valve design that prevents passage to the right side. The one-way shunt was tested and there was no leakage. The patient was discharged on the 5th day without any problem

CONCLUSIONS

The cone procedure can be used worldwide in patients ranging from a few days old to infants to adults, regardless of age, and is considered the “gold standard for repairing Ebstein's anomaly. We believe that ASD is beneficial for our patient because it remains compensatory until the functional right ventricular volume expands after the new repair and does not allow the transition from left to right.



Oral Presentation Session

Eye Catching Cases in Vascular Surgery

Date: 12.03.2020 Time: 11:30 – 12:45 Hall: 6

ID: **525**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

AN UNUSUAL CATHETER MALPOSITION FOLLOWING TOTALLY IMPLANTABLE VENOUS ACCESS PORT INSERTION: THE CATHETER TIP IS LOCATED INTO THE RIGHT AXILLARY VEIN

Ahmet Yüksel[1], Yusuf Velioğlu[1], Mustafa Enes Demirel[2], Erhan Renan Uçaroğlu[1]

[1]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[2]*Düzce University Faculty of Medicine, Düzce, Turkey*

[*]*Corresponding Author (ahmetyuksel1982@mynet.com)*

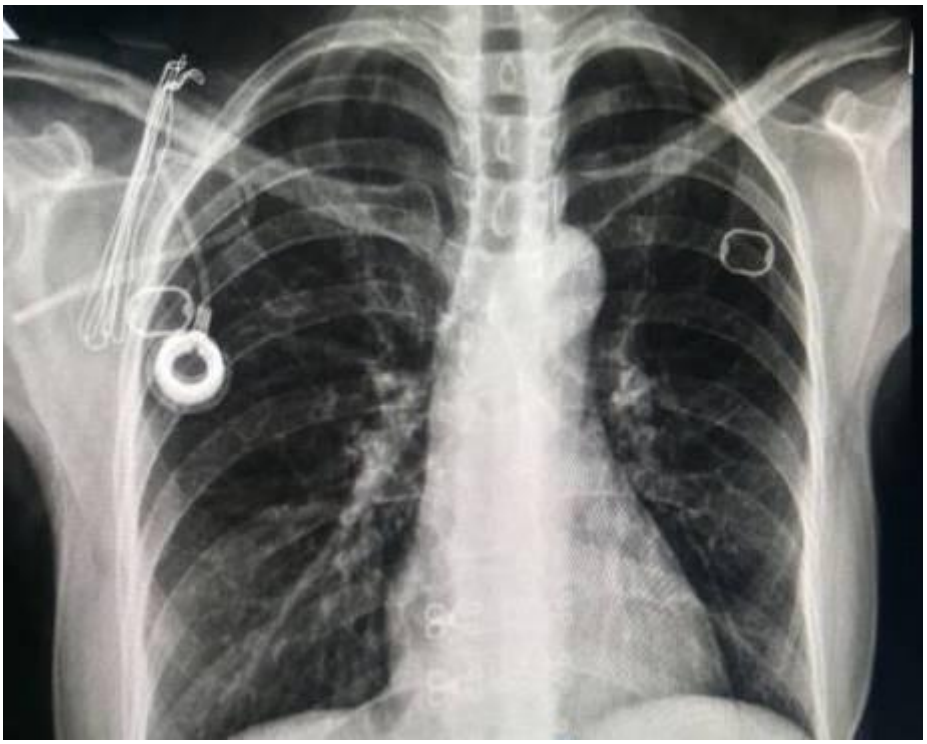
BACKGROUND: Totally implantable venous access port (TIVAP) devices have been used increasingly for repetitive chemotherapy administration, long-term parenteral nutrition, blood sampling and blood transfusion for last years. Several potential complications including catheter malposition can occur during the insertion of TIVAP devices. Catheter malposition is a less commonly reported and an important complication of TIVAP insertion.

METHODS: Case report.

RESULTS: A 47-year-old woman with an uncommon catheter malposition following TIVAP insertion. To the best of our knowledge, this is the first reported case of mispositioned TIVAP where the tip of the catheter is in the right axillary vein (Figure 1).

CONCLUSIONS: It should be noted that TIVAP insertion has a risk of significant catheter mispositioning even in experienced hands, and we suggest that radiological guidance should be routinely used during TIVAP insertion if possible.

Key words: Totally implantable venous access port, Catheter malposition, Complication, Adverse event.



ID: **589**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

VENA CAVAL SYNDROMES: ETIOPATHOGENESIS, DIAGNOSIS AND TREATMENT

Yigit Akcali[1], Rifat Özmen[2], Özgür Karabıyık[2]

[1]*Erciyes University, Kayseri, Turkey*

[2]*Erciyes University, Kayseri, Turkey*

[*]*Corresponding Author (yigitakcali@gmail.com)*

BACKGROUND & OBJECTIVE: Vena caval syndromes (VCSs) are a complex of clinical symptoms resulting in obstruction of blood flow in the superior (SVC) and inferior vena cava (IVC). Superior and inferior vena cava syndromes (SVCS and IVCS) can be caused by tumor invasion, extrinsic compression, diagnostic or therapeutic catheters, Behçet's disease and / or thrombophilia.

PATIENTS & METHODS: Eighty-three patients with a median age of 43 (range, 1-80) were followed up and treated for VCSs (SVCS, 43.4%: IVCS, 56.6%) in the last 1.5 decade. Diagnosis was confirmed by duplex ultrasound, magnetic resonance and computerized tomographic angiography and contrast angiography.

RESULTS: The male / female ratio was 2.3 / 1. Behçet's disease was the most common cause of VCSs in etiopathogenesis (46.9%). Others were tumor, congenital, aneurysm, and central venous catheters. According to angiographic classification, type III was the most common SVCS. One patient with IVCS had type 2 double IVC according to the Morita classification. One of the therapeutic modalities was bilateral jugulo-atrial and cava-caval bypass grafting, thromboendvenectomy (TEV) and pericardial patchplasty, EVAR for concomitant AAA, tumorectomy, thrombectomy, anticoagulation and compression therapy. The mean follow-up was 27 months. One patient required thrombectomy due to graft thrombosis (Figure 1).

CONCLUSIONS. Surgical treatment with long-term results for VCSs is an effective therapeutic modality. Although spiralized saphenous vein graft is an exclusive conduit, it is not always possible to obtain it, and therefore, expanded externally supported polytetrafluoroethylene grafts are a good option. As an important alternative, TEV and patchplasty should be kept in mind.

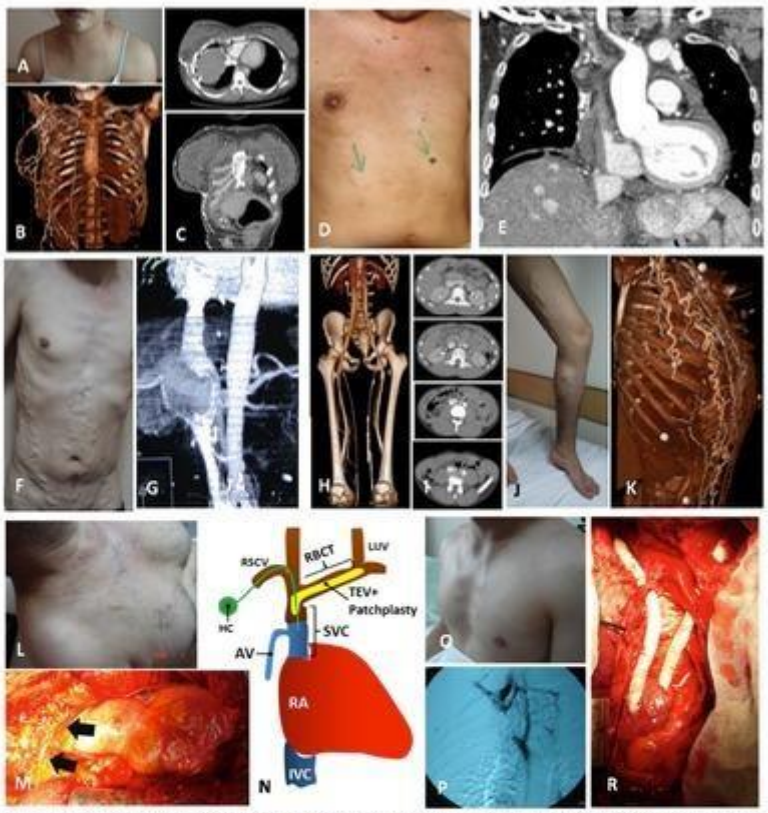


Figure 1. A CT venography of a 21-year-old female patient with SVCS due to Behçet's disease. Note the chest wall and epigastric venous collaterals due to extensive occlusion of the SVC, innominate and azygos (Type IV) (**A-C**). A CT venography of a 26-year-old man with SVCS and pulmonary artery aneurysm due to Behçet's disease. Note the clinical (arrows) and angiographic appearance (Type IV) of venous collaterals in the anterior chest wall of the patient (**D, E, K**). A 43-year-old patient with Behçet's disease presenting with diffuse venous collaterals in the anterior abdominal wall with aortic aneurysm, caval thrombosis and cardiac involvement (Type V according to Hamza's classification) (**F, G**). Clinical and angiographic appearance of a 15-year-old man with double IVC with no interiliac communication (Type 2A according to Morita classification) (**H-J**). Clinical presentation of venous collaterals in the neck and the upper region of chest due to SVC obstruction in a 55 - year - old man (**L**). A longitudinal venotomy throughout proximal SVC and left brachiocephalic trunk was performed via sternotomy and left neck incision. Hickman catheter was removed through two different incisions on the chest wall; thrombo-endvenectomy, and finally patchplasty with pericardial patch (black arrows) (**M, N**). A picture showing venous collaterals due to SVC obstruction in a 26-year-old male patient with Behçet's disease (**O**); the same patient's contrast angiogram (**P**) and operative field showing bilateral jugulo-atrial bypass grafting by expanded externally supported polytetrafluoroethylene (ePTFE, 10 mm in diameter) (**R**). SVCS, superior vena cava syndrome; RSCV, right subclavian vein; AV, azygos vein; RA, right atrium, SVC, superior vena cava; IVC, inferior vena cava; LIJV, left internal jugular vein; TEV, thrombo-endvenectomy; HC, Hickman catheter; LBCT, left brachiocephalic trunk;

ID: **580**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

POSTERIOR TRANSVERSE PLICATION PROCEDURE FOR TREATMENT OF INTERNAL CAROTID ARTERY KINKING DURING ENDARTERECTOMY

Fahri Adalı[1], Fehim Can Sevil[1], Necip Becit[2]

[1]*Afyon Sağlık Bilimleri Üniversitesi, Afyonkarahisar, Turkey*

[2]*Afyon Sağlık Bilimleri Üniversitesi, Afyonkarahisar, United States*

[*]*Corresponding Author (drfadali@yahoo.com)*

OBJECTIVE

Rarely needs for shortening of the internal carotid artery (ICA) after carotid endarterectomy (CEA) to correct for kinking is still controversial. Although several procedures have been described, the impact on perioperative outcome remains unclear, and long-term clinical follow-up is insufficient. Shortening by resection has a theoretical risk for a twisted anastomosis and subsequent ICA thrombosis.

METHODS

In this case, we repaired a 62-years-old woman with symptomatic carotid disease who underwent the posterior transverse plication (PTP) during CEA in the presence of a significantly kink at mid part of ICA. Preoperative imaging consisted of duplex ultrasound and combined with computed tomographic angiography. We performed CEA+PTP+8mm patch grafting in the operation.

RESULTS

A 62-years-old woman underwent the surgery. None developed any neurological event and post-operative scan did not show any ICA thrombosis or stenosis from an ICA kinking after a follow-up of 2 months.

CONCLUSIONS

Posterior transverse plication provides an easy, simple and safe alternative shortening procedure without the need for a new anastomosis. However, restenosis at the plicature may restrain the long-term utility of carotid reconstruction.

ID: **568**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

STEM CELL APPLICATIONS IN ADVANCED PERIPHERAL ARTERIAL DISEASES IN OUR CLINIC

Emre Doğan[1], Sefer Usta[2]

[1]*University of Health Sciences Ahi Evren Thoracic and Cardiovascular Surgery Training and Research Hospital, Trabzon, Turkey*

[2] *University of Health Sciences Ahi Evren Thoracic and Cardiovascular Surgery Training and Research Hospital, Trabzon, Turkey*

[*]*Corresponding Author (dremredogan@gmail.com)*

Objective: In this study, we evaluated the results of our stem cell applications in patients with advanced ischemic stage and peripheral vascular disease that we could not perform surgery.

Methods: Patients who were examined and treated between June 2009 and June 2015 and who could not undergo revascularization due to distal vascular insufficiency were included in the study. Stem cells obtained by bone marrow aspiration were obtained in 30 patients (17 males, 13 females; mean age 56.2 years) and stem cells obtained from abdominal fat tissue were obtained in 30 patients (22 males, 8 females; mean age 58.9 years). Twenty patients with similar clinical symptoms and receiving only medical treatment were compared with a control group.

Results: The procedure was performed under local anesthesia in patients receiving bone marrow and under general anesthesia with mask in patients using fat cells. In all patients, the cells were processed in mobile units and rendered usable for approximately one hour. The obtained stem cells were injected intramuscularly with insulin injectors percutaneously to the target tissue to match the target tissue. 1-3-6 after treatment. Clinical status, ankle brachial indexes, saturation index measurements over skin-nail and exercise test and walking distance were evaluated.

Conclusion: Stem cell applications in patients who cannot be revascularized can improve the clinical status of the patient and increase the quality of life and walking distance. We think that amputation rates can be reduced with this application.

ID: **563**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

VENOUS INSUFFICIENY DEVELOPMENT DUE TO USING VENA SAPHENA MAGNA GRAFT DURING CORONARY ARTERY BYPASS SURGERY

Şenel Altun[1], Mehmet Atay[2], Ibrahim Gürkan Kömürcü[3], Vedat Bakuy[4]

[1]*Bahçelievler State Hospital, İstanbul, Turkey*

[2]*Bahçelievler State Hospital, istanbul, Turkey*

[3]*Bağcılar Training and Research Hospital, istanbul, Turkey*

[4]*Baskent University Hospital, İstanbul, Turkey*

[*]*Corresponding Author (altunsenel@gmail.com)*

Objective:
Internal thoracic artery, is the primary graft for coronary artery bypass surgery (CABG) . Venous grafts are preferred as the second most frequent grafts. And saphenous vein (vena saphena magna) is the most frequently used one. Superficial and/or deep venous insufficiency may develop, or already present insufficiency may exacerbate following saphenous vein harvesting. (2)
We examined the development of lower extremity venous insufficiency following saphena magna harvesting with clinical examination and color venous doppler ultrasound findings.

Methods:
Patients that are operated in our clinic, who had saphenous vein grafts in addition to internal mammary artery grafts are categorised into three groups. First group included patients that had below the knee unilateral saphenous vein harvesting, patients that had both from below the knee and above the knee saphenous vein harvesting composed the second group. Third group composed of patients without saphenous vein harvesting. Clinical findings and color doppler ultrasound findings are compared pre and post operatively.

Results:
Increased venous insufficiency symptoms and findings are observed in patients who had CABG surgery and had saphenous vein harvesting during the first postoperative week. Color doppler ultrasound findings showed an increased venous reflux duration and velocity. All groups are re-examined one month postoperatively, all groups had statistically significant ($p<0,005$) ankle circumference difference, although group one had the lowest difference. Clinical symptoms regressed statistically significantly compared to the first week.

Table 1. Comparison of preoperative demographical and clinical datas, preoperative and postoperative values of CFV reflux and velocity (DM: diabetes mellitus, EF: ejection fraction, VSM: vena saphena magna, ICU: intensive care unit, CFV: common femoral vein)

Conclusions:
Clinical findings of venous insufficiency were found to be increased following saphenectomy during early postoperative period, and consistent with literature (3,4). Symptoms were found to decrease after one month postoperatively. Duplex ultrasound performed after one month postoperatively, showed even less chronic venous insufficiency findings.
More studies are needed to evaluate further the effects of saphenous vein harvesting. Our study showed that, saphenous vein harvesting during coronary artery bypass surgery does not cause chronic venous insufficiency and also decrease symptoms related to chronic venous insufficiency in the long run.

Keywords: Saphenectomy, chronic venous insufficiency, coronary artery bypass graft

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ID: **528**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

PERCUTANEOUS COIL EMBOLIZATION FOR THE TREATMENT OF A GIANT BRACHIAL ARTERY PSEUDOANEURYM IN A CHILD

Ahmet Yüksel[1], Ömer Fatih Nas[2], Iris Irem Kan[2], Mustafa Tok[2], Cüneyt Erdoğan[3]

[1]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[2]*Uludag University Faculty of Medicine, Bursa, Turkey*

[3]*Medicana Bursa Hospital, Bursa, Turkey*

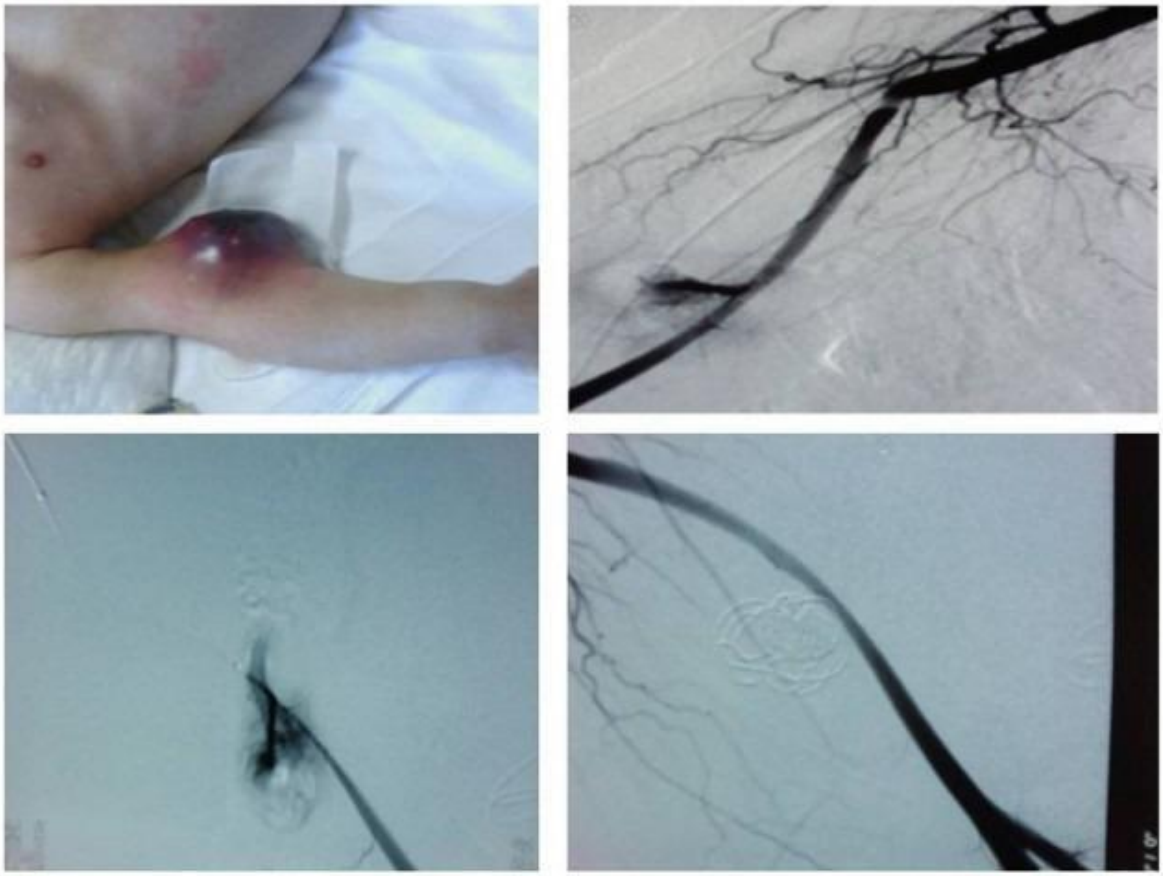
[*]*Corresponding Author (ahmetyuksel1982@mynet.com)*

BACKGROUND: Brachial artery pseudoaneurysm is a rare phenomenon. When a diagnosis of brachial artery pseudoaneurysm is established, early and appropriate treatment should be performed as soon as possible to prevent possible complications, such as hemorrhage, rupture, and upper limb and finger losses.

METHODS: Case report.

RESULTS: Although open surgical repair is usually the cornerstone of treatment, we report a case of giant brachial pseudoaneurysm in a 2-year-old girl, which was successfully treated with percutaneous coil embolization. To the best of our knowledge, this is the first reported case of a child with giant brachial artery pseudoaneurysm who was successfully treated with percutaneous coil embolization.

CONCLUSIONS: It should be kept in mind that the percutaneous coil embolization technique in the treatment of brachial artery pseudoaneurysms may be beneficial as an alternative treatment option for particularly high-risk surgical patients. Further experiences in large case series with long-term follow-up outcomes are required to reveal whether the percutaneous coil embolization is a considerable treatment modality for the treatment of brachial artery pseudoaneurysms.



ID: **489**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

SUCCESSFUL PERCUTANEOUS REMOVAL OF RETAINED J-TIP GUIDEWIRE: A REPORT OF TWO CASES

Fehim Can Sevil

Afyonkarahisar Sağlık Bilimleri Üniversitesi, Erzurum, Turkey

**Corresponding Author (fhm_can@hotmail.com)*

Background: Central vein catheterization using the Seldinger technique has long been utilized as an invasive procedure for vascular access. Possible complications associated with the procedure include hemothorax, pneumothorax, and vascular injury. Forgetting a J-tipped guidewire inside the vessel during the Seldinger procedure is a rare complication. Herein, we present two cases in whom a forgotten J-tipped guidewire was successfully removed under the guidance of angiography.

Patients and methods: A 49-year-old male patient lost consciousness after recurrent hypertensive cerebrovascular events and underwent CVC. The patient was subsequently taken to the catheterization laboratory and the position of the guidewire was assessed under fluoroscopy. Under the guidance of cardiac movement patterns, the distal tip of the guidewire was detected to be in the right iliac position. Further investigation revealed that the guidewire advanced into the right subclavian vein, and the J tip of the guidewire fused to the interior wall and became immobile. A right subclavian vein puncture was performed and sheathed with a 6 French gauge (F) catheter. An Amplatz Goose Neck snare kit (LifeTech SeQure, Shenzhen, China) was sent through the sheath in an attempt to snare the guidewire at the point at which it fused to the interior wall (Figure 2). After successfully catching the guidewire, compression was applied and cautious traction was exercised. Based on the presence of significant resistance to traction, rotation was applied to free the J tip from the vascular compartment. After several attempts during manipulation, the guidewire was successfully released (Figure 3). The guidewire was finally pulled out through the right subclavian vendor sheath (Tianck Medical Co. Shenzhen, China). After removal, it was observed that the extracted guidewire became epithelialized (Figure 4). After the procedure, a contrast agent was administered through the sheath to evaluate any venous wall rupture, cardiac rupture and/or tamponade.

Conclusion: In conclusion, to avoid such complications, it is necessary to establish a standard protocol and check list and to utilize patient-oriented teaching, and the procedure should be performed by - or at least under the guidance of - experienced physicians. We suggest that endovascular interventions should be considered safe and the procedure of choice for the removal of intravascular foreign bodies.

ID: **226**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

FEMOROFEMORAL CROSSOVER BYPASS GRAFT IN OCCLUSIONS OF THE RIGHT ILIOFEMORAL-POPLITEAL ARTERY AFTER PRIOR FAILED PERCUTANEUS ENDOVASCULAR INTERVENTION: CASE REPORT

Ediyanto Ediyanto[1], Karina Wilamarta[2]

[1]*Gading Pluit Hospital, Jakarta, Indonesia*

[2]*Gading Pluit Hospital, Jakarta, United States*

[*]*Corresponding Author (ediyanto99@gmail.com)*

Background: Femorofemoral crossover bypass grafting is an alternative to anatomic reconstructions for patients with unilateral iliac arterial occlusive disease and a high surgical risk. And there is another way to treat patients with the same condition, called insitu bypass graft from great saphenous vein bypass. This case report can be used to understand the comparison of both methods.

Method: Retrospective, case report

Case Report: A 83-year-old man with a clinical history of rest pain at the right leg since ± 1 month before admitted to the hospital. At the beginning the pain was felt occasionally, especially if the patient was walking about 100 meters. The patient felt his right leg colder than the left side. The patient had triple anticoagulants for 14 days before admission. Medical history was notable for Cardiac arrythmia disease. Physical examination showed no important findings in the head and neck, irregular rhythm with rate about 110x per minute, no murmur and gallop. and no relevant findings in the abdomen. Examination of the right lower extremities demonstrated edema caused by chronic venous insufficiency and pain with vas 6-7, no palpable pulse on artery femoral, poplitea, tibialis anterior, and dorsalis pedis. There was functional incompetence of the right lower extremity with plantar pallor and capillary refill time more than 2 second. Iliac and femoral thrombectomy was initially attempted using a balloon catheter but not complete revascularized; hence, a crossover femorofemoral bypass was accomplished using a 6 mm Vascular graft helix. The immediate result was disappearance of the signs and symptoms of acute ischemia; The both pedal and posterior tibial pulses could be palpated. After discharged from the hospital, the patient had bleeding because of anticoagulant therapy, so the medicine was stopped. And then, because of necrotizing of the right foot, so below knee amputation surgery was performed. In the surgery, it was also performed popliteal thrombectomy and there was good result in the circulation. The operation was uneventful, but seven days after the operation there was occlusion on the iliofemoral artery that made the flap of the stump was became dark and infected by Acinetobacter baumanii.

Keywords: Femorofemoral bypass grafting, insitu bypass graft, unilateral iliac arterial occlusive disease.

ID: **584**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

IATROGENIC FEMORAL ARTERIOVENOUS FISTULA REPAIR

Fatih Öztürk[1], Mehmet Emin Erol[1], Osman Türe[1], Yaşar Birkan[1], Karay Ak[1], Sinan Arsan[1]

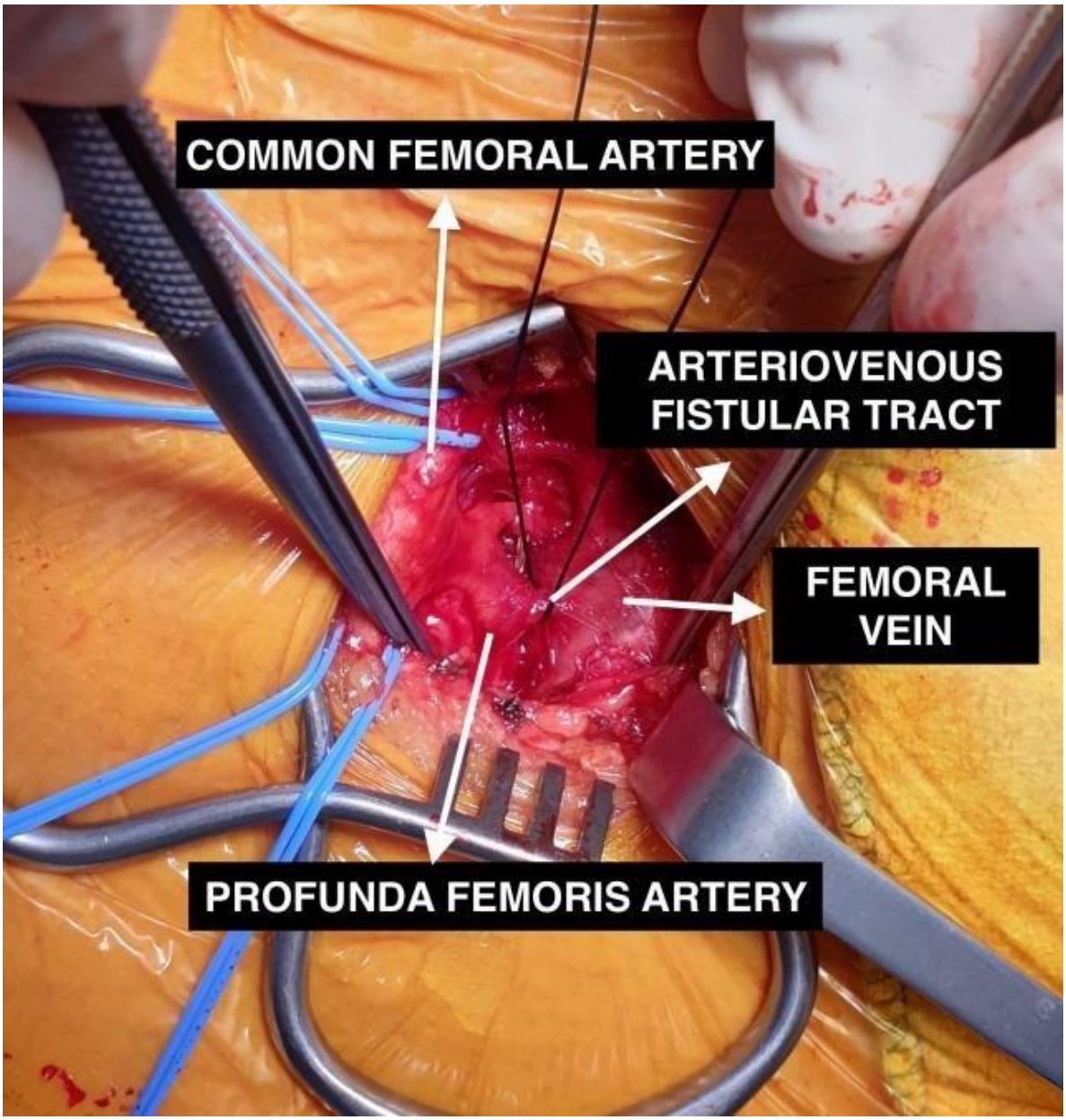
[1]*Marmara University Istanbul Pendik Training and Research Hospital, İstanbul, Turkey*

[*]*Corresponding Author (drfatihozturk@gmail.com)*

Introduction: Iatrogenic arteriovenous fistulas are a potentially harmful complication of cardiac catheterization. Although the likelihood of incidence increases with repeated interventions, the incidence and clinical outcomes are generally unknown. Recently, the incidence of radial artery use for cardiac catheterization is increasing. However, most cardiology clinics use the femoral artery, and various complications, especially pseudoaneurysm and arteriovenous fistula formation, are seen in this region due to the interference.

Case Report: A 54-year-old male patient presented to our clinic with complaints of pain in the right inguinal region and claudication at 200 meters in the right lower extremity. The patient's history revealed a history of cardiac catheterization using the right inguinal region 3 months ago. On physical examination, the distal pulses were palpable and there was a swelling of approximately 2 cm in the right inguinal region. Felt thrill during palpation and continuous murmur was heard during auscultation. On the right lower extremity arteriovenous doppler ultrasound, an arteriovenous fistula tract was observed between the femoral artery and the femoral vein, causing a continuous flow from the artery to the vein, approximately 6 mm in diameter and 15 mm in length. The patient was operated under local anesthesia after preoperative preparations were completed. Arteriovenous fistula was reached through a skin incision approximately 3 cm parallel to the inguinal ligament after marking the artery-vein-fistula tract using preoperative ultrasound. The fistula tract was rotated with right angle clamp and obliterated using 2 pieces of 2/0 silk braided sutures. Thrill disappeared by palpation and the procedure was completed.

Conclusion: Although iatrogenic arteriovenous fistulas are rare conditions, they must be treated with surgical or endovascular interventions without causing more serious complications.


COMMON FEMORAL ARTERY
ARTERIOVENOUS FISTULAR TRACT
FEMORAL VEIN
PROFUNDA FEMORIS ARTERY

ID: **517**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

BILATERAL POPLITEAL ARTERIAL ANEURYSMS

Yasin Güzel[1], Onur Benli[2], Mustafa Çelik[2], Mehmet Şah Topçuoğlu[2]

[1]*Çukurova Üniversitesi, adana, Turkey*

[2]*çukurova üniversitesi, adana, Turkey*

[*]*Corresponding Author (yasinguzel7@hotmail.com)*

A 61-year-old man with pulsatile mass in the bilateral popliteal fossae was diagnosed and referred to our hospital. Computed tomographic scanning demonstrated a large, lobule middle-type bilateral popliteal artery aneurysm. The patient underwent two-stage bypass surgery using aneurysmectomy, ligation of the lateral branchial arteries into aneurysmal sac and a saphenous vein bypass graft bilaterally. The patient had a satisfactory postoperative course and non-recurrence of pre-op complaints. This procedure may be recommended for large, middle-type popliteal artery aneurysms Case report. A 61-year-old man presented with a painful, progressively enlarging pulsatile mass in the bilateral popliteal fossae. Computed tomographic (CT) scanning demonstrated a large, lobule middle-type aneurysm in the bilateral popliteal arteries, as shown in Figures 1A and 2A. A two-stage medial approach was planned. The aneurysmal sac was opened after clamping the proximal and distal popliteal artery. After cleaning the inside of the sac, the side branches including the lateral and medial geniculate arteries were visualized and ligated by opening proximal end distal clamping. Saphenous vein was removed from the same incision and to end bypass was made between proximal and distal popliteal arteries. Patient was discharged and one month later a second operation for the right popliteal arterial aneurysm was made. Postoperative Doppler USG at 90th day after surgery revealed that the excluded aneurysm] and that the grafts were patent in both legs.

DISCUSSION: Bilateral popliteal arterial aneurysms are very rare. In large popliteal aneurysms, there are several surgical techniques for accessing to the aneurysm: one of them is the medial approach and the other is the posterior approach. The advantages of the medial approach are removing the saphenous vein from the same incision with easier access to the distal and proximal of the popliteal artery. However, tendons of the medial muscles can be divided for exposure. The posterior approach in the case of a large aneurysm, exclusion with incomplete side-branch ligation would result in aneurysmal expansion, causing sustained sensation abnormality due to nerve compression. We preferred the medial approach, aneurysmectomy and saphenous vein bypass who have in case of middle popliteal artery aneurysms. We believe that this method has the following advantages: 1. Aneurysmectomy was performed without touching the tibial nerves, 2. the clamps, placed to the proximal and distal of the popliteal artery, have/were removed and genicular collaterals ligated completely, 3. In this patient group two-stage operation should be selected because of the ease of a post-op mobilization. As a result, there was no postoperative neurological disturbance or vascular complications.

ID: **166**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

SURGICAL TREATMENT IN A PATIENT WITH CELIAC ARTERY STENOSIS: AORTA-HEPATIC BYPASS

Mehmet Işık

Necmettin Erbakan Universty, Konya, Turkey

**Corresponding Author (drmisik@hotmail.com)*

OBJECTIVE

Chronic mesenteric ischemia is a rare disease caused by a decrease in blood flow to the gastrointestinal tract. Complaints occur especially after meals. In this study, we wanted to share the surgical treatment of a young patient who was not suitable for endovascular treatment and underwent saphenous vein and aorta-hepatic bypass due to multiple lesions.

METHODS

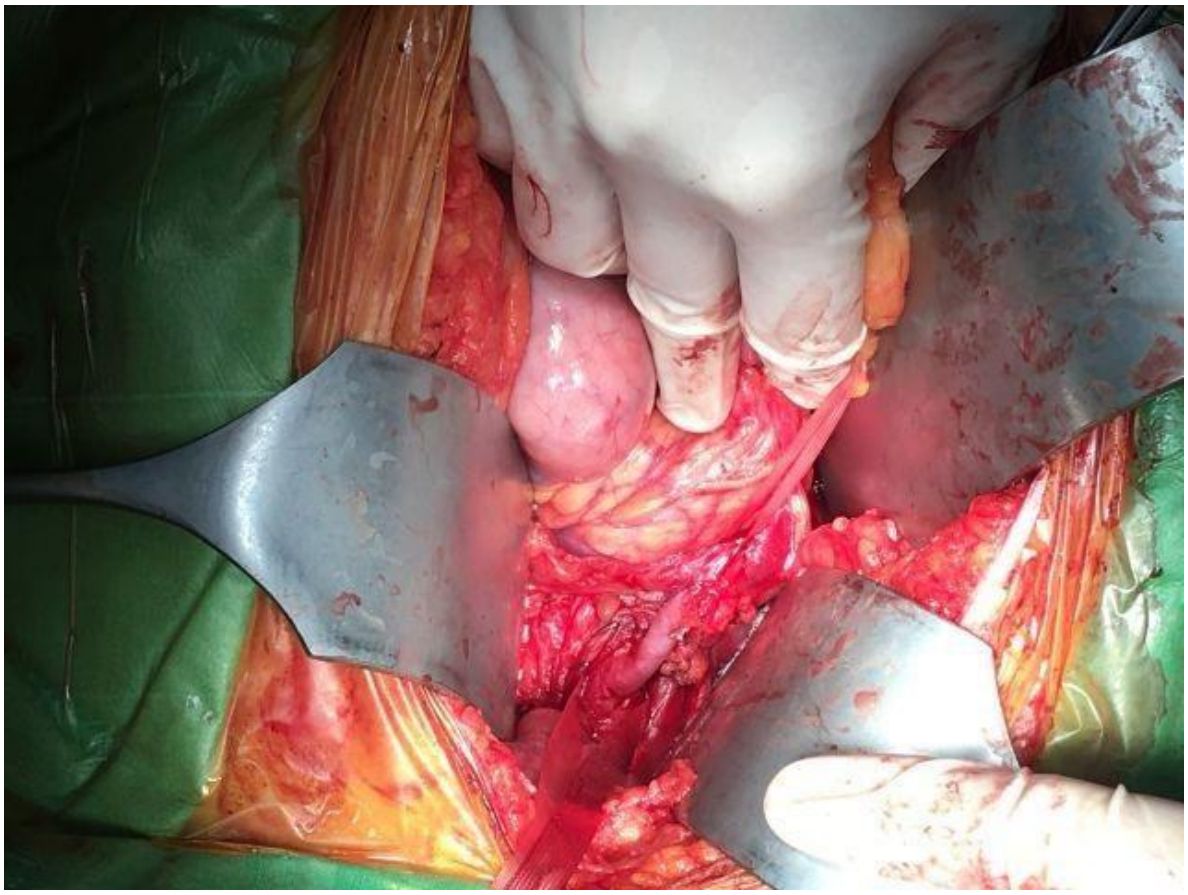
Upper midline vertical abdominal incision was performed under general anesthesia. Between supra celiac aorta and common hepatic artery, approximately 3 cm in length saphenous vein graft interposition was performed. Figure 1

RESULTS

Many diseases are known to cause chronic abdominal pain. It is very difficult to distinguish the etiology of abdominal pain, especially in women. She had recently complained of loss of appetite, weight loss and postprandial pain. She had the habit of using 2 packs of cigarettes a day for 20 years. The family had a history of peripheral arterial disease. The patient was presented with intestinal ischemia, arterial dorsalis pedis obstruction, celiac artery and superior mesenteric artery involvement. The coexistence of all these lesions in a 35-year-old female patient was interesting because of its rarity. In this patient, the presence of a long lesion beginning from the ostial celiac artery and the presence of disease in more than one localization made surgical treatment rather than endovascular intervention. The patient was discharged on the 4th postoperative day. Made a week and a month later in the follow-up examinations, the patient's complaints disappeared.

CONCLUSIONS

Chronic mesenteric ischemia should be kept in mind in patients with abdominal pain. Asymptomatic patients should be followed to avoid bowel infarction. Endovascular interventions have advantages such as shorter hospital stay, less invasive and lower complication rates compared to surgery. Surgical methods are a good alternative in cases that are not suitable for endovascular intervention.



ID: **117**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

LERICHE SYNDROME A RARE CASE

Abdijalil Ali, Abdinafic Hussein, Nazan Bitir

MOGADISHU SOMALIA - TURKEY RECEP TAYYİP ERDOĞAN TRAINING AND RESEARCH HOSPITAL, MOGADISHU, Somalia

**Corresponding Author (drabdijalil@gmail.com)*

ABSTRACT

Leriche Syndrome (LS), also referred to as aortoiliac occlusive disease, is due to thrombotic occlusion of the abdominal aorta just above the site of its bifurcation is a rarely seen vascular disease, causes mortality, morbidity and 12% lower limb amputation. It is characterized by claudication in one or both legs lower extremities and absent or decreased femoral pulses. It should be considered in our differential diagnosis in any patient with complain of pain or weakness in the lower extremities.

INTRODUCTION

Leriche syndrome (LS), first described in 1923, is a rarely clinical condition with a high mortality, which usually occurs due to thrombosis at the aortic bifurcation. This chronic disease often takes decades to develop. It has a propensity to affect males with peripheral arterial disease in their third to sixth decade of life. The mortality and morbidity rates of LS have been reported to be between 4.5-5.0% and 18-20%, respectively. Leriche syndrome characteristically causes claudication in one or both lower extremities, absent or decreased femoral pulses, and erectile dysfunction in males. The main treatment is surgery in LS, but angioplasty and endovascular stenting are the other treatment options in cases of focal involvement. In this article, we aimed to present rarely case and also, we need to increase our attention and how to take part in our normal differential diagnosis thinking, any patient that presented with symptoms of paresis, pain, weaknes and bruising in both legs.

CASE REPORT

A 50-year-old female patient was come to our cardiovascular clinic with complaints of pain and weakness in her legs, intermittent claudication and bruising. Her medical history included hypertension and hyperlipidemia. She was taking her Antihypertensive and Hyperlipidemia drugs regularly. The patient had bruising in the right leg, pain, and coldness in both legs that had started approximately 1 month before and that had increased progressively. Her vital signs were as follows: blood pressure=160/100 mmHg, pulse=88 beats/min, respiratory rate=18/min, temperature=36.5°C, and oxygen saturation=98%.
Physical examination revealed undetectable pulselessness in both femoral arteries, coldness and there is small ulceration in the dorsal part of right foot with black discoloration of her right big toe and next two fingers.
Laboratory tests were as follows: WBC=14.34x10^3/mm3, Hg=16.9 g/dL, Hct=50.3%, Plt= 531×10^3 /mL, APTT=97.1 sec, INR=11.52, Troponin=0.48 ng/mL, creatinine=1.19 mg/dL. Both lower extremity arterial color Doppler examinations showed no blood flow to the main femoral arteries or distally. The occlusion was found to extend to the upper parts of the main femoral artery. Abdominal CT angiography revealed that There was no contrast enhancement in the distal aorta and in both common, external iliac arteries, in both femoral and popliteal arteries (Figure 1). The patient was diagnosed as having LS, the standard of care in the treatment of Leriche syndrome is surgical revascularization. We planned two surgical options, aorto-bifemoral bypass and axillo-bifemoral bypass. Unfortunately, she denied our operative treatment, so that she preferred to go abroad for surgical treatment. Now we are managing for medical treatment to reduce signs and symptoms.



FIGURE 1. CT-angiography with 3D-reconstruction demonstrating distal aortic occlusion.

ID: **494**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

AN IATROGENIC FEMORAL ARTERY PSEUDOANEURYSM CAUSED BY ENDOVASCULAR STENTING FOR THE TREATMENT OF ANASTOMOTIC STENOSIS AN UNUSUAL COMPLICATION AND ITS SUCCESSFUL SURGICAL MANAGEMENT

Yusuf Velioğlu, **Ahmet Yüksel**

Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey

Corresponding Author (yusufvelioglu@gmail.com)

BACKGROUND: The incidence of iatrogenic femoral artery pseudoaneurysm (FAP) has dramatically increased due to marked increase of endovascular procedures in recent years. Once diagnosed, a prompt and optimal treatment should be done as soon as possible to avoid potential complications like thromboembolism, ischemia, rupture and bleeding. There are several treatment options for this disorder. Among them, open surgical repair is preferred when other therapeutic options fail.

METHODS: Case report.

RESULTS: A 67-year man with a large (9.5 x 5 cm) iatrogenic right femoral artery pseudoaneurysm caused by endovascular stenting for the treatment of an anastomotic stenosis of previous bypass graft. He was successfully treated with open surgery.

CONCLUSIONS: It should be emphasised that early and accurate open surgical approach is still the cornerstone of treatment in such cases. Additionally, it should be kept in mind that despite several advantages of endovascular treatment methods, they have some risks related to these methods as well, and practitioners must be very careful and rigorous when they perform endo-vascular interventions.

Key Words: Femoral artery pseudoaneurysm, Open surgical repair, Endovascular approach, Stenting.



ID: **501**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

WHAT SHOULD WE LOOK FOR? A DILEMMA IN THE ENDOVASCULAR GRAFTING INTERVENTION ON DIFFERENTIATION OF VASCULAR NATURE OF THE TRAUMATIC CHRONIC ARTERIOVENOUS FISTULA

Ferşat Kolbakır, Semih Murat Yücel, Murat Muzaffer Güçlü, Merve Polat

Ondokuz Mayıs University, Samsun, Turkey

**Corresponding Author (fersatkolbakir@gmail.com)*

BACKGROUND

In patients with traumatic AVF, misleading images appear during angiography evaluation in chronic period. As a result, the procedures performed during endovascular treatment have resulted the physician in the wrong and complications with the ongoing process.

METHODS

A 35-year-old male patient was admitted to our clinic with complaints of pain in the left leg, skin discoloration, increase in diameter, tension and fatigue when walking.

In his history, he stated that 9 years ago he had a gunshot wound to his left knee and the color of his leg had darkened and his diameter had increased. Because of the same complaints, he went to hospital 8 years later and CT angiography revealed AVF at distal SFA level. It was learned that stent graft was placed between SFA and Popliteal artery under conventional angiography 1 year ago.

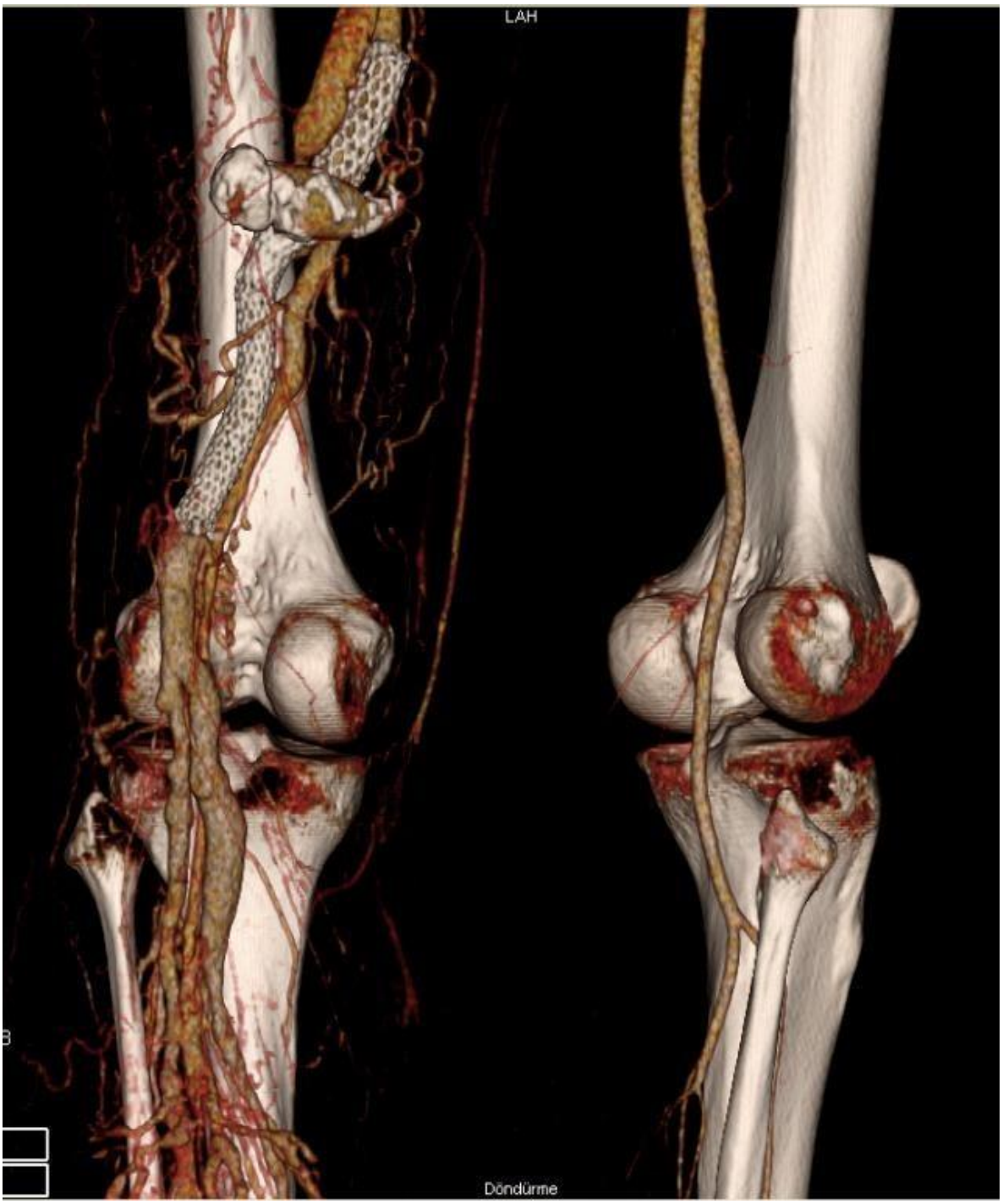
One year after the procedure, when the patient came to our clinic, CT angiography revealed that the endovascular stent graft was placed incorrectly between the artery and vein. However, it was learned that many of the physicians who had seen the patient before did not realize this situation.

RESULTS

Surgical exploration revealed widespread venous collaterals, and SFA continued with intervening stent graft and popliteal vein. On the other hand, SFV was observed with the popliteal artery associated with AV fistula. An 8 mm dacron graft was placed between the SFA and the proximal artery of the Popliteal artery. After increasing the diameter of the saphenous vein taken from the other leg between the popliteal vein and SFV, the endothelized graft was transposed as continuity of the stent.

CONCLUSIONS

Graft stents are the gold standard in the reconstruction of traumatic AVFs. (1) However, the direction of circulation changes due to the remodeling of the venous structure by arterialization by reverse flow. Blood oxygen saturation is high in the blood samples circulating in the venous collaterals due to increased arterial flow rate and remodeling in the patients who are evaluated in the late period and may cause false positive evaluations in arterial and vein detection by blood gas measurements. It is strongly recommended that CT angiography be performed with the guidance of anatomical structure and information.


LAH
Döndürme

Oral Presentation Session

How to Deal with the Complications of Coronary Surgery

Date: 12.03.2020 Time: 13:45 – 14:45 Hall: 6

ID: **352**

Topic: **Cardiovascular Surgery » Hybrid Cardiovascular Surgery**

Presentation Type: **Oral**

COMPARISON OF TWO TREATMENT METHOD OF SYMPTOMATIC PERICARDIAL EFFUSION AFTER CARDIAC SURGERY: PERICARDIAL WINDOW OR FLOROSCOPY GUIDED PERCUTANEOUS INTERVENTION

Tevfik Güneş[1], Necmeddin Yakut[1]

[1]*Özel Akut Kalp Damar Hastanesi, İzmir, Turkey*

Background: We aimed to compare the floroscopy guided subxiphoid percutaneous (FSP) intervention with the subxiphoid pericardial window (SPW) techniques in terms of efficiency and complications in the treatment of symptomatic pericardial effusion developing after cardiac surgery.

Methods: The data of 2492 patients with open-heart surgery collected from Nov 2011 to Apr 2017 were analyzed retrospectively. A total of 68 patients were included in the study. Patients were divided into two groups according to the method of treatment. In the first group, there were 30 patients who were treated with the subxiphoid pericardial window method. In the second group, there were 38 patients who were treated with the floroscopy guided subxiphoid percutaneous intervention method.

Results: Patients in both groups were treated successfully. However, FSP technique was found advantageous in favor of drainage volumes (771±177 mL, p=0.028), drainage times (1.2±0.4 days, p=0.001), hospital stay (2.6±0.9 days, p=0.010) and amount of blood transfusion (0.2±0.5 Units, p=0.023).

Conclusion: The floroscopy guided subxiphoid percutaneous intervention is easily applicable, less invasive, less painful, it can be done with local anesthesia and patients stay less at the hospital also it's as effective as the subxiphoid pericardial window. Therefore, we came into the conclusion that it is a safer and preferable method.

Key words: Drainage; percutaneous; pericardial effusion; pericardiostomy; subxiphoid.

ID: **231**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

INVESTIGATION OF RELATIONSHIP BETWEEN BLOOD TRANSFUSION AND POSTOPERATIVE ATRIAL FIBRILATION IN PATIENTS WITH CORONARY BYPASS GRAFTING

Ufuk Mungan[1], **Hüseyin Sicim**[2], Hakan Kartal[2], Gökhan Erol[2], Gökhan Arslan[2], Tuna Demirkıran[2], Elgin Hacızade[2], Işıl Taşöz[2], Ertan Demirdaş[2], Bilgehan Savaş Öz

[1]Lokman Hekim Akay Hospital, Ankara, Turkey

[2]Gulhane Training and Research Hospital, Ankara, Turkey

[*]Corresponding Author (drumungan@gmail.com)

OBJECTIVE

Postoperative atrial fibrillation (POAF) is the most common type of arrhythmia after coronary artery bypass grafting (CABG), and the incidence of AF after coronary artery bypass surgery (CABG) is found to be between 15% and 50%. The factor is inflammation and it has been shown to increase the inflammatory response in previous studies in blood transfusion. The aim of this study was to determine the relationship between blood transfusion and POAF in patients undergoing CABG under cardiopulmonary bypass.

METHODS

A total of 1567 preoperative sinus rhythm patients who underwent CABG operation between November 2009 and March 2014 at Akay Hospital Cardiovascular Surgery Clinic were included in the study. Retrospective demographic data, preoperative risk factors, preoperative medication, postoperative data, postoperative complications, laboratory findings, observed mortality and morbidity records were obtained from patient files and hospital database.

RESULTS

The sex distribution of 1567 patients in this study was 817 (52.1%) males and 750 (47.9%) females and the mean age was 61 ± 14 years. Of the 1567 patients, 287 (18.3%) developed POAf. The mean amount of blood transfusion was 2.1 ± 2.6 units in patients with POAF and 1.3 ± 2.2 units in patients without POAF, and there was a statistically significant difference ($p < 0.001$).

CONCLUSION

We concluded that homologous blood transfusion increased the incidence of POAF. Therefore, we think that more comprehensive studies on blood transfusion reducing techniques should be done to prevent POAF development.

ID: **474**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Oral**

THE RISK OF BLEDDING OF EXTENDED-ASPIRIN THERAPY IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

Dudy Arman Hanafy, Widya Trianita Suwatri, **Rendy Aprilianus Jiwono**

National Cardiovascular Center Harapan Kita, Jakarta, Indonesia

**Corresponding Author (hanafymedical@gmail.com)*

BACKGROUND: Despite numerous retrospective and prospective analyses, it is still controversial whether to stop aspirin or not before coronary artery bypass grafting (CABG) is associated with significant postoperative bleeding. We tried to evaluate the relationship between the effect of preoperative aspirin duration therapy on postoperative blood loss and transfusion requirements after coronary artery bypass grafting.

METHODS: The study was a prospective, between December 2018 and May 2019, patients undergoing on-pump CABG were reviewed and divided into two groups. One group received aspirin until the time of surgery (aspirin group), while in the other was stopped at least five days before surgery (no aspirin group). Multivariate analysis was used to evaluate correlation between aspirin ingestion before surgery with postoperative bleeding and blood transfusion.

RESULTS: We divided samples into two groups which consist of 36 each group. The two groups were similar in demographic characteristics and all patients survived to be discharged home. Patients in the aspirin group had significantly increased chest-tube blood loss 8 hours after operation compared to the no aspirin group (1093.33 ± 625.29 vs 515.83 ± 143.48 ml; p<0.001, respectively). In addition, aspirin group had significantly increased requirements for postoperative packed red blood cells (578.33 ± 462.76 vs 126.36 ± 179.365 ml; p<0.001), fresh-frozen plasma (284.92 ± 206.93 vs 67.36 ± 124.320 units; p = 0.001), platelets (142.33 ± 45.20 vs 38.47+69.39, p = < 0.001) transfusions, and length of stay (12.08 ± 2.778 vs 7.58 ± 1.20, p<0.001). There was one re-exploration because of bleeding in the aspirin group which was statistically not significant.

CONCLUSIONS: We conclude that aspirin ingestion during preoperative time increases postoperative blood loss, transfusion requirements and length of stay. We still recommend discontinuation of aspirin therapy at least five days before CABG even with no statistically significant difference on reexploration.

Key words: aspirin, coronary artery bypass grafting, postoperative bleeding

ID: **371**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

STROKE FOLLOWING CABG: A MULTINOMIAL MULTIFACTOR MODEL IN A LARGE PATIENT POPULATION

Linda Micali[1], Massimo Bonacchi[2], Edvin Prifti [3], Gianmarco Parise[1], Sandro Gelsomino[1]

[1]*Maastricht University , Maastricht, Netherlands*

[2]*Florence University , Florence, Italy*

[3]*Tirana University , Tirana, Albania*

[*]*Corresponding Author (lindamicali@hotmail.it)*

Background

We carried out a multinomial multifactor propensity-score based analysis on stroke in patients undergoing CABG. The unique model allowed us to test all the potential technical risk related to aortic manipulation alone or in combination.

Methods

The study population included 16,255 consecutive patients undergoing isolated CABG between 1997 and 2017. Patients were divided into 7 groups: Group 1 (No Proximal Anastomoses-Off-pump), Group 2 (Side Biting Clamp-Off-pump), Group 3 (No Proximal Anastomoses-Beating Heart-On-Pump), Group 4 (Side Biting Clamp-Beating Heart-On-Pump), Group 5 (No Proximal Anastomoses-Aortic Total Clamp-On-pump), Group 6 (Aortic Total Clamp-On-pump), Group 7 (Aortic Total Clamp-Side Biting Clamp-On-pump). The main end-point was the incidence of postoperative stroke within 30 days of the procedure.

Results

The optimal balance table with the balance table, effect size plot and Q-Q plot, allowed us to conclude that the Groups were similar to support causal estimation of the treatment estimand.

As shown in Figure 1, there was no difference between a total no-touch (Group 1) vs. the same technique on pump (Group 3, $p>0.05$) and or adding a side biting clamp to these two procedures (Groups 2, 4, both $p>0.05$). All procedures including the use of a total clamp (Groups 5-7) had a significantly higher incidence of stroke (all, $p<0.001$) without difference between them ($p>0.05$). Furthermore, we failed to find any advantage performing the proximal anastomosis in ON-CPB (single clamp technique, $p>0.05$), whereas there was a dramatic increase in stroke using aortic total clamp ($p<0.01$). Finally, the use of side biting clamp did not raise the incidence of stroke.

Conclusions

Aortic total cross-clamp is the main factor increasing the incidence of stroke. In contrast, the use of side biting partial clamping, off-pump techniques or cardiopulmonary bypass without aortic clamp and cardioplegic arrest, does not affect the incidence of stroke. Further research is necessary to confirm our results.

Oral Presentation Session

Complex Aortic Surgery Needs Experience

Date: 12.03.2020 Time: 14:45 – 15:45 Hall: 6

ID: **61**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

AORTIC ROOT REPLACEMENT IN PATIENTS WITH MARFAN SYNDROME: A COMPARISON OF COMPOSITE VALVE GRAFT REPLACEMENT VERSUS VALVE-SPARING AORTIC ROOT REPLACEMENT

Chinaphum Vuthivanich, Nopporn Pornpatrtanarak, Chanapong Kittayarak, Jule Namchaisiri, Seri Singhatanadgige, Pat Ongcharit, Vichai Benjacholamas

King Chulalongkorn Memorial Hospital, Bangkok, Thailand

**Corresponding Author (boss_sg89@hotmail.com)*

BACKGROUND: Aortic root replacement improves survival in patients with Marfan syndrome (MFS) with aortic root disease. Composite valve graft replacement (CVG) and valve-sparing root replacement (VSRR) both show favorable mid and long-term outcomes. The purpose of this study was to evaluate the early and late clinical outcomes after CVG and VSRR in patients with Marfan syndrome

METHODS: Marfan syndrome patients who had CVG or VSRR at King Chulalongkorn Memorial Hospital between August 1999 and August 2019 were identified. Follow-up information was obtained from hospital charts and telephone contact. Kaplan-Meier survival analyses were performed. The mean follow-up time was 7years.

RESULTS: Thirty-seven adult patients with Marfan syndrome had either CVG(n=24) or VSRR(n=13) procedures. CVG patients had more aortic root dissection (62.5% vs 23.1 %, p=0.022), shorter aortic cross-clamp time (120 vs 175 minutes, p=0.007) and shorter cardiopulmonary bypass time (161 vs 216 minutes, p=0.042). In-hospital mortality was 4.2%(n=1) in CVG and 0% in VSRR group (p=1.0). Five, ten, fifteen and twenty-year survival was 75.0%,75.0%,62.5% and 58.3% in CVG group, 92.3% ,92.3%,92.3% and 92.3% in VSRR group (Log rank test, p=0.063). Freedom free from reoperation on aortic valve or root was higher in CVG compared to VSRR (100% vs 61.5 %, p=0.004). There was no case of endocarditis detected during follow-up. There was no significant difference in long-term survival and freedom from thromboembolic/hemorrhagic complication between the 2 procedures.

CONCLUSIONS: After aortic root replacement in patients with Marfan syndrome, patients undergoing CVG had worse survival outcome compared to VSRR but not statistically significant. Lower late survival among CVG patients probably reflects the preferential use of the CVG procedure for higher risk patients. CVG have similar freedom from thromboembolic/hemorrhagic complication but higher freedom from reoperation on aortic valve or root compared to VSRR.

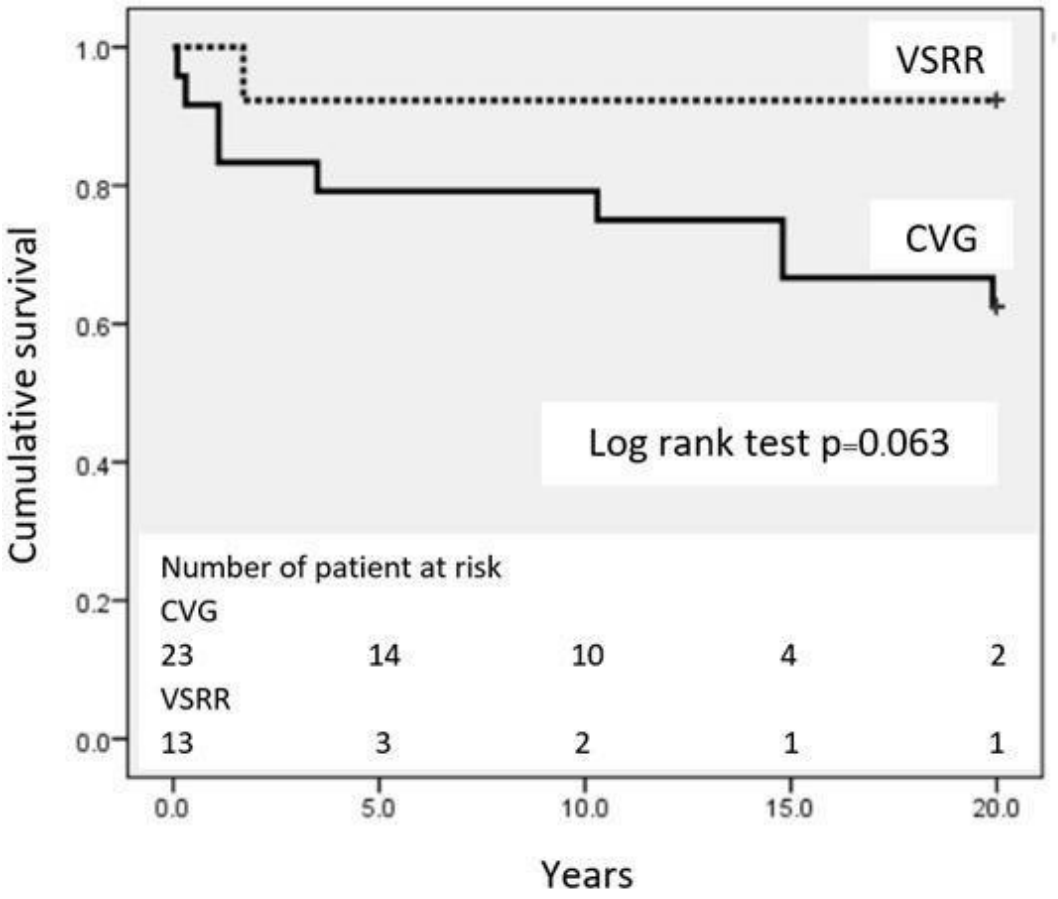


Figure 1. Comparison of overall survival between patients with Marfan syndrome undergoing composite valve graft replacement (CVG) versus valve-sparing aortic root replacement (VSRR).

Table 1. Preoperative characteristics

	CVG	VSRR	P value
n	24	13	-
Age (year)	35.9 ± 10.3	35.6 ± 11.2	0.93
Male	16 (66.7%)	7 (53.8%)	0.49
Hypertension	5 (20.8%)	2 (15.4%)	1.0
Dyslipidemia	0 (0%)	1 (7.7%)	0.35
Atrial fibrillation	2 (8.3%)	0 (0%)	0.53
Previous cardiac surgery	2 (8.3%)	2 (15.4%)	0.60
NYHA class III or IV	5 (20.8%)	3 (23.1%)	1.0
Ejection fraction	56% ± 12.9	55% ± 19.3	0.87
Aortic sinus diameter (cm)	6.0 ± 1.2	6.1 ± 1.0	0.87
Aortic annulus diameter (cm)	3.4 ± 1.0	2.9 ± 0.9	0.29
Moderate or severe AR	23 (95.8%)	11 (84.6%)	0.27
Dissection on aortic root	15 (62.5%)	3 (23.1%)	0.02
Acute type A dissection	10 (41.7%)	1 (7.7%)	0.057
Urgent or emergent surgery	10 (41.7%)	1 (7.7%)	0.057

Value are presented as mean ± standard deviation or n (%)

CVG, Composite valve graft replacement; VSRR, Valve sparing aortic root replacement; NYHA, New York Heart Association; AR, aortic regurgitation.

ID: **359**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

THE EVALUATION OF LONG-TERM NEUROCOGNITIVE FUNCTIONS AFTER AORTIC ARCH REPAIR WITH SELECTIVE ANTEGRADE CEREBRAL PERFUSION VIA UPPER RIGHT BRACHIAL ARTERY

Okan Yurdakök[1], Hicran Tuluce[2], Şeref Alp Küçüker[3], Mehmet Ali Özatik[3], Ahmet Sarıtaş[3]

[1]*Siyami Ersek Hospital, istanbul, Turkey*

[2]*Siyami Ersek Hospital , Istanbul, Turkey*

[3]*Şehir Hastanesi, Ankara, Turkey*

[*]*Corresponding Author (okanyurdakok@yahoo.com)*

BACKGROUND:

The aortic arch repair with selective cerebral antegrade perfusion is a well-established, widely used method with satisfactory outcomes. But the evaluation of neurocognitive functions on long term following the repair with selective cerebral perfusion, still needs to be illuminated.

METHODS:

This study is organized to evaluate the long-term neurocognitive functions of patients, following an aortic arch repair with low flow antegrade selective cerebral antegrade perfusion. The study started with 22 patients (19 male, 3 female, with a mean age of 46.8 +/- 12; range: 26 to 70 years old), who underwent aortic arch repair using right brachial artery perfusion (8 to 10 mL x kg(-1) x min(-1)) under moderate hypothermia (26 degrees C). There were 6 Stanford type-A dissections and 16 ascending aortic and hemi-arch aneurysms. But the latest follow-up and analysis included 15 patients (13 male and 2 females), who were able to complete all the tasks for psychological evaluation. All patients were evaluated preoperatively, postoperatively (at seventh day and second month) and long-term follow-up was at 4 years for neurocognitive functions.

RESULTS:

There was no operative mortality. The average cardiopulmonary bypass time was 112,5 ± 24,05minutes and the average antegrade cerebral perfusion time was 29,2±5,40 minutes (19 to 38 minutes). No major neurologic abnormality was observed in the immediate postoperative period. In terms of neurocognitive test results, between the preoperative and postoperative assessments for both hemispheric cognitive functions, no deterioration was detected. In the follow up, the neurocognitive functions showing improved results on the long-term, which were regarded as false-positive, due to low cognitive functions under the pressure of anxiety and depression during the pre-operative evaluation.

CONCLUSIONS:

The low-flow selective antegrade cerebral perfusion technique through the right brachial artery may safely be used for the patients undergoing aortic arch repair without causing deteriorations in long-term neurocognitive functions.

ID: **308**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

AN EPIC APPROACH TO BICUSPID AORTIC VALVE ASSOCIATED AORTOPATHY

Abdul Badran, Rob Murray, Negusse Kitaba, Sunil Ohri

University Hospital Southampton, Southampton, United Kingdom

**Corresponding Author (ilm376@hotmail.com)*

Objectives: Bicuspid aortic valves are the commonest congenital malformation and predispose to ascending aortic aneurysms. The mechanisms underlying this aortopathy remain incompletely characterized. We sought to identify epigenetic pathways predisposing to aneurysm formation in this patient population.

Methods: 15 ascending aortic aneurysm tissue samples were collected at the time of aortic surgery in subjects with bicuspid aortic valve disease. Genome-wide DNA methylation status was determined on DNA from tissue using epic Illumina 850K methylation chips.

Results: Probe methylation associations correlated most with different genes, including OR2B11, (figure1) CACNA1B, EBF2, FLJ46284, PADI1. OR2B11, CACNA1b and FLJ46284 displayed hypomethylation with aortic diameter increased whereas methylation in EBF2 increased with aortic diameter. The association with OR2B11 reached statistical significance (adjusted p value=0.02).

Conclusion: Using an epigenome wide approach, we identified novel gene associations with ascending aortic aneurysms in patients with bicuspid aortic valves. The top hit gene identified has previously been associated with aortic wall stiffness.

ID: **270**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

COMPARISON OF THE PROTECTIVE EFFECTS OF N-ACETYLCYSTEINE AND N-ACETYLCYSTEINE AMIDE AGAINST OXIDATIVE STRESS ON SKELETAL MUSCLE ISCHEMIA-REPERFUSION IN RATS

Erdem Çetin[1], **Hüseyin Sicim**[2], Hakan Kartal[2], Ertan Demirdaş[2], Gökhan Erol[2], Celalettin Günay[2], Bilgehan Savaş Öz[2]

[1]*Karabük Training and Research Hospital, Karabük, Turkey*

[2]*Gülhane Training and Research Hospital, Ankara, Turkey*

[*]*Corresponding Author (erdemcetinn@gmail.com)*

OBJECTIVE

N-acetylcysteine (NAC) is an antioxidant and antiapoptotic drug. N-acetylcysteine amide (NACA) is a membrane-permeable analog of NAC by exchanging carboxyl with an amide group. The aim of this study was to compare the effect of NAC and NACA on skeletal muscle total antioxidant status (TAS), total oxidant status (TOS), and oxidative stress index (OSI) in lower limb ischemia-reperfusion (I-R) injuries in rats.

METHODS

Totally 24 Wistar albino rats were used in this study. The rats were randomly divided into four groups as follows: Control group (n=6), ischemia group (n=6), ischemia+NAC group (n=6), and ischemia+NACA group (n=6). The NAC and NACA group underwent intravenous premedication for 30 min before ischemia (100 mg/kg NAC and 100 mg/kg NACA). Under stile conditions, all rats underwent midline abdominal incision, followed by ischemia for 120 min and reperfusion for 120 min using non-traumatic vascular clamping to abdominal aorta below renal artery level. Following a total of 240-min procedure, gastrocnemius muscle of the lower limb was isolated and kept at -80ºC. The TAS, TOS, and OSI values were analyzed.

RESULTS

The mean erythrocyte deformability values were significantly different among the groups ($F(3.20) = 10.381$, $p<0.001$, $\omega2=0.54$). The Bonferroni correction which was used to examine the significant differences for multiple comparisons showed that the mean erythrocyte deformability values were significantly higher in the ischemia group (2.247±0.18) than the control (1.61±0.23), NAC (1.65±0.31), and NACA (1.77±1.14) groups (1-2 [$p<0.001$], 2-3 [$p<0.001$], and 2-4 [$p<0.009$], respectively). However, there was no significant difference in the mean erythrocyte deformability values between the control group and NAC and NACA groups ($p=1.000$ for all). In addition, there was no significant difference in the NAC and NACA groups ($p=1.000$ for both).

CONCLUSIONS:

Our study results support the potential protective effects of NAC and NACA against oxidative damage on skeletal muscle in lower limb I-R injuries in rats, although there is no significant difference in efficacy between NAC and NACA.

ID: **266**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

COMPARISON OF EFFECT OF N-ACETYLCYSTEINE AND N-ACETYLCYSTEINE AMIDE ON ERYTHROCYTE DEFORMABILITY IN LOWER EXTREMITY ISCHEMIA REPERFUSION INJURIES IN RATS

Gökhan Erol[1], Hakan Kartal[1], Faruk Metin Comu[2], Erdem Çetin[3], Ertan Demirdaş[1], Hüseyin Sicim[1], Celalettin Günay[1], Bilgehan Savaş Öz[1], Cengiz Bolcal[1]

[1]*Gülhane Training and Research Hospital, Ankara, Turkey*

[2]*Kırıkkale University Faculty of Medicine, Kırıkkale, Turkey*

[3]*Karabük Training and Research Hospital, Karabük, Turkey*

[*]*Corresponding Author (drgokhanerol@gmail.com)*

OBJECTIVES

The aim of this study was to compare the effect of NAC and NACA on erythrocyte deformability in lower extremity ischemia-reperfusion (I-R) injuries in a rat model.

METHODS

A total of 24 Wistar albino rats were used in this study. The rats were randomly divided into four groups as follows: Control group (n=6), ischemia group (n=6), NAC group (n=6), and NACA group (n=6). Under sterile conditions, all rats in the ischemia, NAC, and NACA groups underwent abdominal incision, followed by ischemia for 120 min and reperfusion for 120 min using non-traumatic vascular clamping to the abdominal aorta below the renal artery level. Both NAC and NACA groups received intravenous premedication (100 mg/kg) 30 min before ischemia. Blood samples were collected when ischemia was completed and resuspended in phosphate-buffered saline (PBS) with 5% hematocrit.

RESULTS

The erythrocyte deformability index was statistically significantly lower in the NAC and NACA groups before I-R, compared to other groups receiving only I-R. There was no statistically significant difference in the erythrocyte deformability index between the NAC and NACA groups and control group.

CONCLUSIONS

Based on our study findings, NAC and NACA exert a protective effect against erythrocyte deformation in lower extremity I-R injuries in rats. The protective effect of both agents is similar.

ID: **602**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Oral**

INTRAOPERATIVE EPIAORTIC ULTRASOUND SCANNING IN PATIENTS WITH ASCENDING AORTIC ATHEROMA AND SURGICAL TREATMENT TACTICS

Gleb Kim, Dmitry Shmatov, Maxim Stolyarov, Vasily Balakhonov, Maxim Kamenskikh, Yuriy Fedotov

Saint Petersburg State University Hospital, St. Petersburg, Russia

**Corresponding Author (gikim.cor@gmail.com)*

BACKGROUND: Stroke after coronary artery bypass surgery is severe life-threatening complication in cardiac surgery. There are few methods to minimize the risk of stroke and other systemic embolisations: intraoperative transesophageal echocardiography, palpation of the aorta and epiaortic ultrasound scanning. Intraoperative revision allows to determine the final plan of the operation.

METHODS: We studied a cohort of 1439 consecutive patients who underwent isolated coronary artery bypass grafting. Patients were subdivided into two groups. The Group-1 included 950 patients operated in 2018-2019 with routine use of epiaortic ultrasound scanning. Group-2 included 489 patients who underwent epiaortic ultrasound scanning from 2016 to 2017 selectively after palpation of the ascending aorta.

RESULTS: Pronounced atherosclerotic changes in the ascending aorta were revealed in 48 (5.1%) cases in the Group-1 and in 15 (3.1%) patients in the Group-2, $p<0.05$. In the immediate postoperative period in Group-1 there was one acute cerebrovascular accident (0.1%), in Group-2 it was in 3 (0.6%) patients, $p<0.05$. Postoperative encephalopathy was more common in Group-2, Group-2 3.7% (18/489) vs. Group-1 0.4% (4/950); $p<0.05$. There was no death associated with cerebrovascular disease in Group-1, in Group-2 in-hospital mortality was 0.4% (2/489), $p>0.05$.

CONCLUSIONS: Intraoperative epiaortic ultrasound scanning technique is easily reproducible and available to perform procedure during the revision of the aorta in patients with coronary artery bypass grafting.

ID: **132**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Oral**

CAN WE SECURELY LIGATE THE LEFT RENAL VEIN DURING THE OPEN SURGICAL REPAIR OF THE JUXTARENAL ABDOMINAL AORTA ANEURYSMS?

Hasan Erdem

TC SB Kartal Koşuyolu Yüksek İhtisas Kalp Damar cerrahisi, İstanbul, Turkey

**Corresponding Author (herdemkvc@hotmail.com)*

Background:

In this article we aimed to evaluate the effect of the ligation of the left renal vein for the open surgical repair of the juxtarenal located abdominal aorta aneurysms on the serum creatinine and urea levels.

Methods:

We included 21 patients in our study among the total 171 patients underwent open surgical aneurysm repair with juxtarenal aortic aneurysm diagnosis between August 2011-August 2019 as elective or emergency procedure in our institution. In entire of these 21 cases the surgical procedure required ligation of the left renal vein imperatively. 3 patients excluded in this study due to intraoperatively rupture and mortality either in O.R. subsequently.
We collected the data retrospectively and we compared the urea and creatinine levels postoperative first , second, third day and during discharge disposition consecutively.
We used Shapiro-wilk tests for normality analysis, paired sample t-test and repeated ANOVA tests for comparing the urea and creatinine levels in various times.

Results:

The patients were all male (n=21,100%). Mean age was 67.71±9.06. Mean cross clamp time 18.03±2.3 minutes. Mean hospital stay was 7.6±1.2 days. There were no significant differences between the urea nor creatinine levels among the discharge and preoperative results. ($p>0.05$) However the levels in first, second and third days after operation were established significantly higher than preoperative ones. ($p<0.005$)

Conclusions:
Even though the increasing of urea and creatinine levels in the first three days after operation the values normalized and decreased to the preoperative values till discharge. Herewith, the abdominal aorta aneurysms which located juxtarenal position can be treated safely and securely within ligation of left renal vein from the point of junction with the inferior vena cava; via open surgery despite all the pitfalls such as finding the proximal neck of the aneurysm and appropriate undamaged aortic tissue for anastomose line.

Oral Presentation Session

Noval Approaches for Good Old CABG

Date: 12.03.2020 Time: 16:15 – 17:30 Hall: 6

ID: **520**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

CORONARY ARTERY BYPASS GRAFTING IN A LIPODYSTROPHY PATIENT

Önder Teskin[1], **Emrah Ereren**[1], Şeyda Demirkol[2], Ebru Nur Ay[3]

[1]*Biruni University, istanbul, Turkey*

[2]*Biruni University, Istanbul, Turkey*

[3]*Istanbul University Aziz Sancar Institute of Experimental Medicine, Istanbul, Turkey*

[*]*Corresponding Author (oteskin@gmail.com)*

Lipodystrophic syndromes are rare, and limited number of cases reported depending on the subtypes. Mostly known coronary artery disease associated subtype is Dunnigan-type familial partial lipodystrophy (Type-2 FPLD). FPLD2 (MIM: #151660) is a genetic disease caused by mutations in lamin A/C (LMNA) gene (ENSG00000160789). The disease is characterized by atrophy of subcutaneous adipose tissue on extremities and trunk with fat deposition in the face and neck. We present a lipodystrophy case who was operated successfully despite multiple comorbidities.

A 42-year-old patient admitted to hospital with chest pain was hospitalized with the diagnosis of NSTEMI. She had a clinical diagnosis of lipodystrophy but there was no genetic mutation shown in previous tests. The patient's body weight was 37 kg, height was 145 cm and body mass index (BMI) was 17.6 kg / m2. She had also insulin-dependent diabetes mellitus, hypertension, euthyroid multinodular goiter, hyperlipidemia, hepatosetatosis, multiple liver adenoma, cholelithisasis, polycystic ovaries, scoliosis, diabetic retinopathy and glaucoma, Coronary angiogram showed that she had severe multivessel coronary artery disease requiring coronary artery bypass surgery (CABG). 3 vessel cardiopulmonary bypass grafting operation (LAD-lima, OM1-Saphenous vein RCA-Saphenous vein) was performed. Aortic clamping time was 25 minutes and total CPB time was 63 minutes. The patient was extubated at the 6th postoperative hour and removed from the intensive care unit on the first postoperative day. No blood transfusion was needed in hospital stay. The patient was discharged on the 4th postoperative day without any complications. Blood samples taken from the patient were studied with 'Next Generation DNA Sequence Analysis (NGS)' technique. Sequence analysis of WRN gene showed a homozygous mutation at exon 8 (c.356-2A>T) as splice acceptor novel variant.

The WRN gene encoding RecQ-type DNA helicase, which has autosomal recessive inheritance, has also been implicated in the pathogenesis of mutations in the Lamin A / C gene. In the literature, the LMNA gene has been associated with muscle dystrophy, familial transitional lipodystrophy and dilated cardiomyopathy with autosomal dominant inheritance. According to ACMG criteria (value), mutation of WRN gene is classified as pathogenic (Class V).

Lypodystrophy associated cardiac complications mostly reported as cardiomyopathy. This patient is not only the first case reported about CABG operation in a WRN gene associated lipodystrophy but also the first lipodystrophy case operated before left ventricular dysfunction.

ID: **538**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

COMPARISON OF THE EFFECTS OF TWO DIFFERENT CARDIOPLEGIA METHODS USED IN OPEN HEART SURGERY ON RENAL FUNCTION IN CORONARY BY-PASS OPERATION

Ömer Arıcı, Erdinç Eroglu, **Mehmet Acıpayam**, Aydemir Kocarslan

Kahramanmaras Sutcu Imam University Faculty of Medicine., Kahramanmaras, Turkey

**Corresponding Author (oarici55@hotmail.com)*

Aim: To determine whether the effects of Del-Nido cardioplegia, which is one of the different cardioplegia methods used during coronary by-pass operation, over the renal function is superior to the method of blood cardioplegia.

Methods: We formed two groups of 20 patients who underwent blood cardioplegia and 20 patients who underwent Del-Nido cardioplegia, including the years 2018 and 2019. Preop and post-op 1, 2, 3 days Bun, Creatinine, Na, Potassium, Calcium values of these two groups We got the results. The results of these laboratory findings were analyzed and the effectiveness of two different cardioplegia methods on renal function was compared.

Results: There was no difference between renal functions, length of stay in intensive care unit and mortality between the two groups. However, the duration of surgery and cross-clamp time were significantly shorter in the del nido group.
BYPASS VESSELS
Del-Nido Blood Cardioplegia
n % n % p
CABGX3 3 15.0 8 40.0 0.273
CABGX4 10 50.0 8 40.0
CABGX5 6 30.0 4 20.0
CABGX6 1 5,0 0 0,0

Conclusion: Del Nido cardioplegia reduces the operation time by shortening the cross-clamp time. It also increases the comfort of the surgeon. When two different cardioplegia methods are compared, there is no difference between their effects on renal function.

ID: **523**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

A RARE BENIGN CORONARY ARTERY ANOMALY IN A PATIENT PLANNING AORTIC CORONARY ARTERY BYPASS SURGERY: DUAL RIGHT CORONARY ARTERY

Mustafa Dağlı, Turgut Uygun

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

Coronary artery anomalies are sometimes considered clinically insignificant. They may coexist with other congenital heart diseases, cause myocardial ischemia and ultimately reduce quality of life and duration.

All of the coronary artery anomalies that cause sudden deaths are known as interarterial type because they pass between aorta and pulmonary artery and they are called malignant coronary anomalies. Interarterial left main coronarv artery is the most common coronary anomaly causing ischemia and sudden death. Acute coronary syndrome without atherosclerotic disease has been reported due to interarterial right coronary artery. Two right coronary arteries are originating from two separate ostia and parallel to the right atrioventricular sulcus. Bilateral right coronary artery is a rare and bening anomaly.

We present a case of dual right coronary artery detected in coronary angiography by reviewing the literature.

Case Report

A 58-year-old male patient with no known coronary artery disease was admitted to coronary angiography unit because of chest pain and high troponin levels. He had a history of smoking. Coronary angiography showed 80% stenosis in the distal left main coronary artery, osteal 70% stenosis in the left anterior descending artery, osteal 50% stenosis in the circumflex artery, and 90% stenosis after a high optus marginal branch. Bifid course was also observed in the right coronary artery (Image 1). Proximal long lesion and bifid right coronary artery which was fedback second degree from distal left system was observed. Echocardiography was performed and the ejection fraction was 48%. Cladication was present in his anamnesis. Peripheral artery disease was detected on color doppler ultrasound and carotid artery stenosis was detected on carotid doppler ultrasound. Our patient did not have any recurrent chest pain. Following the decrease in troponin level, we planned to perform aortic coronary bypass surgery.

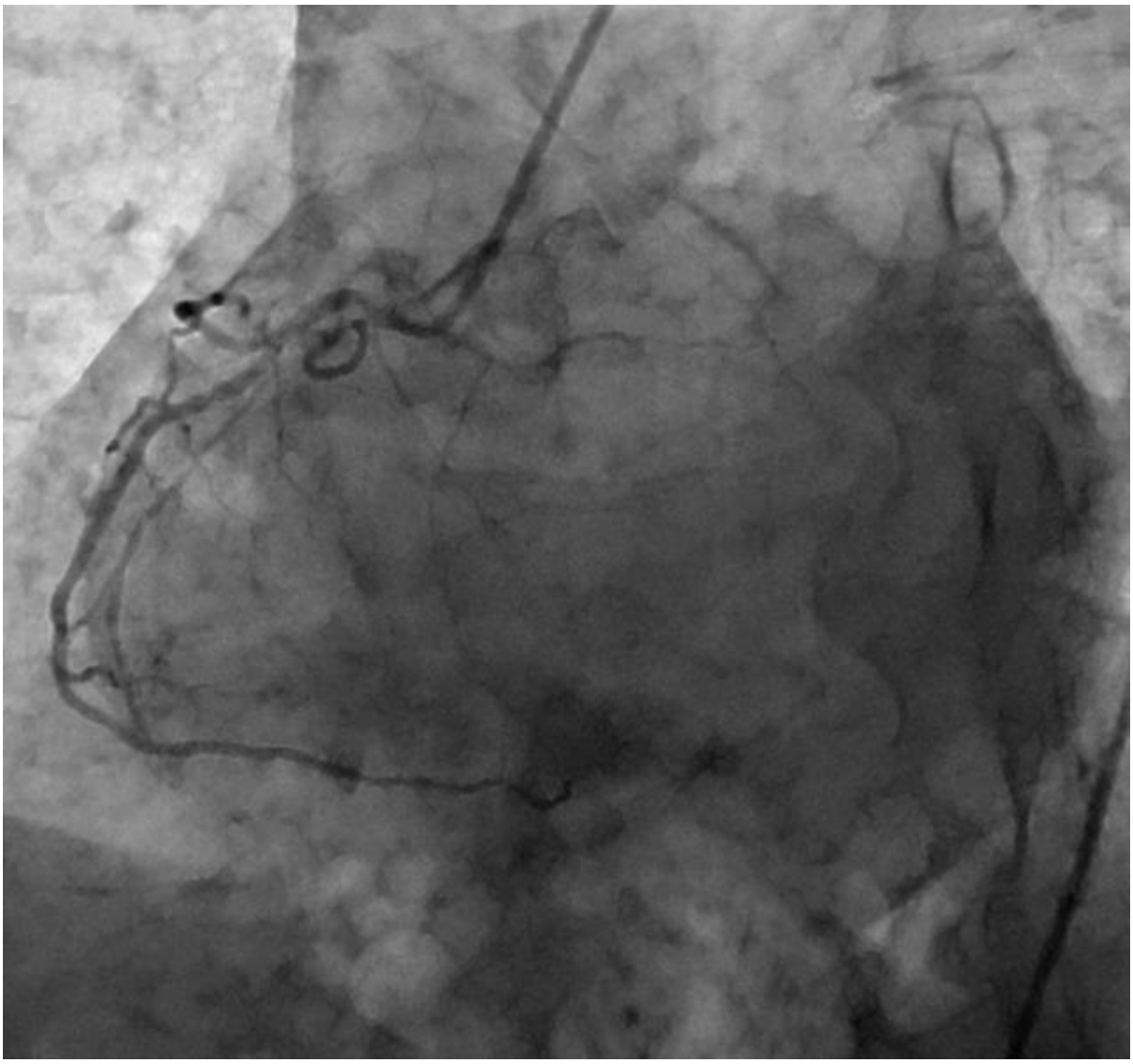
Usually, two right coronary artery cruxes emerge from seperature ostia. Sometimes the right coronary artery originating from a single ostium is divided into two after a few mm course. Some authors disagree about cases originating from a single ostium, and they suggest that these anomalies are actually high-output right ventricular branches.

There are only a few case reports in the literature. In a study conducted in our country, this anomaly was detected in 6 patients, the incidence of the anomaly was 3.5% and the incidence was 0.05%.

Although coronary artery anomalies are seen less frequently, they are of special importance because they may encounter important clinical conditions such as cardiac syncope, angina pectoris and myocardial infarction and cause sudden cardiac death especially in young people. A continuous murmur is sometimes the only symptom of coronary artery anomalies. Coronary artery anomalies alone account for about 20% of sudden deaths in young athletes.

Conclusion

Innovations in technology, advances in imaging systems and increased processing experience have led us to better recognize and identify these anomalies. As our knowledge and experience on coronary artery anomalies increases, the clinical significance and consequences of coronary artery anomalies will become clearer. For these reasons, coronary artery anomalies should be well known to all physicians.



ID: **544**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

IMPROVING THE RESULTS OF MYOCARDIAL REVASCULARIZATION USING WARM (THERMAL) BLOOD CARDIOPLEGIA IN PATIENTS WITH CORONARY HEART DISEASE

Atabek Djumaniyazov

Republican Specialized Scientific and Practical Medical Center for Cardiology, Urgench, Uzbekistan

**Corresponding Author (otabek7705@mail.ru)*

Purpose of the study: improve the results of surgical treatment of patients with stenotic coronary atherosclerosis, undergoing surgery with cardiopulmonary bypass.

Materials and research methods: In Urgench branch of the Republican Specialized Scientific and Practical Medical Center for Cardiology from August 2018 to February 2019, 40 coronary bypass operations with cardiopulmonary bypass were performed in patients with coronary artery disease, of which 20 patients used pharmacological cold crystalloid cardioplegia (PhCCC) - group I, the remaining 20 patients had normothermic blood cardioplegia(NBC) - group II. Pharmacological cold crystalloid cardioplegia was performed at a rate of 20 ml/kg for 8-10 minutes, the interval between cardioplegia sessions was 60 minutes. Normothermic blood cardioplegia was performed using a cardiopulmonary bypass machine, at the rate of 3:1 in the first session, and in subsequent sessions 4:1, for 2 minutes and usually did not exceed 2 sessions, the interval between cardioplegia sessions was 20 minutes. The average number of grafts per patient in the groups was comparable and averaged 3.1. The time from the onset of PhCCC to the onset of asystole averaged 2.3 minutes, with NBC an average of 1.3 minutes. In group I, 14 patients restored cardiac activity through fibrillation, of which 12 patients after inhibition of cardiopulmonary bypass required inotropic support. In group II all patients had spontaneous recovery of cardiac activity, and 2 patients used inotropic support after stopping the cardiopulmonary bypass. Blood transfusion in group I was required in 15 patients, in group II - 3 patients. The ejection fraction (EF) of the left ventricle (LV) on average before surgery in group I was 54%, in the early postoperative period this indicator averaged 49%, in group II, the ejection fraction of the left ventricle was on average 51%, after surgery 53%. Hemoglobin in group I before surgery averaged 110 g/l, after surgery 88 g/l, in group II hemoglobin before surgery averaged 108 g/l, after surgery 96g/l.

Results and discussion: In group II, unlike group I, asystole of the heart occurred faster after cardioplegia, the duration of the cardioplegia pumping session was reduced, hemodilution was less with NBC compared with PhCCC, which reduced the need for blood transfusion by 5 times, and a quick spontaneous restoration of sinus rhythm was observed with good LV contractile function. According to the literature, the advantages of normothermic blood cardioplegia are in the following positions (Ketskalo M.V. et al., Cardiopulmonary bypass and cardioplegic myocardial protection, 2009): autobloodwarm (thermal)cardioplegia provides better electromechanical stability of the myocardium during cardiac arrest and recovery, due to the absence of a cold injury, normothermicblood cardioplegia reduces cardiomyocyte and endothelial edema, thereby preventing microcirculation disorders and postischemic myocardial dysfunction.

Conclusions: The use of warm (thermal) blood cardioplegia reduces the number of perioperative complications, such as intraoperative acute myocardial infarction, acute postoperative heart failure, various cardiac arrhythmias and provides a significant improvement in the restoration of myocardial function and metabolism after cardiopulmonary bypass.

ID: **567**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

FATAL COMPLICATION AFTER THE MYOCARDIAL INFARCTION: VENTRICULAR RUPTURE AND VENTRICULAR PSEUDOANEURYSM; SURGERY OR FOLLOW-UP?

Serkan Asil[1], Veysel Özgür Barış[2], Suat Görmel[1], Murat Çelik[1], Uygar Çağdaş Yüksel[1]

[1]*Gülhane Training and Research Hospital, Ankara, Turkey*

[2]*Gaziantep Dr. Ersin Şahin Training and Research Hospital, Gaziantep, Turkey*

[*]*Corresponding Author (dr_serkanasil@hotmail.com)*

Introduction

A ventricular pseudoaneurysm develops after an acute myocardial infarction (MI) that is complicated by a ventricular free wall rupture that is contained by localized pericardial adhesions. The risk of rupture in untreated pseudoaneurysms is 30-45% and the mortality rate is 50%. Although there is no clear evidence of treatment in the literature, the main suggestion is to perform surgical treatment without delay. However, the age of the patients, additional comorbidities and the difficulty of the operation considerably increase the mortality rate of the surgical procedure. In this case reports, we will discuss our cases of giant ventricular pseudoaneurysm who are follow up under medical treatment.

Case report 1

A 72-year-old man underwent coronary angiography with the diagnosis of inferior STEMI in February 2018, but the procedure was terminated with TIMI 2 flow. After 1 week the patient admitted with shortness of breath, transthoracic echocardiography revealed pericardial effusion severe mitral regurgitation and CT angiography was performed with the prediagnosis of cardiac rupture. CT angiography shows ventricular aneurysm formation in the left ventricular posteroinferior region and self-limited rupture. We followed up the patient 2 weeks in hospital and then the clinical status of the patient was discussed in the cardiovascular surgery and cardiology council and the patient was advised to undergo cardiac transplantation, However, the patient and their relatives did not accept cardiac transplantation. After this point, the patient was discharged and followed up as an outpatient under medical treatment. In the echocardiography performed monthly, pseudoaneurysm sac and thrombus were observed enlarged. The size of the aneurysm was 105x95 mm and the thrombus size was 60x31 mm in echocardiography and the patient had severe eccentric mitral regurgitation the patient was reevaluated with CT angiography and it was seen that the aneurysm sac grew (120x100 x 95mm) and thrombus was present (Figure 1). As a result, we successfully followed up as an outpatient with NYHA 2 symptoms but, in December 2019, the patient died due to pulmonary edema and cardiogenic shock.

Case Report 2

A 59-year-old female patient admitted to our outpatient clinic for decompensated heart failure and NYHA 3-4 symptoms. In 2013, an unsuccessful PCI was performed to RCA with inferior STEMI in the different medical centers. The echocardiography revealed very low ejection fraction, restrictive type diastolic dysfunction and the pseudoaneurysm sac. As a result of inferoposterior region pseudoaneurysm, mitral valve posteromedial papillary muscle structure was distorted and it caused eccentric severe mitral regurgitation. CT angiography is performed and ventricular pseudoaneurysm formation of 85x60x90mm size is detected (Figure 2).. The patient's symptoms of hypervolemia and heart failure were controlled by medical treatment and discharged and follow-up under close supervision.

Conclusion

In asymptomatic patients and mildly symptomatic patients under medical treatment who have high surgical risks because of associated medical problems, conservative management may be considered.

Figure 1: Echocardiographic and Cardiac BT image of pseudoaneurysm of case 1.

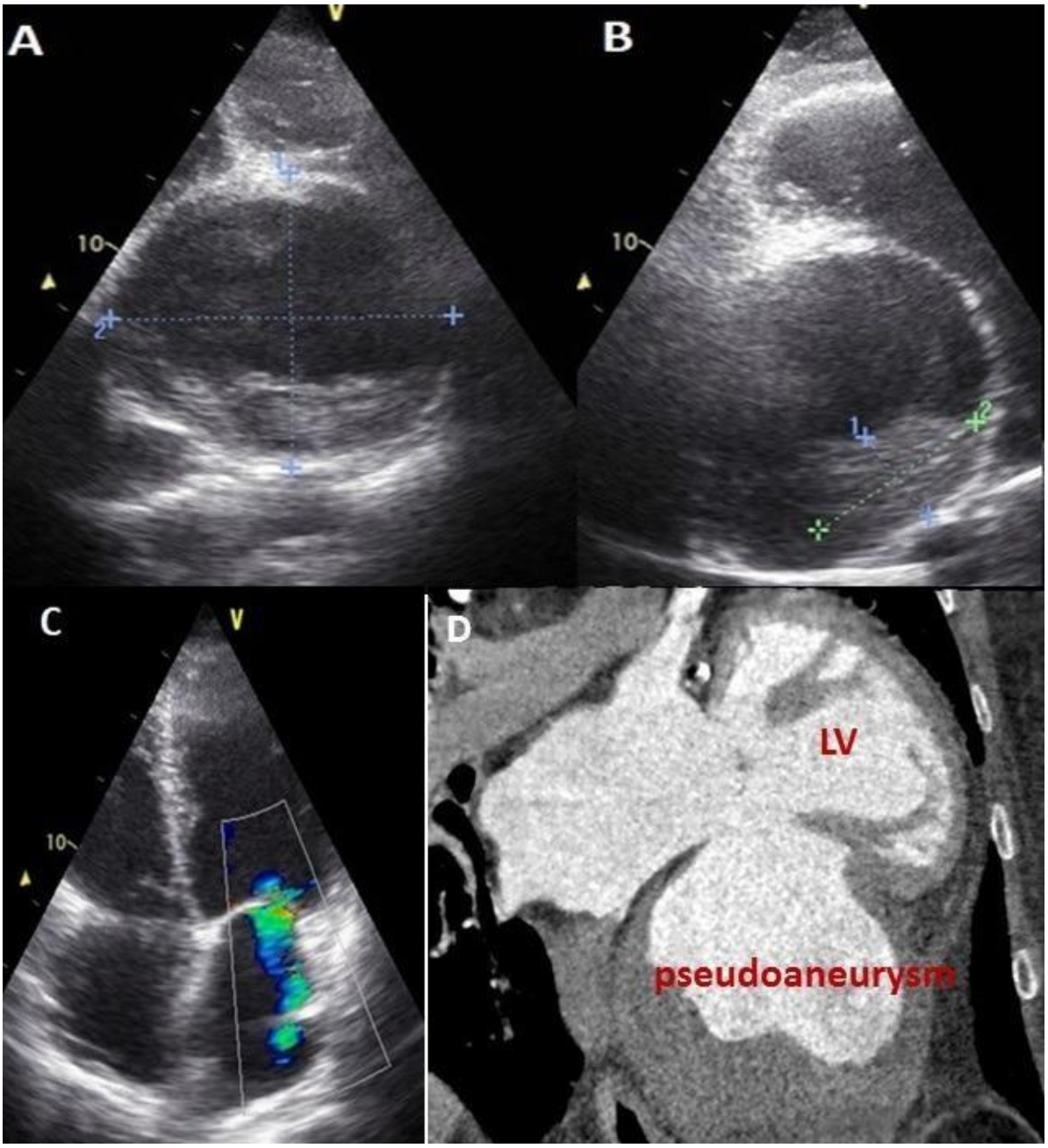
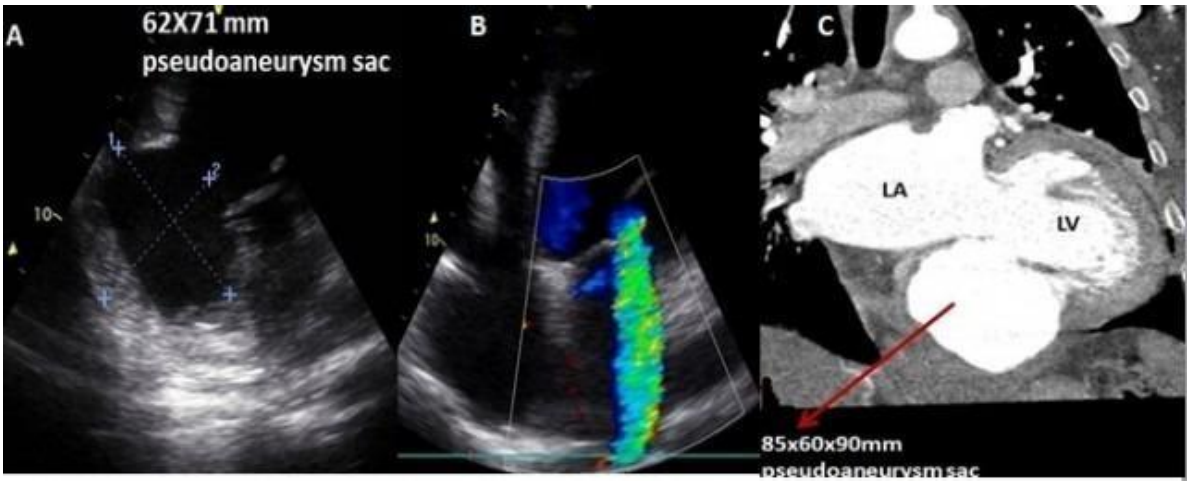


Figure 2: Echocardiographic and Cardiac BT image of pseudoaneurysm of case 2.


A
62X71 mm
pseudoaneurysm sac
B
C
LA
LV
85x60x90mm
pseudoaneurysm sac

ID: **569**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

OUR EXPERIENCES WITH STERNAL CABLE WIRES FOR STERNAL CLOSURE PATIENTS UNDERGOING CARDIAC SURGERY

Ilker Hasan Karal[1], Ümit Halıcı[2]

[1]*Samsun Training and Research Hospital, SAMSUN, Turkey*

[2]*Samsun Training and Research Hospital,, SAMSUN, Turkey*

[*]*Corresponding Author (ilkerkaral@gmail.com)*

Objective: The objective of this retrospective study is to report our experience with the sternal cable system for sternal closure.
Methods: Between January 2018 and December 2019, prospectively collected data from 153 patients (96 males and 57 females with a mean age of 62,88 ± 8,99; range 43 to 83 years) undergoing cardiac surgery via median sternotomy and its closure using a multifilament sternal cable system (Pioneer Surgical Technology, Inc. ,Marquette, Michigan, USA) were retrospectively reviewed. Data were collected from hospital records. Patients were operated due to ischemic heart disease and/or valve disease and/or ascending aorta aneurysms. We classified the patients, according to American National Institutes of Health guidelines with normal body mass index' (BMIs) ranging from 18.5 to 24.9, overweight BMIs from 25 to 29.9, mildly obese BMIs from 30 to 34.9, moderately obese BMIs from 35 to 39.9, and extremely obese BMIs ≥ 40 [1]. Ninety-three patients were mildly obese, forty-nine patients were classified as moderately obese, and eleven patients were classified as extremely obese. Moreover, five patients needed to a revision due to bleeding. In addition, 25, 3 and 8 patients had chronic obstructive pulmonary disease (FEV1 <80%, FEV 1 / FVC <70%), advanced age (≥80 years) and end-stage renal failure, respectively. Every patient had four cables in a figure-eight fashion around the sternum, similarly.

Results: Cable reaction characterized by pain, edema, and redness were observed in three patients needed cables removal. No sternal dehiscence or deep sternal wound infection were observed in any patient. A patient whose sternum was closed with the cables was taken to the revision due to bleeding and his sternum was again closed using the cables at the end of the operation. During this operation, no problem occurred, removing the cables. This patient was discharged on the 7th day. No sternal dehiscence were detected in his follow-up.

Conclusions: Although this method is more expensive than conventional sternal steel wire closing method, we thought that closure with sternal cables are easy, safe and effective method even in high-risk patients for sternal dehiscence after sternotomy.
References

NHLBI Obesity Education Initiative Expert Panel on the Identification, Evaluation, and Treatment of Obesity in Adults (US). Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. Bethesda (MD): National Heart, Lung, and Blood Institute; 1998 Sep.

ID: **572**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

A FALSE ANEURYSM OF INTERNAL MAMMARY ARTERY: A CASE REPORT

Ayhan Müdüroğlu[1], Ahmet Yüksel[2]

[1]*Bursa Yıldırım Doruk Hospital, Bursa, Turkey*

[2]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[*]*Corresponding Author (ayhanmuduroglu@gmail.com)*

BACKGROUND: A false aneurysm of the internal mammary artery is a very rare clinical entity. Early and accurate diagnosis and treatment of false aneurysms of internal mammary artery are critical, as it may result in rupture, severe bleeding, and even death. Currently, endovascular therapeutic approaches such as stenting and coil embolization have been considered the first-line treatment.

METHODS: Case report.

RESULTS: A 47-year-old male patient with false aneurysm of the left internal mammary artery was reported in the paper. He was asymptomatic at the time of admission. In his medical history, following a blunt chest trauma six years ago, the patient was admitted with acute traumatic type 1 dissection and a modified Bentall procedure and diagonal saphenous bypass was performed at our center. The patient received a multi-slice CT angiography scan at his final follow-up visit. Multi-slice CT angiography revealed a false aneurysm formation of the left internal mammary artery measuring a 10-mm diameter along with a 13-mm dilatation of the previous left main coronary artery button. Following selective catheter angiography and visualization of the false aneurysm of left internal mammary artery, two 2.5x18 mm and 3x18 mm Aneugraft® Dx pericardium-covered stent grafts (ITGI Medical, Or Akiva, Israel) were successfully implanted and the false aneurysm was repaired. After the procedure the patient was discharged uneventfully.

CONCLUSIONS: Endovascular treatment methods such as stent implantation should be applied in eligible cases, and it seems that the endovascular stenting is a safe and effective therapeutic option for the treatment of false aneurysms of the internal mammary artery in experienced hands.

Key words: Endovascular, false aneurysm, internal mammary artery, stenting.



ID: **579**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

MYOCARDIAL PROTECTION USING DEL NIDO CARDIOPLEGIA SOLUTION IN ADULT CARDIAC SURGERY WITH PROLONGED CROSS CLAMP TIMES

Utkan Sevuk[1], Seyithan Dursun[2], Elif Sevgi Ar[2]

[1]*Dicle University, Diyarbakir, Turkey*

[2]*Diyarbakir Gazi Yasargil Training and Research Hospital, Diyarbakir, Turkey*

[*]*Corresponding Author (utkansevuk@gmail.com)*

Introduction

Blood cardioplegia (BC) is widely used in adult cardiac surgery. The aim of this study is to determine whether del Nido (DN) cardioplegia provides equivalent myocardial protection as compared to isothermic whole BC in patients with prolonged cross-clamp times.

Methods

The study population comprised 100 adult patients who underwent elective cardiac surgery with DN cardioplegia between January 2014 and December 2019.The control group comprised 100 adult patients who underwent elective cardiac surgery with isothermic whole BC between January 2014 and December 2019. Patients with prolonged cross-clamp times (≥90 minutes) were included in this retrospective study.

Results

The aortic cross clamp times were shorter with DN cardioplegia(104.3 ± 13.7 vs125.5 ± 18.01,$p<0.001$) while there were no significant difference in cardiopulmonary bypass and total operation times and requirement for intraoperative defibrillation. There were no significant differences between the groups in terms of the postoperative peak levels of cardiac biomarkers (troponin T), major postoperative adverse events, and in-hospital mortality.

Conclusion

This study revealed that the use of the DN cardioplegia solution in adult patients undergoing cardiac surgery with prolonged cross-clamp times may be a safe and efficient alternative to the traditional cardioplegia solutions.

ID: **588**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

COMBINED INTRAAORTIC BALON PUMP AND LEVOSIMENDAN IMPROVES POSTOPERATIVE OUTCOMES IN THE PATIENTS WITH LOW EJECTION FRACTION

Erhan Kaya

Pendik State Hospital, Istanbul, Turkey

**Corresponding Author (drerhankaya@yahoo.com)*

Objective: Low ejection fraction (EF) in cardiac surgery increases the risk of postoperative mortality and morbidity. The positive contribution of intra-aortic balloon pump (IABP) and levosimendan to the postoperative period has been reported in these patients. In this study, we report the results of the combined use of levosimendan and IABP in the patients with low EF.

Methods: Patients with low EF (<%35) who were operated in our clinic between 01.01.2016-31.12.2019 were retrospectively analysed. The patients who were treated with levosimendan in the preoperative period were included in the study. Totally 12.5 mg levosimendan was given to the patients. It was started at low dose; the dose was increased depending on the tolerability of the patient and the infusion was completed in 24-48 hours.

Results: In the study period, 31 patients received levosimendan preoperatively. Combination of levosimendan and IABP were administered in 16 of these patients. 20 of the patients had undergone valve surgery and 11 had coronary artery bypass grafting (CABG). In the postoperative 5 patients (3 of CABG patients and 2 of valve surgery) died due to prolonged intensive care unit staying time. IABP was not used in any of these harvests. Remanining patients were discharged on average 14.4 ± 3.5 days after an intensive care stay of 8 ± 1.9 days.

Conclusion: The use of perioperative IABP in addition to preoperative levosimendan treatment in the surgical treatment of patients with low ejection fraction contributes positively to postoperative recovery by reducing postoperative mortality and morbidity.

ID: **586**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

ISOLATED CABG IN PATIENTS WITH MODERATE ISCHEMIC MITRAL REGURGITATION WITH LEFT VENTRICULAR DYSFUNCTION

Seymur Musayev[1], Emin Gurbanov[1], Asiman Hasanov[1], Rashad Mahmudov[2]

[1]*Baku Health Center, Baku, Azerbaijan*

[2]*Custom Hospital, Baku, Azerbaijan*

[*]*Corresponding Author (emin405@hotmail.com)*

BACKGROUND AND AIM:

The necessariness of mitral valve surgery in patients with advanced heart failure remains controversial. In this study we assessed the feasibility of isolated coronary artery bypass grafting (CABG) in patients with moderate ischemic MR with ejection fraction between 35-25%.

METHODS:

Between May 2013 and November 2018, 42 patients (mean age 65.7 +/- 8.4 years) with preoperative left ventricular ejection fractions between 35-25% and concomitant mitral valve regurgitation with grade 2 underwent isolated coronary artery bypass grafting. Both anterograde and retrograde cardioplegia rich with phosholipides was utilized. Perioperative and 1 year clinical and echocardiographic outcomes were evaluated in these patients.

RESULTS: The hospital mortality rate was 7.1% (3 patients). 2 patients required repair of a left ventricular aneurysm. Transient low cardiac output occurred postoperatively in 5 patients (12%) among which IABP was implanted in 2 patients. During the follow up of 1 year there were 2 cardiac deaths and 2 non-cardiac deaths. The 1-year actuarial survival and freedom from grade 2 MR were 83.3% and 65.7%, respectively. 12 patients had grade II mitral valve regurgitation, but none required mitral valve surgery. The New York Heart Association functional class improved significantly in all hospital survivors (from 3.2 +/- 0.7 to 1.9 +/- 0.8; $p > 0.001$), and left ventricular ejection fractions rose from 28.0% +/- 5.8% to 44.6% +/- 9.5%. Heart failure symptoms were improved ($p < 0.01$). Left ventricular reverse remodeling was achieved in 51.5% of patients.

CONCLUSIONS:

Revascularisation of coronary arteries without correcting the ischemic mitral valve can be performed safely in patients with low ejection fraction and moderate MR with acceptable mortality rate. Isolated CABG leads to reverse remodeling of the left ventricle which in turn decreases the tethering of the mitral leaflets and often results in a reduction in regurgitation. Optimal myocardial protection and quick revascularisation techniques may further improve surgical results in these high-risk population.

ID: **293**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

DURATION OF AORTIC CROSS-CLAMP AND CARDIOPULMONARY BYPASS: THE CONTRIBUTING FACTORS TO THE INCREASED IN POSTOPERATIVE INTRA-AORTIC BALLOON PUMP (IABP) APPLICATION AND MORTALITY IN ADULT CARDIAC SURGERY

Maria Felinsianita[1], Fitri Rokim[1], Amin Tjubandi[2], Bagus Herlambang[2], Dudy Hanafy[2], Dicky Aligheri[2], Sugisman Sugisman[2], Tri Soetisna[2]

[1]*Harapan Kita National Heart Center, Jakarta, Indonesia*

[2]*Harapan Kita National Heart Center, Jakarta, United States*

[*]*Corresponding Author (mfelin95@gmail.com)*

Abstract

Background:

The association of ischemia-reperfusion injury with aortic cross-clamp time (XCT) and cardiopulmonary bypass time (CPBT) remains a challenging problem. Moreover, the safety cut-off point duration of XCT and CPBT are still in dispute. This study aimed to determine the impact of prolonged XCT and CPBT on early postoperative outcomes after adult cardiac surgery.

Methods:

A retrospective study was conducted in our facility using clinical data from 2018-2019 including patients underwent coronary artery bypass graft (CABG), valvular surgery and combined surgery. A total of 623 patients (mean age 51.74+12.68 years, 408 (65.5%) male) were divided into two groups, based on aortic cross-clamping time (XCT), <75
minutes and >75 minutes group. The impact of prolonged CPBT (>160 minutes) was also evaluated. The primary endpoint was mortality in 30 days.

Results:

In this study, 374 patients in the XCT <75 minutes group (43.97+13.40) and 249 patients in XCT>75 minutes group (143.07+46.29), p=0.001. Mean CPBT was 85.71+34.16 vs 209.12+41.13 (p=0.001). The longer XCT (2.1% vs 12.0%; p<0.001) and CPBT (2.8% vs 19%, p<0.001) were independently significant associated with 30-days mortality. Notably, there was a higher rate of postoperative intra-aortic balloon pump (IABP) application in XCT >75 minutes group [8(2.13%) vs 16(6.42%), respectively]. The major postoperative complication rates were significantly higher in XCT>75; CPBT<160 group rather than XCT<75; CPBT<160 or XCT<75; CPBT>160 group, including re-operation due to bleeding, cerebrovascular accident, total ICU hours, renal dysfunction, and pneumonia. No significant difference was found among groups regarding postoperative left ventricular ejection fraction (LVEF), atrial fibrillation, sepsis and multiple organ failure (MOF). In this study, we found that contributing factors of prolonged XCT and CPBT were lower LVEF and older age.

Conclusion:

Prolonged XCT and CPBT were the strong independent predictors of mortality, and associated with increased in the use of postoperative IABP application. This study suggests that the duration of XCT<75 minutes and CPBT<160 minutes were associated with lower mortality rates and reduce the incidence of postoperative adverse events.

Keywords: aortic cross-clamp time, cardiopulmonary bypass time, postoperative outcomes, adult cardiac surgery.

Oral Presentation Session

Surgical Treatment Modalities in Congenital Cardiac Abnormalities

Date: 12.03.2020 Time: 17:30 – 18:30 Hall: 6

ID: **48**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

SITUS INVERSUS TOTALIS WITH ANOMALOUS ORIGINATION OF LEFT CORONARY ARTERY FROM THE RIGHT CORONARY SINUS OF VALSALVA

Onur Argan

Balikesir University Medical Faculty, Balikesir, Turkey

**Corresponding Author (onur_argan@yahoo.com)*

Objective

Situs inversus totalis and coronary anomalies are rare diseases. The coexistence of these diseases is less frequent and they make it difficult to visualize coronary arteries.

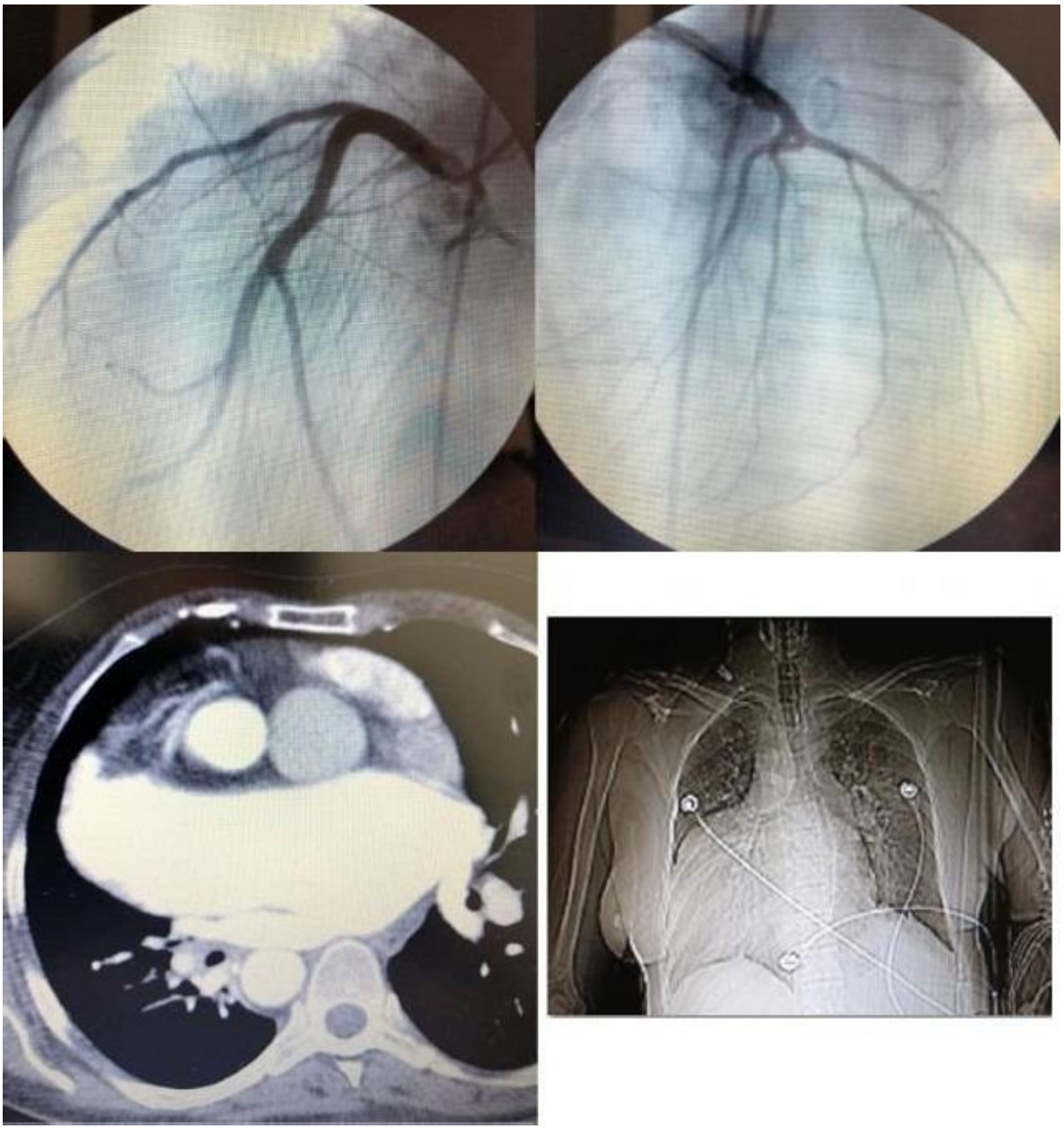
Case report

This is the case of a 59 year old woman with a history of progressive dyspnea and angina. The chest X-ray demonstrated dextrocardia as peace of situs inversus totalis (Figure 2). The echocardiography showed severe mitral regurgitation and low ejection fraction (45%). The coronary angiography displayed anomalous origin of left coronary artery from the right coronary sinus. Both of the left and right coronary artery catheterization was performed using a Judkins Right 4 catheter and determined no obstructive atherosclerotic disease (Figure 1). The angiotomography confirmed an anomalous left coronary artery from the right coronary sinus (Figure 2). Our patient was suggested mitral valve replacement.

Situs inversus totalis' prevalence is 1/10000 births. This syndrome characterized by the abnormal rotation of the cardiac tube during fetal life. It occurs functionally and structurally in a normal heart in 95% of cases. The most common anomalies related to situs inversus totalis are tetralogy of fallot, pulmonary atresia and atrial septal defect. In dextrocardia, locations of the coronary artery ostia relative to the the aortic arch and sinuses are a mirror image of the normal anatomy. Thus, they continue their standard relationships to the coronary ostia. Coronary angiography can be performed with the standard catheters. But rotation of the catheters to the opposite direction is necessary. However, the presence of coronary anomaly in the same patient makes it difficult to visualize the coronary vessels.

Coronary artery anomalies are seen in approximately 1% of the population. Left coronary artery originating from the right coronary sinus is more rare (0.0024% to 0.02%). Manifestations vary from asymptomatic patients to those who present with angina, arrhythmias, syncope and sudden cardiac death. Distinguishing the benign or malignant course of coronary artery anomaly is important in terms of patient surveillance. Surgery may need in patients presenting with ischemia, resuscitated from sudden cardiac arrest or syncope with ventricular arrhythmias.

Few angiographers will see more than one patient with dextrocardia in their catheter laboratory. The presence of dextrocardia with a coronary anomaly is much less frequent. Considering mirror image coronary anatomy and using the catheter rotation of the opposite direction in patients with dextrocardia will facilitate the visualization of the coronary arteries. Using aortagraphy or nonselective injections to the right sinus of valsalva can visualize to determine the correct ostea of the coronary arteries. Also, computed tomography imaging of the coronary arteries is helpful for distinguishing benign and malignant course.



ID: **97**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

OFF PUMP SIDE TRACK IN A DIFFICULT GLENN WITH BILATERAL SVCS.

Aıtızaz Uddın Syed[1], Mansour Bader Al Mutairi[2], Abdul Hameed Al Najjar[2], Abdul Quadeer Qadeer[3], Shadda Zubaidi[2]

[1]*Madinah Cardiac Center, Madinah, Saudi Arabia*

[2]*Madinah Cardiac Center, Madinah Munawarrah, Saudi Arabia*

[3]*Madinah Cardiac Center, Madinah Munawaarh, Saudi Arabia*

[*]*Corresponding Author (aitizaz@hotmail.com)*

A previously healthy 3-year-old child presented with fever and low oxygen saturation. Cardiac Investigations showed a complex univentricular heart with bilateral SVCs, tiny bridging vein and Total anomalous pulmonary venous connection to mid LSVC.

Off pump right Glenn was completed after patch enlargement of the bridging vein. LSVC was ligated above the confluence of anomalous veins which was draining, un interrupted to coronary sinous.

Conclusion:

in complex situations with bilateral SVCs, requiring Glenn shunts, alternative pathways with one sided Glenn can be performed as in our patient.

ID: **170**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

REDO DORV WITH LVOTO AND DOUBLE CHAMBER RIGHT VENTRICLE

Ramal Hasanov[1], Dinara Mammadzada[2], Umid Mahmudov[1], Tural Mammadzada[1]

[1]*Educational Surgical Clinic of Azerbaijan Medical University, Baku, Azerbaijan*

[2]*Central Hospital of Oilworkers, Baku, Azerbaijan*

[*]*Corresponding Author (hesenovramal1989@gmail.com)*

BACKGROUND: The results of surgical treatment of VSD type DORV are excellent with long-term postoperative survival. VSD closure is recommended within first 6 months of life. In this report, we want to discuss VSD type DORV with LVOT obstruction after pulmonary banding.

METHODS: 11 years old 25 kg male patients were admitted to our clinic with exercise intolerance Pulmonary band operation was performed at 6 months of age. During preoperative evaluations (CT angio, cardiac catheterization, echocardiography) was revealed DORV, VSD 10 mm, double chamber right ventricle, mild pulmonary valvular stenosis, severe LVOTO, effective pulmonary band. The patient underwent complete correction (intraventriculary tunnel type repair). During operation VSD was enlarged, because VSD was narrow for tunneling. LVOT was enlarged, Double Chamber Right Ventricle was repaired, pulmonary valve commissurotomy and debanding were performed. X clamp time was 130 minutes.

RESULTS: In postoperative period patient was evaluated by echocardiography. LVOTO or RVOTO weren't observed.

CONCLUSION: Patients after intraventriculary tunnel repair may have postoperative subaortic stenosis, especially in the long term. Therefore, in cases with borderline size of VSD, complete correction should be considered with VSD enlargement.

ID: **600**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

LONG-TERM RESULTS OF RECONSTRUCTIVE SURGERY FOR CONGENITAL AORTIC VALVE DISEASES AND ECHOCARDIOGRAPHIC PREDICTIONS OF REOPERATION

Zufar Abdurakhmanov, Sergey Varbanets, Olga Gurjeva, Illya Yemets

Ukrainian Children's Cardiac Center, Kyiv, Ukraine

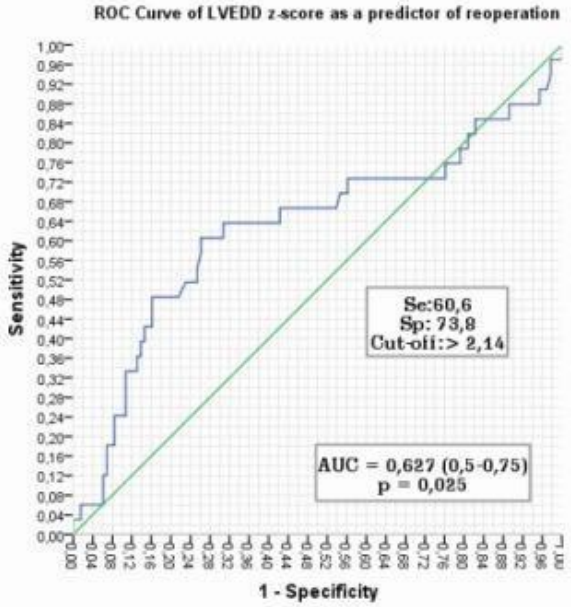
**Corresponding Author (z_abdurakhmanov@yahoo.com)*

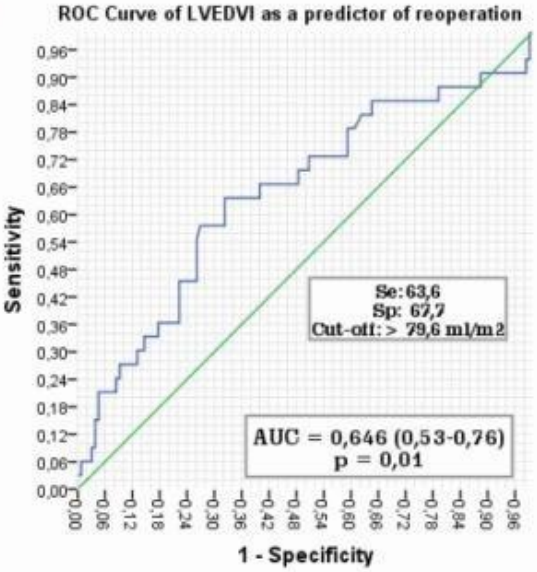
BACKGROUND: To report long-term retrospective results of reconstructive surgery for congenital aortic valve (AV) diseases and define preoperative echocardiographic predictors that could contribute to reoperation.

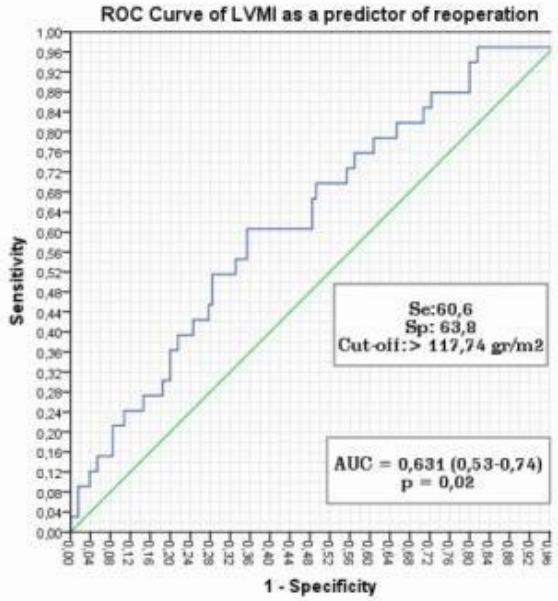
METHODS: A total of 163 patients with biventricular physiology and morphologic left ventricle who underwent several aortic valve repair techniques for congenital diseases from 2004 to 2019 were assessed in a follow-up clinic with echocardiography. Echocardiographic data were gathered and retrospectively reviewed at presurgical visit, and most recent follow-up. Multivariate analysis was performed using Cox regression model to identify independent predictor of reoperation.

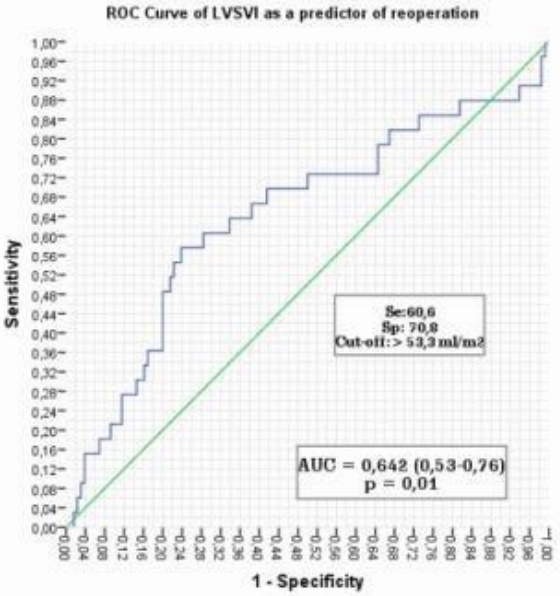
RESULTS: There were 80 patients with aortic stenosis, 38 with aortic regurgitation and 43 with mixed AV diseases. There were 130 female and 33 male patients. At operation, their mean age was 9,58±9,3 years. Preoperative valve phenotype was tricuspid in 33 patients, whereas bicuspid in 130. Of the latter phenotype, the Sievers type 0 was in 6 patients, type 1 in 90, type 2 in 34. Post-repair tricuspid arrangement was conducted in 61 patients (percentage increase, 19,0%). A peak pressure gradient dropped from 60,53±34,38 to 25,8±16,63mmHg, left ventricle end-diastolic diameter (LVEDD) z-score from 1,13±2,3 to 0,93±2,13, left ventricle mass index (LVMI) from 108,16±42,41 to 102,27±45,51 gr/m2 (p=0,000). There was no hospital mortality. 33 patients needed reoperation. By multivariate analysis (p=0,016), LVEDD z-score, (HR= 6,3 (1,4-28,28); p=0,016), left ventricle end-diastolic volume index (HR= 1,84 (1,07-3,14); p=0,026), left ventricle stroke volume index (LVSVI) (HR= 0,57 (0,33-0,96); p=0,035), LVMI (HR= 1,06 (1,0-1,11); p=0,032) were echocardiographic predictors for reoperation with the following cut-off values: LVEDD z-score= 2,14 (AUC=0,63 (95% confidence interval, 0,50-0,75); p=0,025), LVEDI= 79,6 ml/m2 (AUC=0,65 (95% confidence interval, 0,53-0,76); p=0,01), LVSVI= 53,3 ml/m2 (AUC=0,64 (95% confidence interval, 0,53-0,76); p=0,01), LVMI= 117,74 m2, (AUC=0,63 (95% confidence interval, 0,53-0,74); p=0,02). The mean follow-up period was 3,6±1,8 years (95% confidence interval, 3,23-3,93). Actuarial freedom from death, cumulative incidence of reoperation, and that of recurrent moderate or greater aortic regurgitation, stenosis was 99,4 %, 35,5%, and 57,9% respectively, with the longest follow-up of 7years.

CONCLUSIONS: The long-term results of AV reconstruction were satisfactory in patients with congenital AV disease, but in order to preclude from reoperation, reconstructive surgery should be performed before above underscored predictors reach their cut-off values.


ROC Curve of LVEDD z-score as a predictor of reoperation
Sensitivity
1 - Specificity
Se:60,6
Sp: 73,8
Cut-off:> 2,14
AUC = 0,627 (0,5-0,75)
p = 0,025


ROC Curve of LVEDVI as a predictor of reoperation
Sensitivity
1 - Specificity
Se:63,6
Sp: 67,7
Cut-off: > 79,6 ml/m2
AUC = 0,646 (0,53-0,76)
p = 0,01


ROC Curve of LVMI as a predictor of reoperation
Sensitivity
1 - Specificity
Se:60,6
Sp: 63,8
Cut-off:> 117,74 gr/m2
AUC = 0,631 (0,53-0,74)
p = 0,02


ROC Curve of LVSVI as a predictor of reoperation
Sensitivity
1 - Specificity
Se:60,6
Sp: 70,8
Cut-off:> 53,3 ml/m2
AUC = 0,642 (0,53-0,76)
p = 0,01

ID: **598**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

THE MINIMALLY INVASIVE RIGHT INFRA-AXILLARY MINITHORACOTOMY APPROACH FOR ATRIAL SEPTAL DEFECT AND PARTIAL ANOMALOUS PULMONARY VENOUS RETURN (PAPVR)

Mahmut Akyıldız, Ahmet Refik Turgut

Medistate Kavacık Hastanesi, Istanbul, Turkey

**Corresponding Author (dr.m.akyildiz@hotmail.com)*

OBJECTIVES:
We want to present our experience in the minimally invasive, right infra-axillary minithoracotomy approach for atrial septal defect and partial anomalous pulmonary venous return (PAPVR).

METHODS:
Through the right infra-axillary, lateral and vertical minithoracotomy incision (by third intercostal space), 390 patients underwent heart surgery, 29 of these patients underwent ASD closure operation, 12 of them had additional PAPVR from July 2012 to December 2019.

RESULTS:

17 patients had isolated ostium secundum type ASD and 12 patients had sinus venosus type ASD and additional PAPVR. The range of age was 6-45. The length of the incision averaged 8.5 +/- 0.5 cm. There was not operative mortality, the results of follow up for all patients were fine.

CONCLUSIONS:
This minimally invasive right infra-axillary minithoracotomy approach is cosmetic, small wounded, safely, economic and modern approach.

Keywords: infra-axillary, minithoracotomy, ASD, PAPVR

ID: **558**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

THE MODIFIED BLALOCK–TAUSSIG SHUNT VERSUS RIGHT VENTRICLE TO PULMONARY ARTERY SHUNT FOR STAGE ONE NORWOOD PROCEDURE

Mohamed Ismail[1], Osman Alradi[2], Ahmed Jamjoom[3]

[1]*King Faisal Specialist Hospital, Jeddah, Saudi Arabia*

[2]*King Abdulaziz University, Jeddah, Saudi Arabia*

[3]*king faisal Specialist hospital, Jeddah, Saudi Arabia*

[*]*Corresponding Author (mfismail2299@yahoo.com)*

Background: The Norwood operation is the mainstay of initial palliation for Hypoplastic Left Heart Syndrome and other single ventricle lesions with inadequate left side cardiac structures. We sought to present the evolution of the Norwood operation, practice changes, and outcomes over a 15-year period from a single institution. Moreover, we intended to identify time-trends in patient selection and outcomes as well as predictors of success or failure over follow-up time.

Methods: All patients between March 2003 and March 2018 who underwent the Norwood operation with the use of a Blalock Taussig shunt (BT group), Right Ventricle to Pulmonary Artery shunt (Sano group), or a primary Cavo-pulmonary shunt (CPS group), were included in the analysis. CPS was only used as a primary shunt type in patient who presented late (40 to 220 days of age) and had evidence of very low pulmonary vascular resistance despite unlimited pulmonary blood flow. Operative mortality was analysed with multivariable logistic regression. Long-term survival was studied by Cox proportional hazard survival analysis as well as a multistate semi-Markov model of eleven state transitions. Independent predictors of operative mortality, long-term survival and transition to CPS, Fontan, and death were examined.

Results: One hundred and forty-five patients were included. The median age at the Norwood operation was 29 days (range: 2 – 344). The type of shunt in the initial Norwood operation was BT in 72, Sano in 66, and CPS in 7 patients. Five surgeons performed the operations with varied practice lengths. The number of Norwood operations performed annually and the corresponding operative mortality changed over time from 4 cases in 2004 with 50% mortality to 15 cases in 2017 with 7% mortality. Over the study period, operative mortality was 32% (23/72) in the BT group, 27% (15/66) in the Sano group and 0% (0/7) in the CPS group. Independent predictors of operative mortality were lower weight, and longer bypass time, p-values 0.026 and 0.014 respectively. Independent predictors of improved long-term survival were higher weight at operation, later time era (2013-2018 vs. 2004-2012) and shorter bypass time, with P-values of 0.0016, 0.006, and 0.001, respectively. The multistate model revealed that lower weight patients were more likely to undergo Sano vs. BT (p-value <0.001), and if BT was chosen, they were more likely to die (p-value=0.027). Moreover, the likelihood of receiving a Sano shunt was three-fold higher in the recent time era versus the older time era (p-value=0.003), and the hazard of death after a Norwood with Sano shunt, and that of CPS improved in the recent time era, Hazard Ratio = 0.29 and 0.24, p-value 0.01 and 0.05 respectively. The risk of death from a Norwood BT was also lower in the recent time era, HR=0.5, however this did not reach statistical significance, p-value=0.15.

Conclusions: Improved outcomes of the Norwood operation is evident in the more recent time era and with more frequent utilization of the Sano shunt especially in smaller weight patients. Late diagnosis or older age should not be considered a contraindication to the Norwood operation. Utilization of the CPS as a component of the initial Norwood operation is feasible and may be safe in carefully selected patients with low pulmonary vascular resistance. The current outcomes of the Norwood operation warrant offering the treatment to most patients with hypoplastic left heart syndrome and similar lesions even with delayed diagnosis.

ID: **551**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

EARLY DIAPHRAGMATIC PLICATION FOR ACQUIRED PHRENIC NERVE INJURY DURING CONGENITAL CARDIAC SURGERIES

Mohamed Ismail[1], Osman Alradi[2], Ahmed Jamjoom[3]

[1]*King Faisal Specialist Hospital, Jeddah, Saudi Arabia*

[2]*King Abdulaziz University, Jeddah, Saudi Arabia*

[3]*king faisal Specialist hospital, Jeddah, Saudi Arabia*

[*]*Corresponding Author (mfismail2299@yahoo.com)*

Diaphragm plication has been used since 1954 for the treatment of hemidiaphragm paresis. It is now the standard treatment of diaphragm paresis for children aged less than 1 year, yet the long-term outcome is unclear.
Methods and materials: We performed a retrospective review including all patients post cardiac surgery for whom diaphragm plication was done from 1 June 2010 to 1 June 2017.
Results: Sixty-four patients (36 males and 28 females) with a median age of 2.75 months (range 0.5- 36). BTS was the most common procedure associated with DP. Left sided DP need placation was reported in 11 patients (68.7%) and right sided was 5 patients (31.3%).

Conclusion: Diaphragmatic plication is an effective procedure in management of postoperative diaphragmatic paralysis. We recommended early intervention for plication once diagnosis was confirmed.

ID: **370**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

DIFFERENT APPROACH FOR UNIFOCALIZATION; AORTIC SEGMENT RESECTION

Sercan Tak, Ali Kutsal

Dr. Sami Ulus Kadın Doğum Çocuk Sağlığı ve Hastalıkları EAH, Ankara, Turkey

**Corresponding Author (sercantak@gmail.com)*

Pulmonary atresia (PA) with ventricular septal defect (VSD) is a rare and serious congenital heart defect characterized by undevelopment of right ventricle outflow tract with atresia of pulmonary valve, a large VSD and pulmonary collateral vessels. There is an anatomically wide spectrum of this disorder according to the presence or size of main, right or left pulmonary arteries. In the absence of patent ductus arterious (PDA), pulmonary blood circulation is provided by major aorticopulmonary collateral arteries (MAPCAs). Different unifocalisation techniques can be performed in this condition.

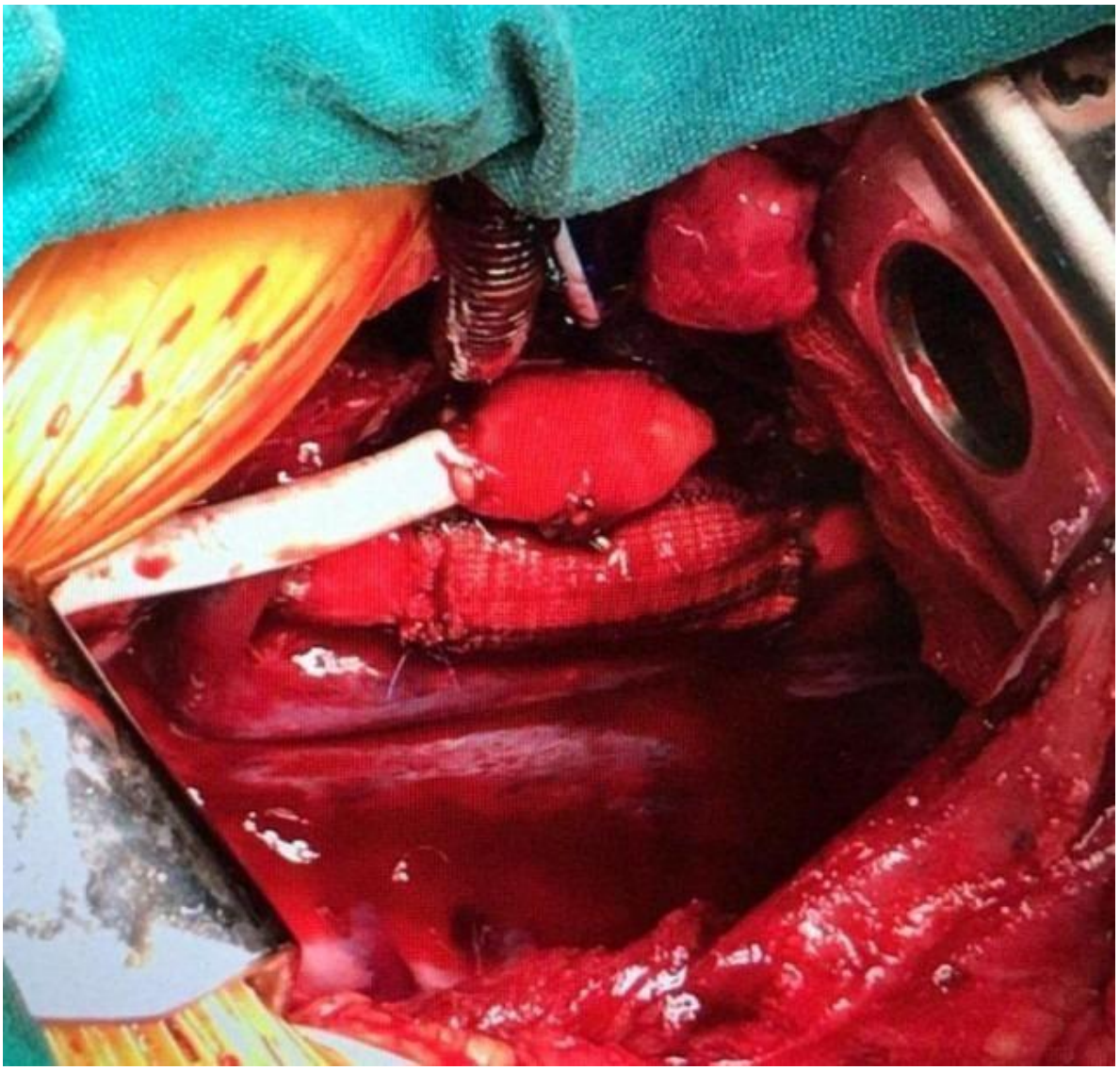
Case Report:

A 11-months-old girl with VSD-PA was referred to our hospital. Cyanosis and murmur was detected in the physical examination. A large VSD, absence of pulmonary arteries and PDA, MAPCAs from descending aorta that provides pulmonary blood supply were observed in the echocardiographic and angiographic analysis. Unifocalization procedure was performed to the patient with the diagnosis of type 4 VSD-PA.

In the operation, 2 large MAPCAs were seen medial and proximal to the descending aorta. The proximal and distal sides of this aortic segment which originates these MAPCAs were clamped during cardiopulmonary bypass and this segment was resected. A dacron graft size of 12 mm was interposed in the aorta. The distal side of the aortic segment was sutured continuously and the proximal side was narrowed for a suitable anastomosis. Then a 5 mm graft was placed between this narrowed proximal segment and subclavian artery for pulmonary circulation. The patient was removed the operation with ECMO device and the weaning from ECMO was succeeded postoperatively seventh day.

Discussion:

Unifocalization is often a very challenging and high-risk procedure. En-bloc resection of aortic segment originates MAPCAs and establishing a connection with this segment and subclavian artery by a shunt graft can be performed in these patients successfully.



ID: **267**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Oral**

A SUCCESSFUL REOPERATION OF PVR AND ASCENDING AORT TUBULAR GRAFT INSERTION 26 YEARS AFTER A SIMULTANEOUS TOTAL CORRECTION FOR TOF AND RAVITCH OPERATION

Şahin Karakılıç

Dokuz Eylül Üniversite Hastanesi, Izmir, Turkey

**Corresponding Author (sahinkarakilic@gmail.com)*

A patient who has been operated for fallot tetralogy and pectus excavatium, operated for pulmonary valve replacement for long time results

Abstract

Fallot tetralogy is the most common siyanotic congenital heart disease. Fallot tetralogy with pectus excavatium is also rare situation. Pulmonary valve regurgitation is common result after totally correction operation for fallot tetralogy. Our presentation is about a patient who has been operated with totally correction fallot tetralogy and ravicth operation for pectus excavatium, after 15 years results that aneurisms of aorta and right ventricular outflow tract.

Case

37 years old male patient, when he was 11 years old, got a diagnosis of pink fallot. He also has pectus excavatium. When he is 15 years old, he has got dyspnea, cough, tachycardia. Ecocardiography results fallot tetralogy with 2 degree pulmonary stenosis. He operated with totally correction fallot operation and ravicth operation. At least 5 years, he went to chest physician for dyspnea. There was no problem with pulmonary examination. Then he got the control echocardiography. It's results right ventricular outflow tract aneurysm, asendan aorta aneurysm, pulmonary valve regurgitation, 1 degree aortic valve regurgitation, 2 degree tricuspid valve regurgitation. The patient was talked at pediatric-cardiovascular weekly meeting and it was decided to operation.

Conclusion

The patients, totally correction for fallot tetralogy, get a high possibility to reoperate for secondary pulmonary valve regurgitation. That patient's operation time is very important to survey. Experienced hospitals operate this patient with low risk of mortality and morbidity. Even so, we need long time results.

ID: **329**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

A RARE TUMOR OF THE HEART: INFLAMMATORY MYOFIBROBLASTIC TUMOR

Reha Topak[1], Şebnem Paytoncu[2], Şahin Karakılıç[1], Tuğra Gençpınar[1], Öztekin Oto[1]

[1]*Dokuz Eylul University, İzmir, Turkey*

[2]*Manisa Şehir Hastanesi, Manisa, Turkey*

[*]*Corresponding Author (reha.topak@deu.edu.tr)*

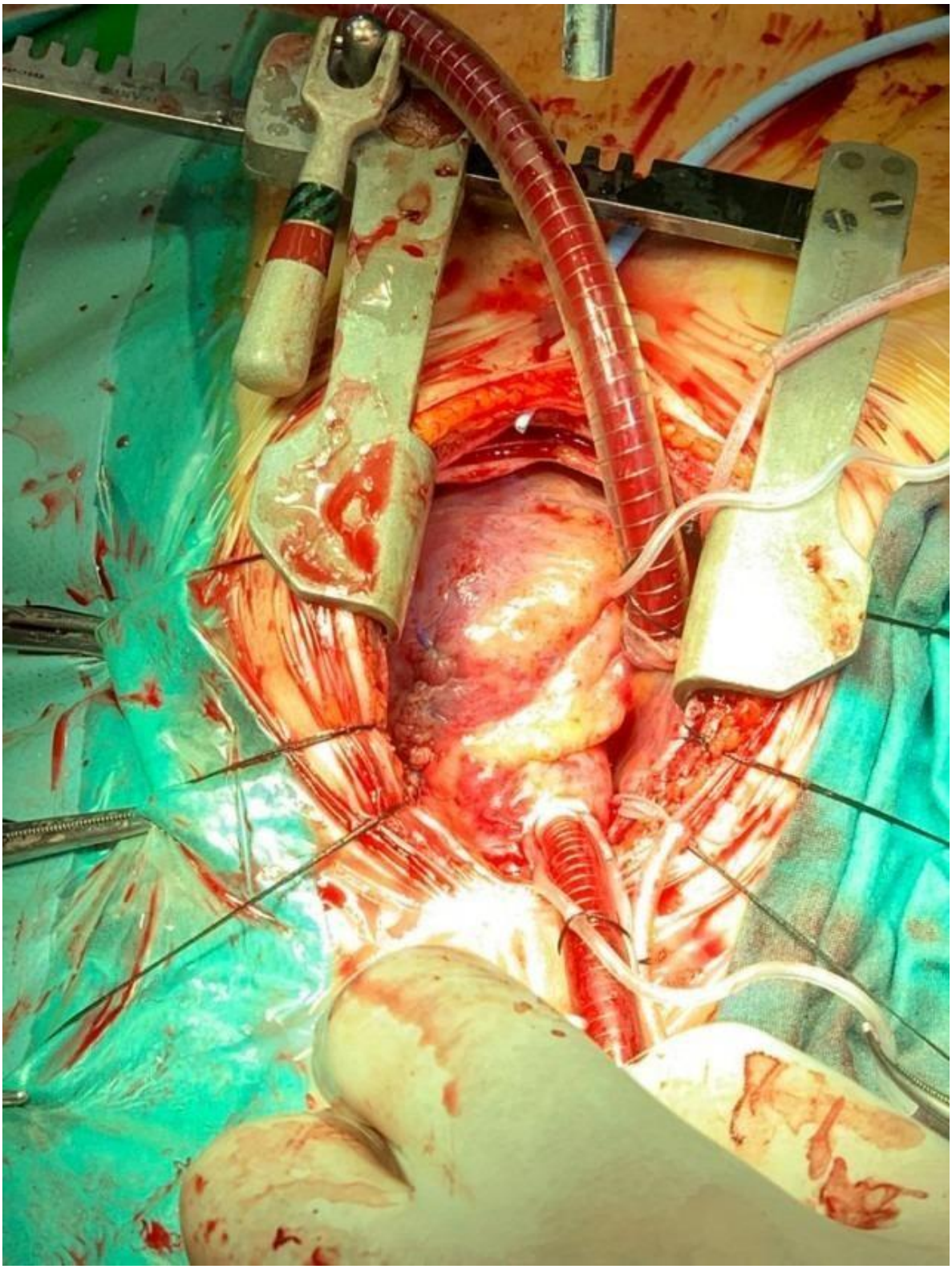
Inflammatory myofibroblastic tumor (IMT) of the heart are rare lesions occurring in young patients. They present histologically, presenting spindle cell proliferation with a distinctive fibroinflammatory and even pseudosarcomatous appearance. IMT has been described by various terms because of its variable cellular components, which include plasma cell granulomas, inflammatory pseudotumor, xantogranuloma, and fibrous histiocytoma.

The case was 5 year old child with symptoms of dyspnea and syncope episodes. Physical examination revealed no additional features other than systolic murmur. Echocardiographic examination revealed a mass of approximately 2x1.5 cm in size, causing obstruction in the right ventricular outflow tract. The mass was observed to move with the heart cycle. Excision of the RVOT mass was planned with a minimally invasive approach.

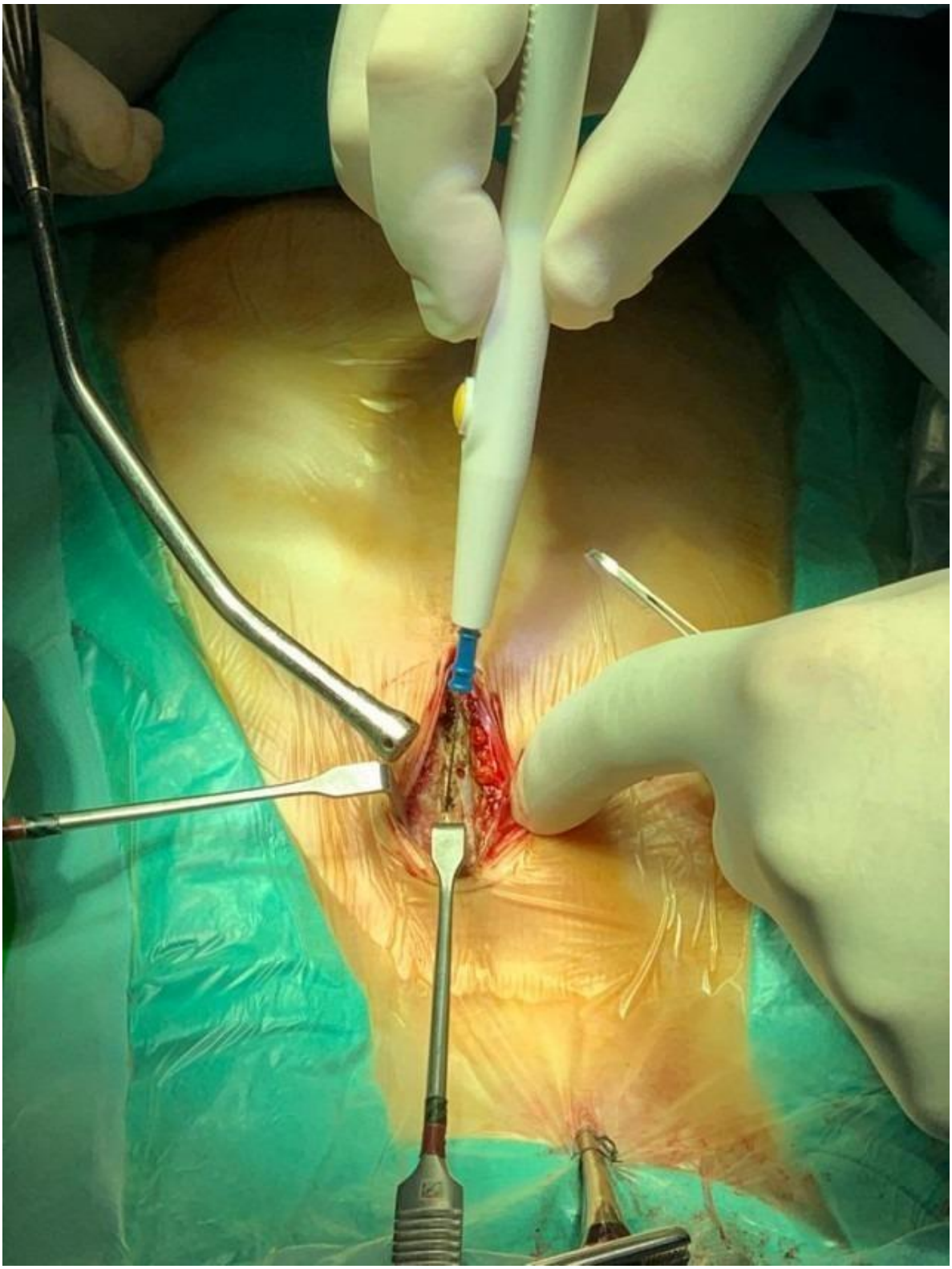
Under general anesthesia, juguer vein cannulation was performed percutaneously and limited superior median sternotomy was performed. Arterial cannulation was performed centrally and inferior venous cannulation was placed via right atrium. Due to the patient was suddenly hypotensive and desaturated, cardiopulmonary bypass (CPB) was initiated and pulmonary arteriotomy was performed including RVOT. The mass that created almost total obstruction in the RVOT was visualized and excised. Pulmonary arteriotomy and right ventriculotomy were

closed primarily. CPB support was gradually terminated and the operation was terminated without complications. The pathological evaluation of the specimens taken during the operation was consistent with the inflammatory myofibroblastic tumor. The patient was followed up in the intensive care unit overnight and discharged on the 6th postoperative day. The patient did not have residual mass and RVOT obstruction in the first and sixth month control echocardiographic evaluations.

Although inflammatory myofibroblastic tumors can be seen in almost all parts of the body, they are rare masses in the heart. Surgical treatment is useful in such masses that cause obstruction.




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Oral Presentation Session

Cardiovascular Prevention: An International Perspective

Date: 13.03.2020 Time: 08:00 - 09:15 Hall: 5

ID: **241**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

EPICARDIAL FAT THICKNESS IS ASSOCIATED WITH ABDOMINAL AORTIC INTIMA MEDIA THICKNESS

Selim Kul

University of Health Sciences, Trabzon Ahi Evren Cardiovascular and Thoracic Surgery Research and Application Center, Trabzon, Turkey

**Corresponding Author (selimkul@gmail.com)*

Introduction: Epicardial fat thickness (EFT), as any visceral adipose tissue elsewhere in the body, is regarded as a risk factor for coronary artery disease. Intima-media thickness (IMT) reflects subclinical atherosclerosis and is associated with well-known risk factors for cardiovascular disease. In this study, we aimed to investigate the relationship between EFT and abdominal aortic IMT.

Method: We included 129 patients in this study. The patients were divided into two groups according to the median abdominal aortic IMT values (IMT normal group<1 mm and increased IMT group≥1 mm). EFT was obtained using transthoracic echocardiography on the right ventricular free wall during systole and diastole. Abdominal aortic IMT was evaluated by using transabdominal ultrasonography.

Results: EFT was higher increased aIMT group than normal aIMT group (increased aIMT group; 5.58 ± 1.64 mm vs normal aIMT group; 4.27 ± 1.67, p<0.001). Age (increased aIMT group; 54.7 ± 10.7 vs normal aIMT group; 46.8 ± 10.0, p<0.001), diabetes mellitus (increased aIMT group; 27 vs normal aIMT group; 13, p =0.032) and body mass index (increased aIMT group; 33.00 ± 5.97 vs normal aIMT group; 31.34 ± 4.80, p=0.009) were higher increased aIMT group than normal aIMT group (Table 1). Multivariate regression analysis revealed EFT [95% confidence interval (CI) 1.092 – 1.885, p=0.009], and age (95% CI: 1.034 – 1.125, p<0.001) as independent determinants of increased aIMT (Figure 1).

Conclusion: Epicardial fat thickness is associated with abdominal aortic IMT. Increased EFT may be a sign for subclinical atherosclerosis.

Key Words: Epicardial fat thickness, abdominal aortic intima media thickness, atherosclerosis.

Table 1: Clinical, demographic and biochemical characteristics of normal and increased aIMT groups.

Variables	Normal aIMT n: 60	Increased aIMT n:69	p
Age, year	46.8 ± 10.0	54.7 ± 10.7	<0.001
Gender, female,n	38	22	0.905
Diabetes mellitus, n	13	27	0.032
Hypertenson, n	23	38	0.058
Family history of CAD, n	1	4	0.219

Current Smoking, n	11	19	0.217
Dyslipidemia, n	26	28	0.752
BMI (kg/m2)	31.34 ± 4.80	33.00 ± 5.97	0.009
EFT (mm)	4.27 ± 1.67	5.58 ± 1.64	<0.001
Serum glucose (mg/dL)	107.35 ± 17.92 107 (83- 180)	130.12 ± 54.98 130 (80 – 330)	0.143
Serum urea (mg/dL)	28.49 ± 10.25	30.84 ± 10.95	0.301
Serum creatinine (mg/dl)	0.78 ± 0.18 0.78 (0.50-1.24)	0.70 ± 0.18 0.79 (0.50-1.20)	0.714
LDL-c (mg/dl)	154.54 ± 39.04	148.80 ± 36.31	0.480
Triglyceride (mg/dl)	164.38 ± 74.85	181.76 ± 95.52	0.360
WBC (x109/L)	7.08 ± 1.53	7.05 ± 1.76	0.908
Hemoglobin (g/dL)	13.61 ± 1.78	13.67 ± 1.71	0.874
Platelet (x109/L)	262. 95 ± 53.59	240.56 ± 54.53	0.051
MPV (fl)	8.42 ± 0.70	8.62 ± 0.83	0.215

Figure 1: Multivariate regression analysis for increased aIMT.

Variables	Odds ratios (% 95 CI)	p
Age	1.079 (1.034 – 1.125)	< 0.001
EFT	1.435 (1.092 – 1.885)	0.009
BMI	1.052 (0.974 – 1.137)	0.200
DM	1.788 (0.708 – 4.515)	0.219

Abbreviations: aIMT, aortic intima media thickness; CAD, coronary artery disease; BMI, body mass index; LDL-c, low density lipoprotein cholesterol; MPV, mean platelet volume; WBC, white blood cell; EFT, epicardial fat thickness; DM, diabetes mellitus

ID: **202**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

IMPACT OF CIGARETTE SMOKING ON PULMONARY ARTERY STIFFNESS IN YOUNG MEN

Betül Banu Karasu

Etimesgut Şehit Sait Ertürk Devlet Hastanesi, Ankara, Turkey

**Corresponding Author (benginoglu@yahoo.com)*

OBJECTIVE: Cigarette smoking alters many systemic functions resulting in cardiovascular, pulmonary or metabolic diseases. Pulmonary vascular remodeling is one of the complications of smoking induced chronic lung diseases and it has even been reported that pulmonary endothelial dysfunction may occur in otherwise healthy young smokers. Pulmonary arterial stiffness is a relatively new and noninvasive echocardiographic parameter reflecting the state of pulmonary vascular bed and right ventricular function. It may act as an early indicator of pulmonary vascular remodeling or subclinical right ventricular dysfunction. Herein, we aimed to investigate whether active smoking has any effect on pulmonary arterial stiffness in healthy young men.

METHODS: 45 healthy men who were active and current smokers between the ages of 18 and 40 years were involved as the case group and 45 healthy men who were nonsmokers were selected as the control group. Controls were matched to cases on age, sex and body mass index. Exclusion criteria included the presence of pulmonary hypertension, any systemic, pulmonary or cardiovascular disease, previous cardiothoracic operation and chronic drug use. All participants underwent standard echocardiographic examination. Pulmonary arterial stiffness was assessed using the pulsed wave Doppler trace placed 1 cm distal to the pulmonary valve on parasternal short axis view and was calculated by the division of maximal frequency shift of pulmonary systolic flow to pulmonary acceleration time.

RESULTS: Mean age was 31,29 ± 4,63 in the case group and 30,80 ± 3,78 in the control group (p=0.585). Demographic, clinical and laboratory characteristics of both groups were similar (p>0.05). There were no significant differences in means of left or right atrial and ventricular dimensions, left ventricular systolic and diastolic functions, mean pulmonary artery pressures, inferior vena cava widths and tricuspid annular plane systolic excursion values between two groups (p>0.05). Pulmonary arterial stiffness and right ventricular myocardial performance index were found to be significantly higher in the case group than the control group (23.82±3.06 vs.21.18±2.76, p<0.001 and 0.33±0.03 vs 0.31±0.02, p<0.05 respectively). Pulmonary arterial stiffness was positively correlated with right ventricular myocardial performance index (p<0.001). In linear regression analysis, pulmonary arterial stiffness was independently associated with right ventricular myocardial performance index. (β=0.605, p<0.001)

CONCLUSIONS: Pulmonary arterial stiffness and right ventricular myocardial performance index worsened in young men who are active smokers. Without development of overt pulmonary hypertension, cigarette smoking may impair the elastic properties of pulmonary artery resulting in subclinical right ventricular dysfunction in healthy young men.

ID: **363**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

RELATION BETWEEN THE TRIGLYCERIDE LEVELS AND THE SEVERITY OF CORONARY ARTERY DISEASE

Veli Polat

Bakirkoy Dr. Sadi Konuk Training and Research Hospital, Istanbul, Turkey

**Corresponding Author (dr.velipolat@gmail.com)*

OBJECTIVE: Hypertriglyceridemia is one of the well-known risk factors for coronary artery disease. We aimed to investigate the relationship between the fasting triglyceride levels and the severity of coronary artery disease, which was objectively determined by the SYNTHAX Score.

METHODS: We retrospectively included 180 patients with coronary artery disease who underwent coronary angiogram. Coronary angiogram images were evaluated by two experienced invasive cardiologists to calculate the SYNTHAX score. Fasting venous blood samples were obtained from all study patients to analyze for triglyceride, total cholesterol and HDL cholesterol.

RESULTS: There was a weak but statistically significant direct relationship between the plasma triglyceride levels and the SYNTHAX Score in patients with coronary artery disease ($r = 0.33$, $p < 0.05$). On the other hand, there was a very strong significant positive correlation between the plasma levels of total cholesterol and the SYNTHAX score ($r = 0.96$, $p < 0.05$). Moreover, we observed a strong and statistically significant inverse relationship between the SYNTHAX score and plasma HDL cholesterol levels ($r = - 0.70$, $p < 0.05$).

CONCLUSIONS: As expected in our study, we found a strong positive correlation between the Syntax Score and total cholesterol and a strong negative correlation with HDL cholesterol. However, although high triglyceride levels are a known risk factor for coronary artery disease, we found a weak correlation between triglyceride plasma levels and severity and extent of coronary artery disease assessed by the SYNTHAX Score in our study.

ID: **72**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Oral**

COMPARISON BETWEEN THE CARDIOVASCULAR RISK ASSESSMENT TOOLS AMONG SAUDI PATIENTS

Manar Hasabullah [1], **Fatamah Kahtani[2]**, Tasneem Balkhoyor[2], Lama Al-harbi[2], Abdulhalim Kinsara[2]

[1]Ministry of National Guard health Affair, King Saud Bin Abdulaziz Univers, Jeddah, Saudi Arabia

[2]Ministry of National Guard health Affair, King Saud Bin Abdulaziz University for health sciences.King Abdullah intern RC, Jeddah, Saudi Arabia

[*]Corresponding Author (manaradel_1@hotmail.com)

BACKGROUND: Many cardiovascular risk calculators are available online to measure the probability of developing cardiovascular disease (CVD) without defining which calculator is appropriate for a particular population. In the current study, four risk assessment tools were investigated with Saudi Arabian patients with CVD to identify the tool with the best predictability. The chosen tools were the Framingham Risk Score, Systematic Coronary Risk Evaluation (SCORE), American College of Cardiology/American Heart Association (ACC/AHA) Atherosclerotic Cardiovascular Disease Risk Estimator, and QRISK.

METHODS: Saudi patients, older than 40 years, with acute coronary syndrome were recruited. Data related to age, gender, ethnicity, height, weight, systolic blood pressure, total cholesterol, HDL, smoking status, diabetes mellitus, rheumatoid arthritis, chronic kidney disease, atrial fibrillation, heart attack in a first degree relative, and use of anti-hypertensive treatment were recorded.

RESULTS: Of 129 patients, the ACC/AHA had a higher predictability with low risk (26.3%) and high risk (66.7%) groups. The QRISK was highly applicable (95.3%) while the SCORE was not considered applicable (22.5%).

CONCLUSION: The QRISK is easy to implement and applicable in a population-based study but the ACC/AHA is superior in predicting individuals with a high risk of CVD.

ID: **289**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND BODY MASS INDEX IN ADOLESCENTS AND YOUNG ADULTS IN GERMANY: RESULTS OF THE BEMIND STUDY

Lars Pieper, John Venz, Katja Beesdo-baum

TU Dresden, Dresden, Germany

**Corresponding Author (lars.pieper@tu-dresden.de)*

Background
Lower physical activity (PA) and higher body mass index (BMI) are well established modifiable cardiovascular risk factors. This contribution aims to describe the cross-sectional association of both lifestyle risk factors in a community sample of adolescents and young adults in Germany with objectively measured data.

Methods
Baseline data of 1072 participants (age 14-21 years) from an epidemiologic cohort study ("BeMIND" - Behavior and Mind Health Study) in Dresden, Germany is used. The study aims to examine mental health and illness conditions as well as psychological, developmental, cognitive-affective and biological risk factors. Objective measures of PA were derived from a heart rate monitor (Firstbeat Bodyguard 2) attached to the skin with two chest electrodes and worn during a four day ecological momentary assessment period. Duration of moderate to vigorous PA was calculated in minutes (MVPA minutes) in participants with at least 16 hours of measurement per day. MVPA minutes were defined with > 3 MET as cut-off. Bodyweight and height were measured in a standardized way in the laboratory. Statistical analyses were performed with Stata 15.0. Preprocessing of the HRV data was performed with Firstbeat analysis software. Regression analyses were used to reveal associations.

Results
Mean BMI was 22.1 kg/m² (sd: 3.6 kg/m²) and increased with age (0.4 kg/m² per year, CI95%: 0.3, 0.5). Mean MVPA minutes per day were 150.9 minutes (sd: 91.6) and decreased with age (-10.2 minutes per day (CI95%: -12.5, -7.9) from 196 min/day (in 14 year olds) to 122 min/day (in 21 year olds)) and BMI categories (203 min/day (underweight) to 30 min/day (obese class III)). MVPA minutes per day and BMI categories were negatively associated (-39.3, CI95%: -48.7, -29.9; adjusted for age and sex). Decrease of MVPA minutes per day by higher BMI categories was slightly stronger in females (-41.2 minutes/day) compared to males (-36.6 minutes/day).

Conclusions
The inverse associations between objectively measured PA and BMI observed in this general population sample of adolescents and young adults stresses the importance of interventions to support exercise and physical activity to optimize weight and thus contribute to the prevention of cardiovascular disease.

ID: **553**

Topic: **Cardiology » Treatment of Hyperlipidemia**

Presentation Type: **Oral**

DO HIGH DOSES OF PROTEIN SUPPLEMENTS AFFECT SERUM LIPID PROFILES?

Umit Yuksek, Levent Cerit, Oguz Han Edebal, Hatice Kemal, Tugçe Kıvılcım Bengisu Eken, Hamza Duygu

Near East University, Nicosia, Turkish Republic of Northern Cyprus

**Corresponding Author (uyuksek@yahoo.com)*

Background: Protein supplements (PS) are widely used among athletes going to gym. But there is no consensus on their effects on blood biochemical, hematological, inflammatory parameters and lipid profile. This study aims to put more information to the literature about this issue.

Methods: Sixty-nine subjects going to the gym for at least three months without any kind of acute or chronic illness were included in the study. Their height, weight, waist circumference and body mass indexes were recorded. Daily energy intake and its distribution for fat, carbohydrate and protein were assessed by a dietician in 65 subjects. The subjects were divided into two groups: the first group consisted of subjects who used PS for at least three preceding months, the second group included subjects who never used PS. The subjects in the first group were using whey protein as PS. Blood test results were compared between the two groups.

Results: The mean age of the subjects included in the study was 31.4±7.3 years. Among 69 subjects, 30(43%) were using PS, so were included in group 1, and 39 (57%) never used PS, therefore they consisted group 2. Most of the clinical characteristics were similar between the two groups, but subjects in group 1 had higher protein consumption per weight. The blood biochemical, hematological, inflammatory, glucose metabolism markers and lipid profiles were not different between the two groups. Serum creatinine and sodium values were associated with daily PS dosage. The subjects who used > 55 g PS/day had significantly higher serum creatinine values than subjects who never used PS (1.16 ± 0.19 mg/dl vs. 0.98 ± 0.14 mg/dl, p=0.046). Similarly, the subjects who used ≥ 30 g PS/day had significantly higher serum sodium levels than subjects who never used PS (139.35 ± 1.65 mmol/l vs. 138.08 ± 2.86, mmol/l p=0.027). Moreover, the subjects using PS for more than 10 months had significantly higher serum sodium levels when compared with subjects who did not use PS (139.29 ±1.59 mEq/l vs. 138.08±2.86 mEq/l, p=0.04).

Conclusions: Blood hematological, inflammatory, glucose metabolism markers and lipid profiles are not different in subjects using PS and in subjects who never used PS. Higher doses of PS usage is associated with higher serum creatinine and sodium levels. Longer duration of PS usage is also associated with higher serum sodium levels.

ID: **545**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

THE IMPACT OF ISCHEMIC HEART DISEASE TO WORSE OUTCOME IN ISCHEMIC STROKE PATIENTS

Niyata Hananta Karunawan

Duta Wacana Christian University, Yogyakarta, Indonesia

**Corresponding Author (niyatahananta@yahoo.co.id)*

Background: Ischemic Heart Disease (IHD) and ischemic stroke (IS) are the leading cause of morbidity and mortality worldwide. IS and IHD have similar pathophysiological mechanisms and risk factors. IHD patients are associated with increased morbidity and mortality, but the studies describing outcomes of IHD in IS patients are lack. This study aims to compare the clinical outcome of IS patients with IHD and IHD.

Methods: This retrospective cohort study of 200 patients was first incident acute IS recorded in the Bethesda Hospital Yogyakarta Stroke Registry (2012-2017). These patients were divided into IS patients with IHD and without IHD. The primary outcomes of the study were in-hospital mortality, disability measured by the modified Rankin Scale (mRS), and length of stay. The data were analyzed bivariate followed by the Chi-square test and Mann-Whitney.

Results: Data of 200 patients with 100 IS patients with IHD consist of fifty-eight males (58.0%) and eighty-six (86.0%) were more than 50 years old. The mortality of IS patients with IHD group is eighteen patients (18.0%), sixty patients (60%) have a poor functional outcome (mRS >2) and have a length of stay 7.50 (0-40) days. Bivariate analysis showed IS patients with IHD group is significantly associated with higher in-hospital mortality (RR:2.9, 95%CI:1.1–7.3, p<0.019), worse disability (RR:2.6, 95%CI:1.3 –5.1, p<0.005) and prolonged hospital stay (7.50 (0-40) vs 4 (0-14), p<0.001) than in IS patients without IHD group

Conclusion: IS patients with IHD are statistically significantly associated with higher in-hospital mortality, worse disability, prolonged hospitalization than in IS patients without IHD.

Oral Presentation Session

Precision Cardiovascular Medicine

Date: 13.03.2020 Time: 09:15 - 10:15 Hall: 5

ID: **269**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

MEAN WARFARIN DAILY DOSE REQUIREMENT IS HIGHLY ASSOCIATED WITH CYP2C9 VARIATIONS

Aysun Erdem Yaman[1], Deniz Kıraç[2]

[1]*Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Department of Cardiology, Istanbul, Turkey, istanbul, Turkey*

[2]*Yeditepe University, Faculty of Medicine, Department of Medical Biology, Istanbul, Turkey, istanbul, Turkey*

[*]*Corresponding Author (erdemaysun@yahoo.com)*

Objective: Warfarin is a drug commonly used for treatment of venous thromboembolism (VTE), prevention of thromboembolic complications in atrial fibrillation (AF), and after mechanical heart valve (MHV) replacement. Warfarin required to achieve a desired therapeutic effect varies greatly among individuals. Some patients need more than 15 mg/day warfarin to get their international normalized ratio (INR) into the therapeutic range. This condition is known as warfarin resistance (WS). WS may be related with the enzyme deficiencies which play role in warfarin metabolism. One of the most important enzymes related with this pathway is CYP2C9. Therefore, in this study, it was aimed to investigate the relationship between CYP2C9 variations with WS.

Methods: Sixty patients who received warfarin at least 6 months were enrolled into the study. The patients were divided into 2 groups according to their INR levels; 30 patients who received 15 mg/day warfarin however the INR level did not come to therapeutic range (<2), and 30 patients who received low dose warfarin and the INR levels came to therapeutic range (2-3) were assigned as nonresponders and responders group, respectively. After extracting total genomic DNA from peripheral blood leukocytes of each subject, DNA isolation was performed. Presence of CYP2C9*2 and CYP2C9*3 variations were determined using real time polymerase chain reaction (RT-PCR). The results were evaluated by using statistical methods.

Results: When groups were compared according to the genotypes, CYP2C9*3 (33.3 %) variation was found statistically high in responders, wild type genotype was detected statistically high in nonresponders (90%) ($p<0.05$). When allel frequencies were compared between each other, T allele of CYP2C9*2 (18.3%) and C allele of CYP2C9*3 (16,7%) were found statistically high in responders ($p<0.05$).

Conclusion: In this study, it was demonstrated that the mean warfarin daily dose requirement was highest in CYP2C9 homozygous wild-type patients compared with the variant *2 and *3 alleles. Our findings are also consistent with other similar studies. In conclusion, when the patient has genetic polymorphisms that result in reduced CYP2C9 activity, they are referred to as poor metabolizers (PMs) for CYP2C9. Patients who are PMs for warfarin, metabolize the drug more slowly and often require smaller doses of warfarin to achieve therapeutic INR values.

ID: **424**

Topic: **Cardiology » Acute heart failure**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN ANGIOTENSIN CONVERTING ENZYME GENE POLYMORPHISMS AND LEFT VENTRICULAR REMODELING INDEX IN PATIENTS WITH A FIRST ACUTE ANTERIOR MYOCARDIAL INFARCTION

Onder Ozturk[1], Unal Ozturk[2]

[1]*Diyarbakir Gazi Yasargil Education and Research Hospital, Diyarbakir, Turkey*

[2]*SBU Diyarbakir Gazi Yasargil Education and Research Hospital, Diyarbakir, Turkey*

[*]*Corresponding Author (droozturk21@hotmail.com)*

Objectives: Left ventricular (LV) remodeling may be defined as a modification in shape, size, and function of the left ventricle due to physiological or pathological conditions. The development of left ventricular remodeling after acute myocardial infarction is a predictor of heart failure and mortality. The genetic influence on cardiac remodeling in the early period after acute myocardial infarction is unclear. Carriers of the D-allele of ACE insertion/deletion (I/D) polymorphism display elevated serum and cardiac ACE activity and thus may be exposed to higher angiotensin II levels than those with the I-allele. A large body of literature suggests that this genetic variation, which includes associations of the D allele with myocardial infarction, hypertension, and left ventricular hypertrophy is of clinical relevance. Furthermore, the DD-genotype was associated with augmented neurohumoral activation and cardiac dilatation, as well as poor prognosis after an acute myocardial infarction. Patients with acute anterior myocardial infarction who have ACE DD genotype are high risk of heart failure and death.

We aimed to investigate relationship between Angiotensin Converting Enzyme gene polymorphisms and left ventricular remodeling index (LVRI) in patients with a first acute anterior myocardial infarction.

Methods: Overall 140 patients with a first acute anterior myocardial infarction (MI) were included in this cross-sectional study. DNA was isolated from peripheral leukocytes. The ID status was determined by polymerase chain reaction by a laboratory staff member who was unaware of the clinical details. Based on the polymorphism of the ACE gene, they were classified into 2 groups: Deletion/Deletion (DD) genotype (Group 1, n=57), Insertion/Deletion (ID), Insertion/Insertion (II) genotypes (Group 2, n=83) (Figure 1). Echocardiographic examinations were performed using the parasternal longitudinal axis and apical 4-chamber windows in accordance with the recommendations of the American Echocardiography Committee. The LVRI was calculated from the ratio between left ventricular mass (LVM) and left ventricular end diastolic volume (LVEDV). One-way analysis of variance (ANOVA) and Chi-square analyses were used to compare differences among subjects with different genotypes. The study was approved by the local Ethics Committee, and each patient gave a written consent.

Results: There were no significant differences among clinical parameters of patients (Table 1). LVRI was significantly lower in patients who have ACE DD genotypes than in patients who have ACE ID/II genotype (0.76 ± 0.13 g/ml and, 1.37 ± 0.24 g/ml , $p < 0.05$).
Conclusion: Our results suggested that, ACE Gene I/D polymorphism D allele may affect LVRI in patients with a first acute AMI.

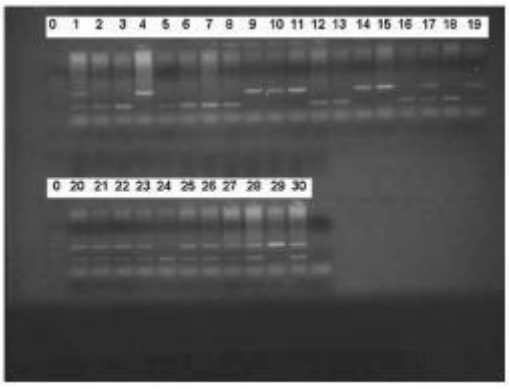


Table 1. Clinical characteristics of patients according to ACE I/D Genotype.

Parameters	ACE DD (n=57)	ACE ID /II (n=83)	p Value
Age, years	58±11	59±13	NS
Gender, F/M	8/49	18/65	NS
BMI, kg/m2	22±3	23±3	NS
Hypertension, n(%)	20(35%)	16(19%)	NS
Diabetes Mellitus,n(%)	6 (10 %)	6 (7 %)	NS
Current Smoking,n(%)	34 (59 %)	50 (60 %)	NS
Hypercholesterolemia, n(%)	12 (21 %)	26 (31 %)	NS
MI localisation, n(%)			
1) Anteroseptal	8 (14 %)	13 (16 %)	NS
2) Anterior	17 (30 %)	21 (25 %)	
3) Large Anterior	30 (52 %)	46 (55 %)	
4) Anterolateral	2 (4 %)	3 (4 %)	

ID: **430**

Topic: **Cardiology » Gene Therapy in Cardiovascular Disease**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN ANGIOTENSIN-II TYPE 1 RECEPTOR GENE POLYMORPHISMS AND LEFT VENTRICULAR REMODELING INDEX IN PATIENTS WITH A FIRST ACUTE ANTERIOR MYOCARDIAL INFARCTION

Onder Ozturk[1], Unal Ozturk[2]

[1]*Diyarbakir Gazi Yasargil Education and Research Hospital, Diyarbakir, Turkey*

[2]*SBU Diyarbakir Gazi Yasargil Education and Research Hospital, Diyarbakir, Turkey*

[*]*Corresponding Author (droozturk21@hotmail.com)*

Objectives: Left ventricular (LV) remodeling may be defined as a modification in shape, size, and function of the left ventricle due to physiological or pathological conditions. The development of left ventricular remodeling after acute myocardial infarction is a predictor of heart failure and mortality. The genetic influence on cardiac remodeling in the early period after acute myocardial infarction is unclear.

Most of the effects of an-giotensin II are mainly mediated by the angiotensin II type 1 receptor (AGTR1), including vascular contraction, pressor responses, renal tubular sodium transport, and aldosterone se-cretion. A polymorphism in the 39 untranslated regions of AGTR1 gene leads to the transversion of adenine (A) to cytosine (C) base at the 1166 position. Angiotensin-II Type-1 Receptor gene C allele was associated with augmented neurohumoral activation and cardiac dilatation, as well as poor prognosis after an acute myocardial infarction. Patients with acute anterior myocardial infarction who have AGTR1 C allele is high risk of heart failure and death.

We aimed to investigate relationship between AGTR1 gene polymorphisms and left ventricular remodeling index (LVRI) in patients with a first acute anterior myocardial infarction.

Methods: Overall 132 patients with a first acute anterior myocardial infarction (MI) were included in this cross-sectional study. DNA was isolated from peripheral leukocytes. The AC status was determined by polymerase chain reaction by a laboratory staff member who was unaware of the clinical details (Figure 1). Based on the polymorphism of the AGTR1 gene, they were classified into 2 groups: AA genotype (Group 1, n=91), AC / CC genotype (Group 2, n=41). Echocardiographic examinations were performed using the parasternal longitudinal axis and apical 4-chamber windows in accordance with the recommendations of the American Echocardiography Committee. The LVRI was calculated from the ratio between left ventricular mass (LVM) and left ventricular end diastolic volume (LVEDV). One-way analysis of variance (ANOVA) and Chi-square analyses were used to compare differences among subjects with different genotypes. The study was approved by the local Ethics Committee, and each patient gave a written consent.

Results: There were no significant differences among clinical parameters of patients (Table 1). LVRI was significantly lower in patients who have AGTR1 AC/CC genotypes than in patients who have AGTR1 AA genotype (0.71 ± 0.14 g/ml and, 1.45 ± 0.29 g/ml, $p < 0.05$).
Conclusion: Our results suggested that, AGTR1 Gene A/C polymorphism C allele may affect LVRI in patients with a first acute AMI.

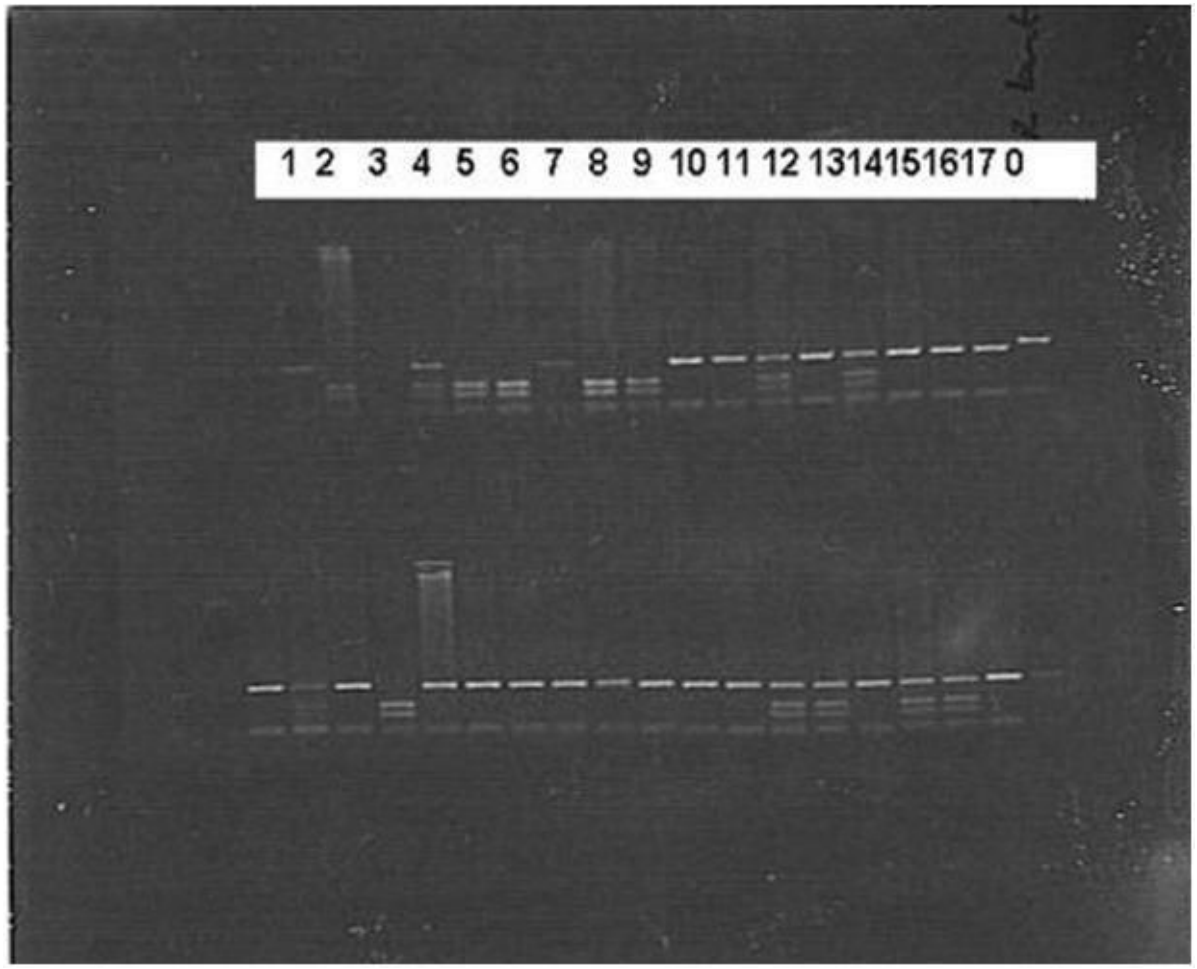


Table 1. General Characteristics of the Patient Groups According to AGTR1 Genotype

Variables	AGTR1 AA Genotype (n=91)	AGTR1 AC/CC Genotype (n=41)	p value
Age (years)	57±13	59.4±15	0.545
Sex (F/M)	16/75	10/31	0.478
Heart rate (beats/min)	87.6±13.7	86.9±15.1	0.644
Hypertension	34 (38%)	10 (24%)	0.032
Diabetes	18 (20%)	10 (24%)	0.728
Smoking	57 (63%)	24 (58)	0.338
BMI (kg/m2)	23.9±3.4	25±2.9	0.779
Hypercholesterolemia	29 (32%)	12(29%)	0.714
Troponin I (ng/mL)	16.1±5.9	18.3±4.7	0.760
Thrombolytic therapy	74 (81%)	33 (80%)	0.479
MI Localisation, n(%)			
-Anteroseptal	15 (17%)	7 (16%)	0.473
-Anterior	25 (28%)	10 (26%)	0.519
-Large Anterior	43 (47%)	21 (51%)	0.348
-Anterolateral	7 (8%)	3 (7%)	0.613

ID: **499**

Topic: **Cardiology » Gene Therapy in Cardiovascular Disease**

Presentation Type: **Oral**

EVALUATION OF LYSYL OXIDASE FUNCTIONAL GENE VARIATIONS WITH INFLAMATORY CYTOKIN PANEL IN ATEROSCLEROTIC CORONARY ARTERY ECTASIA PATIENTS

Onur Kılıçarslan[1], Şükrü Arslan[2], Ahmet Yıldız[2]

[1]*Yüksekova Public Hospital, Hakkari, Turkey*

[2]*, Istanbul University-Cerrahpasa Cardiology Institute, istanbul, Turkey*

[*]*Corresponding Author (onurklcarslan@gmail.com)*

Inroduction:

Coronary artery ectasia diagnosis is made with coronary angiography and defined as a dilatation with a diameter of 1.5 times the adjacent normal coronary artery. Incidence ranges between 1,2% and 4,9%. Most common etiological factors are congenital, atherosclerosis, and inflammation. Lysyl oxidases (LOX) are copper-dependent amine oxidases which have a critical role in extracellular matrix (ECM) organisation. These enzymes stabilize the vessel wall by cross-linking ECM proteins and increase resistance to mechanical stress. It is thought that atherosclerosis which is an inflammatory process disrupts ECM structure and causes coronary artery ectasia.

Aim:

In this study, we aimed to investigate the effects of LOX gene mutation and systemic inflammation markers on coronary artery ectasia.

Method:

The study included 88 patients with coronary artery ectasia and 75 healthy controls. LOX gene variations were analyzed by real time PCR in DNA samples and serum levels were determined by Lumineks Method.

Results:

In our study, the incidence of male sex, hypertension and dyslipidemia were found to be higher in CEA group. Additionally, the levels of TNF-ALPHA and sE-SELECTIN were found to be higher in CAE group. According to LOX rs18000449 genotype and allele distribution, there were no significant difference between CAE and healthy control groups (IMAGE-1). Whereas in CAE group patients with LOX rs18000449 polymorphism, TNF-ALPHA (p=0.05), and sP SELECTİN (p=0.018) levels were found to be higher.

Conclusion:

In our study revealed that frequency of hypertension, dyslipidemia and male sex and levels of TNF-ALPHA and sE SELECTIN were higher in CAE patients than healthy controls. In CAE group patients with LOX gene polymorphism, TNF-ALPHA, and sP SELECTİN levels were found to be higher. In line with the developments in the field of genetics, extensive studies are needed on this subject. Our study will be the basis for other studies on this subject.

IMAGE-1: Evaluation of groups in terms of LOX genotype and allele distribution and Evaluation of groups in terms of inflammation parameters

	NORMAL CORONARY ARTERY (n=75)	CORONER ARTERY ECTASİA (n=88)	P value
LOX (rs1800449) Genotip			
CC, % 70	46 (% 61,3)	59 (% 67)	0,9
CT ,% 27	27 (% 36)	26 (% 29,5)	0,8
TT,% 3	2 (% 2,7)	3 (% 3,4)	0,9
LOX (rs1800449) Allel			
C,% 70	119 (%79,33)	144 (%81.81)	0,8
T,% 30	31 (%20,66)	32 (%18,18)	0,9
	NORMAL CORONARY ARTERY (n=75)	CORONER ARTERY ECTASİA (n=88)	P value
IL-6 (pg/ml)	10,07±2,01	10,52±2,67	0,906
IL-1 BETA (pg/ml)	8,6±2,18	11,96±1,64	0,219
TNF-ALFA (pg/ml)	157,25±13,08	200,81±14,64	0,03
PECAM (pg/ml)	6652±1872,06	11468,26±1740,73	0,075
GMCSF (pg/ml)	6,6±5,4	10,9±5,35	0,598
sE-SELECTIN (pg/ml)	31164±4117,7	57159±10496,9	0,025
Sp-SELECTIN (pg/ml)	17033±1787,5	22868±3471,63	0,14

İL: interlökin TNF: tumor necrosis factor PECAM: platelet endothelial cell adhesion molecule

GMCSF: granulocyte macrophage colony stimulan factor

LOX: lysyl oxsidase C: c allel T: t allel

ID: **381**

Topic: **Cardiology » Cardiac Resynchronization Therapy**

Presentation Type: **Oral**

PERFORMANCE OF NT-PROBNP, MR-PROANP, AND ADIPONECTIN IN PREDICTING SUCCESS OF CARDIAC RESYNCHRONIZATION THERAPY

Evin Bozcali[1], Veli Polat[2]

[1]*Okmeydani Training and Research Hospital, Istanbul, Turkey*

[2]*Bakirkoy Dr. Sadi Konuk Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (ebozcali@gmail.com)*

OBJECTIVE: Cardiac resynchronization therapy (CRT), is a treatment option for patients with refractory heart failure. A significant portion of the patients undergoing CRT do not respond to CRT. We aimed to evaluate the performance of the N-terminal pro-brain-type natriuretic peptide (NT-proBNP), mid-regional pro-atrial natriuretic peptide (MR-proANP), and adiponectin in predicting and monitoring CRT-induced left ventricular (LV) reverse remodeling, reverse electrical remodeling, and clinical response.

METHODS: We prospectively enrolled 46 heart failure patients who underwent clinical, electrocardiographic, echocardiographic evaluation and blood sampling for measurements of NT-proBNP, MR-proANP, and adiponectin before and 12-months after CRT implantation. LV reverse remodeling (LVRR), reverse electrical remodeling (RER) and clinical response were described respectively as a decrease in LV end-systolic volume (LVESV) 15 % or an absolute increase in LV ejection fraction (LVEF) 5%, a decrease in intrinsic QRS (iQRS) duration by 20 ms, and an improvement of NYHA 1 class.

RESULTS: At 12 months, LV function and size, severity of mitral regurgitation, clinical status, and QRS duration were significantly improved by CRT. Serum NT-proBNP (from 2666.87±1672.44 pg/mL to 1182.76±535.31 pg/mL, p=0.001), MR-proANP (from 162.08±44.74 pg/mL to 109.06±31.75 pg/mL, p=0.001), and adiponectin (from 35.23±5.11 µg/mL to 15.80±8.02 µg/mL, p=0.001) levels were significantly decreased after CRT. We detected LVRR, RER, and clinical response in 72 %, 54 %, and 76 % of patients, respectively. According to the ROC curve analysis, the baseline NT-proBNP was able to predict CRT-induced LVRR and a decrease in adiponectin level after CRT may reflect clinical response to CRT.

CONCLUSIONS: NT-proBNP, and adiponectin can be useful biomarkers in predicting, and monitoring the CRT response, respectively.

Oral Presentation Session

Hypertension in Perspectives: New Ideas, New Approaches

Date: 13.03.2020 Time: 10:15 – 11:15 Hall: 5

ID: **414**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN SIMPLE ATRIAL ARRHYTHMIAS AND MORNING BLOOD PRESSURE SURGE IN HEALTHY ADULTS

Hasan Kadi, **Tarik Yildirim**, Seda Elcim Yildirim

Balikesir University Faculty of Medicine, Balikesir, Turkey

**Corresponding Author (drhkadi@gmail.com)*

Objectives: Simple atrial (APC) and ventricular (VPC) arrhythmias are the most common arrhythmias when evaluating 24-hour holter monitoring recording and are generally considered benign. Inappropriate fluctuations in autonomic nervous activity may induce disturbances in atrial and ventricular bioelectricity and contribute to formation of ectopic activity. Furthermore, levels of catecholamines that influence sympathetic nerve activity may also be able to affect and trigger atrial ectopy. Morning blood pressure fluctuation (MBPS) is a parameter obtained from ambulatory blood pressure monitoring and has been shown to be associated with increased sympathetic system activity. The aim of this study was to investigate whether there is a relationship between MBPS and simple cardiac arrhythmias.

Methods: Patients who were examined for blood pressure and rhythm holter on consecutive days at the cardiology clinic were included in the period between February 2014 and August 2019. Cardiovascular disease, diabetes, cardiovascular drug use, significant systemic disease, pregnancy, major arrhythmia, sleep apnea syndrome, morbid obesity, chronic kidney disease, psychiatric patients, those using alcohol and tobacco were excluded. An automated ambulatory blood pressure monitoring (ABPM) device was used as a 24-hour blood pressure monitor. Patients were asked to record their sleeping and morning wake-up times. Erroneous and incorrect readings were deleted. Day and night averages and morning surge calculations were calculated based on the individual sleeping and departure times of the patients. The groups were compared in terms of demographic, ABPM, and number of APC, VPC. Relation between MBPS and simple (as continuous variability) atrial and ventricular arrhythmia were also evaluated by correlation analysis. The ECG recording was performed with the two-channel SpaceLabs tape recorders. Recordings were evaluated trained cardiologist. Subjects were excluded if they had, 24 h of recording were not available for analysis. PACs were defined as a premature beat with coupling interval ≤80% of the previous RR interval, QRS complexes had a length of <0.12s and the post-extrasystolic pause had to be noncompensatory. ORS complexes were accepted as VPC if longer than 0.12 seconds, no p-wave before QRS complexes.

Results: Forty-one patients met the inclusion criteria. Median MBPS was accepted as the cut-off value, and patients below this value were grouped as Group 1 (21 patients) and patients above this value as Group 2 (20 patients). Age, gender, body mass index, office diastolic blood pressure (DBP), night-time and day-time systolic blood pressure (SBP) and DBP, lowest SBP at night-time were similar. Mean office SBP, mean awakening two-hour SBP was higher in the Group 2 (114.1±7.9 vs 119.6±5.9, p=0.016; 111±4.4 vs 117±10.4, p=0.02 respectively). Mean APC, VPC and total arrhythmia were higher in the group 2 (117±91 vs 180±101, p=0.041; 118±117 vs 241±218, p=0.029; 235±183 vs 421±263, p=0.012). Correlation analyses were shown that there is significant relation between number of APC, VPC, and total arrhythmia and MBPS (p=0.039, r=0,324; p=0.044, r=0.316; p=0.016, r=0.374 respectively).

Conclusion: We found a significant relation between MBPS and APC, VPC, and total arrhythmia, and there was a moderate positive correlation between MBPS and APC, VPC and total arrhythmia. These findings may be explained by increased sympathetic activity in patients with exaggerated MBPS.

ID: **470**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

COMPRASION OF LEFT VENTRICULAR DIASTOLIC FUNCTION IN DIPPER VERSUS NON-DIPPER HYPERTENSIVES

Mehmet Sait Selçuk, **Nurullah Çetin**, Ali Rıza Bilge, Hakan Tıkız

Celal Bayar University, Manisa, Turkey

**Corresponding Author (ms-secuk@hotmail.com)*

Objective

Systemic arterial hypertension is a serious public health problem. The progression of the disease is strongly associated with functional and structural cardiac alterations, which can be diagnosed by transthoracic echocardiography. Echocardiography is an extremely useful technique for the evaluation of hypertension and its complications, especially ventricular remodeling.

The purpose of this study was to evaluate the effect of dipper and non-dipper blood pressure patterns on left ventricular diastolic filling parameters in hypertensive patients.

Methods

This is a descriptive, observational study performed at the Department of Cardiology of Celal Bayar University. For this purpose, information on demographic data, echocardiographic parameters and 24-hour-ambulatory blood pressure measurement (ABPM) parameters was collected. All patients underwent both echocardiographic study and 24-hour-ambulatory blood pressure measurement. Dipper pattern is considered when there is a decrease in the nocturnal BP in relation to the daytime BP greater than 10%; if this decrease is not observed either in the systolic blood pressure or in the diastolic blood pressure, the patients are considered non-dippers.

Results

We enrolled 47 patients to the study. According to data from the 24-hour ABPM registry, 23 patients were classified as dippers and 24 patients as non-dippers. The demographic variables, ABPM parameters and echocardiographic doppler study parameters are illustrated in Table 1. The distribution by age and gender was similar between the two groups. As expected, night-time systolic pressures were significantly higher in non-dippers than those in dippers (135,9±7,8 mmHg vs. 122,3±6,7 mmHg, p:0.001). The remaining ABPM parameters were similar in both groups. Both groups were similar in terms of mitral E and A waves, E/A ratio, E-wave deceleration time, isovolumetric relaxation time, and E/E' ratio. These data suggest that there are no differences in the left ventricular diastolic function between dipper and non-dipper hypertensive patients.

Conclusions

In our study, left ventricular diastolic function were similar in patients with non-dipper and dipper hypertension but E/A ratio in non-dipper group was tended to be lower than in dipper group, although it was not statistically significant. Non-dipping blood pressure pattern may be responsible for the development of left ventricular diastolic dysfunction.

Table 1. Demographic, Ambulatory Blood Pressure Measurement (ABPM) and Echocardiographic parameters of studied population			
	Dipper (n: 23)	*Non-dipper (n: 24)*	*p value*
Age (years)	50,9±15,1	53,2±10,6	0,54
Gender			
Male (n, %)	9 (%44)	12 (%50)	
Female (n, %)	14 (%56)	12 (%50)	
ABPM			
Daytime SBP [mmHg]	140,4±6,0	140,5±7,1	0,97
Daytime DBP [mmHg]	81,3±12,4	79,5±7,6	0,56
Nighttime SBP [mmHg]	122,3±6,7	135,9±7,8	**0,001***
Nighttime DBP [mmHg]	74,1±9,3	74,9±6,7	0,72
Echocardiographic findings			
Mitral E maximal velocity (E) (m/sec)	0,80±0,22	0,74±0,17	0,30
Mitral A maximal velocity (A) (m/sec)	0,82±0,19	0,87±0,20	0,40
E/A	0,96±0,29	0,83±0,18	0,08
E-wave deceleration time (msec)	204,8±57,5	204,5±42,3	0,98
Isovolumetric relaxation time (msec)	94,1±18,2	95,5±17,2	0,79
Tissue doppler			
Left ventricular early diastolic velocity (E') (m/sec)	0,12±0,06	0,08±0,02	0,28
E/E'	10,0±4,8	9,9±4,0	0,98

SBP: Systolic Blood Pressure, DBP: Diastolic Blood Pressure

ID: **175**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

SYMPATHETIC PREDOMINANCE IN PATIENTS WITH HYPERTENSION

Muhammet Dural[1], Gurbet Özge Mert[2], Kadir Uğur Mert[3]

[1]*Eskisehir Osmangazi University, Eskisehir, Turkey*

[2]*Eskisehir Yunus Emre State Hospital, Eskisehir, Turkey*

[3]*Eskisehir Osmangazi University, Odunpazarı/Eskişehir, Turkey*

[*]*Corresponding Author (muhammet_dural@hotmail.com)*

Purpose: Autonomic functions play an exclusive role in development of hypertension (HT). However, the relationship between the anti-hypertensive treatments/anti-hypertensive medication count and cardiac autonomic balance is not clearly demonstrated. We are intended to evaluate autonomic dysfunction, namely heart rate variability (HRV) in patients with hypertension.

Method: We included HRV parameters derived from 24-h holter ECG in consecutive patients in two years. Holter recordings of the patients were obtained by Biomedical Instruments Holter system (BI9800TL + 3) which is a three channel digital recorder. Of 1832, 762 patients were hypertensive (HT+) and also 755 cases from our cohort were selected as control group (HT-) by propensity matched scoring using age and sex. Concomitant diseases, antihypertensive medicines and HRV parameters inline with task force recommendations analysed.

Results: The RMSSD and pNN50 are associated with high–frequency power (HF) and hence parasympathetic activity and no differences between groups. Whereas, SDNN, SDNN index, LF, VLF and LF/HF ratio were significantly lower in the HT (+) group. These results reflect clear sympathetic predominance in HT compared to control group (Table). It was revealed that the HRV parameters correlated with anti-hypertensive medication count (p<0,005).

Conclusion: Our study showed that sympathetic overactivity exists in patients with HT. There is also a distinct correlation between sympathetic overactivity and antihypertensive medicine count. These findings may reflect the effect of sympathetic predominance in resistant HT.

.	**HT (-) n=755**	**HT (+) n=762**	**p value**
SDNN	123,0 (98-153)	118,0 (93-143)	0,003
SDNN index	47,0 (37-61)	45,0 (34-60)	0,008
rMSSD	25,0 (18-35)	24,0 (18-36)	0,623
pNN50	4,0 (2-10)	4,0 (1-11)	0,463
HF	129,8 (66,2-241,2)	108,8 (58,4-257,6)	0,156

LF	323,6 (172,9-512,9)	284,8 (149,6-460,0)	0,02
VLF	761,8 (482,2-1057,9)	677,9 (430,2-999,9)	0,009
LF/HF	2,38 (1,41-3,72)	2,17 (1,24-3,52)	0,03

ID: **213**

Topic: **Cardiology » Pregnancy and Heart diseases**

Presentation Type: **Oral**

PECULIARITY OF HYPERTENSION AND PREGNANCY ABOUT 544 CASES

Zeıne El Abasse[1], Bah Ali Rida[2]

[1]*CHU IBNO ROCHD, CASABLANCA, Morocco*

[2]*CHU IBNO ROCHD, CASABLANCA, Morocco*

[*]*Corresponding Author (abassedr@gmail.com)*

Hypertension and pregnancy is a clinical diagnosis defined by the new onset of hypertension (systolic blood pressure ≥ 140 mm Hg and / or diastolic blood pressure ≥ 90 mm Hg. There are several types:

Gravidity arterial hypertension: (systolic blood pressure ≥140 mmHg and / or diastolic blood pressure ≥90 mmHg) occurred from the twentieth week of gestation in the absence of proteinuria.

Gravidity hypertension is severe when systolic blood pressure is ≥ 160 mm Hg and / or diastolic blood pressure is ≥ 110 mm Hg.

Preeclampsia: Associated with high blood pressure to higher proteinuria or equal to 300 mg /day (greater than or equal to 20 weeks). High blood pressure (hypertension) and pregnancy is common and remains a leading cause of maternal and fetal mortality and morbidity. Essential arterial hypertension and superadded forms. The aim of this work is to study the peculiarities of this high-risk pregnancy.

This is a retrospective study of 544 cases of hypertension and pregnancy collected at the Lalla Meryem maternity hospital Ibn Rochd hospital in Casablanca for a period of 2 years. The incidence is 9.2%. The average age of onset was 30 years with an age range of 15 to 45 years. The primiparous were the most exposed 261 cases (48%).310cases (57%) have an unsupported pregnancy. 290 cases (53.3%) had a systolic blood pressure greater than or equal to 160 mm Hg, and 160 cases (29.4%) had a diastolic blood pressure ≥ 110 mmHg. The most used medical conduct was the combination of rest and antihypertensives. Obstetrical behavior was marked by the frequency of vaginal deliveries (63.4%). Maternal complications represent (14.7%) dominated by retro-placental hematoma (5.1%) and eclampsia (3.7%). Perinatal mortality represents 57 cases (9.9%). The factors of bad fœto-maternal prognosis are for the fetus: the low gestational age, the low parity, the non monitoring of the pregnancy, the massive proteinuria and the hyperuricemia. For the mother, young maternal age, primiparity, non-pregnancy monitoring, diastolic blood pressure ≥ 110 mm Hg, systolic blood pressure ≥ 160 mm Hg, and massive proteinuria.

- This study concludes that high blood pressure and pregnancy is a major cause of maternal mortality and morbidity.
- These complications can be reduced by a better physiopathological understanding and a better knowledge of fetal and maternal prognostic factors.
- This condition mobilizes obstetricians and researchers looking for effective treatment.
- The only really effective treatment is the termination of pregnancy, all other therapies are intended only to prolong the pregnancy to the fetus.
- The prevention of placental insufficiency by the early management of risky parturients (rigorous clinical, biological, ultrasound and velocimetric monitoring, low platelet antiaggregant treatment) and the rapid and adapted treatment of arterial hypertension and reported pregnancy, in particular thanks to the progress of neonatal resuscitation , contribute to the improvement of the results already recorded.
- Finally, any doctor should be aware of the presence of a pregnant woman.

ID: **252**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

EFFECTS OF ANTIHYPERTENSIVE DRUG CLASSES ON CENTRAL AORTIC PRESSURE

Belma Yaman[1], Gülten Aydoğdu Taçoy[2], Burak Sezenöz[2], Adnan Abacı[2]

[1]*Near East University Faculty of Medicine, Nicosia, Cyprus*

[2]*Gazi University Faculty of Medicine, Ankara, Turkey*

[*]*Corresponding Author (belmayaman@yahoo.com)*

Objective: Central aortic pressure is the more important indicator of cardiovascular risks when compared with peripheral blood pressure (BP). We aimed to evaluate the effects of beta-blockers and other antihypertensive drugs on central aortic pressure which was measured by invasive direct method.

Methods: We included 201 patients using antihypertensive treatment from the patients referred for diagnostic coronary angiographic evaluation. Brachial BP was measured synchronously with the central aortic BP at the beginning of coronary angiographic examination before the contrast agent injections to the coronary arteries.

Results: Systolic BP and pulse pressure (PP) were significantly higher in central measurements (150±26 vs 148±20.8, p=0.006; 72±18.5 vs 66±15.1, p<0.001; respectively), diastolic BP was significantly higher in peripheral measurements (81±11.4 vs 78±15, p<0.001) however, mean BP was similar between central and peripheral measurements (104±13.4 vs 102±17.3, p=0.141). There was no statistically significant difference in central and peripheral BP measurements regarding systolic BP, diastolic BP, PP, mean BP between beta blockers group and non-beta blocker group. Also, there was no statistically significant difference with augmentation pressure and augmentation index between two groups (20.2 ± 12.3 vs 18.8 ± 11.2, p=0.56; 27.7 ± 15.1 vs 25.4 ± 13.3, p=0.39; respectively).

Conclusions: In this study we evaluated the effects of different antihypertensive drugs on central BP with an invasive method and showed that there was no difference between drug classes.

Table 1. Comparison of central and peripheral blood pressure between beta-blockers and non-beta blockers

	BB group (n=67)	Non-BB group (n=134)	P value
Brachial BP			
SBP (mmHg)	146.4±24.7	149.2±18.5	0.42
DBP (mmHg)	82.5±13.3	81.5±10.4	0.60
MBP (mmHg)	103.8±16	104.1±12	0.89
PP (mmHg)	63.9±17.1	67.7±13.9	0.11
Central BP			
SBP (mmHg)	147.5±31.3	152.7±22.8	0.23
DBP (mmHg)	76.3±16.6	80.2±14	0.07
MBP (mmHg)	100±20	104.4±15.6	0.12
PP (mmHg)	71.2±22.2	72.4±16.4	0.70
AP	20.2±12.3	18.8±11.2	0.56

AIx	27.7±15.1	25.4±13.3	039

BP, blood pressure, SBP, systolic bloodpresure; DBP, diastolic bloodpressure; MBP, meanblood pressure; BB, beta-blocker; AP, augmentation pressure; AIx, augmentation index

ID: **571**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

IS EXERCISE HEART RATE RECOVERY ASSOCIATE WITH CIRCADIAN BLOOD PRESSURE?

Ferhat Eyupkoca

Sincan State Hospital, Ankara, Turkey

**Corresponding Author (ferhateyupkoca@hotmail.com)*

Objective: According to the World Health Organization data, there are 1.13 billion hypertension patients in the world. And only a few of these patients have blood pressure under control. Too many risk factors play a role in the etiopathogenesis of this clinical condition which has become a major public health problem. Changes in sympathetic adrenergic activity are considered to be one of these risk factors associated with hypertension. Therefore, in this study, we aimed to investigate the relationship between heart rate recovery (HRR), which is an indicator of cardiac sympathetic adrenargic system, and circadian blood pressure.

Methods: Three hundred thirty patients were enrolled and divided into 6 groups according to the presence of hypertension, pre-hypertension and circadian BP pattern as follows: (1) normotensive⁄dipper, n=55; (2) normotensive ⁄ nondipper, n=55; (3) pre-hypertension ⁄ dipper, n=55; (4) pre-hypertension ⁄ nondipper, n=55; (5) hypertensive ⁄ dipper, n=55; and (6) hypertensive ⁄ nondipper, n=55. 24 - h ambulatory blood pressure (ABPM) was measured with Mobil - OGraph PWA (IEM, Stolberg, Germany). HRR data were collected using treadmill exercise testing (TM-PRO 2200, Tepa, Ankara, Turkey). Twelve lead electrocardiography (Mason-Likar modification) was recorded at 25 mm⁄s paper speed. HRR indices were calculated by subtracting first, second, and third minute heart rates from the maximal heart rate obtained during stress testing and designated as HRR1, HRR2, and HRR3.

Results: Normotensive, pre-hypertensive and hypertensive dipper patients had higher HRV levels than non-dipper patients (Normotensive = 28.8 ± 3.3 vs 26.2 ± 3.8; p <0.001; Pre-hypertensive = 28.7 ± 4.9 vs 25.8 ± 3.8; p <0.001; Hypertensive = 28.3 ± 3.6 vs 25.2 ± 4.1; p <0.001). There was a positive correlation between HRR1 level and decline in nightime BP levels (r = 0.560; p <0.001). The effects of age, 24-hour / day / night systolic and diastolic ABPM and decline in nighttime BP levels on HRR1 were evaluated by linear regression analysis. Decline in nighttime BP levels (β ± SE = 0.435 ± 0.04; p <0.001) was determined as independent predictors of HRR1. In this model, decline in nighttime BP levels were found to have more effect on HRR1 than other risk factors.

Conclusions: As a result, there was a significant relationship between the decrease in blood pressure in the night and HRR which is an indicator of sympathetic adrenargic activity. This suggests that the increase in sympathetic activity may be effective in the etiopathogenesis of non-dipper pattern.

Oral Presentation Session

Multimodality Imaging: Basics and Advances

Date: 13.03.2020 Time: 11:30 – 12:45 Hall: 5

ID: **161**

Topic: **Cardiology » Stroke prevention in Atrial fibrillation**

Presentation Type: **Oral**

THE CORRELATION BETWEEN LEFT ATRIAL VOLUME INDEX AND CEREBROVASCULAR STROKE

Abdallah Almaghraby

Univeristy of Alexandria, Alexandria, Egypt

**Corresponding Author (dr.maghraby@gmail.com)*

Background: Increased left atrial (LA) size was associated with poor cardiovascular outcomes such as the development of heart failure, atrial fibrillation (AF), and stroke in the elderly.

Aim of the work: To determine the relation between left atrial volume index (LAVI) and the occurrence of ischemic cerebrovascular stroke (CVS) in patients with sinus rhythm.

Patients and Methods: A prospective analysis of the data of patients admitted to a tertiary care center. Left atrial volume index (LAVI) was measured in 1222 patients admitted to a tertiary care center with first attack of acute ischemic cerebrovascular stroke (CVS) and the data was matched with 1222 patients admitted by diagnosis other than acute ischemic stroke. Patients with valvular heart diseases, history of AF and with known cardioembolic source of stroke as left ventricular thrombi or masses were excluded from both groups.

Results: The mean age was 61.1±14.4, 61.5±12.4 years, males were 806 (71.43%), 852 (73.47%) respectively. LAVI was 35±10.3 ml/m2 in CVS group while 25.8±6.4 ml/m2 in non-CVS group which was statistically significantly (P value= 0.02*).

Table (1): Baseline patient demographic, clinical, laboratory, echocardiographic data

		Total (n=2444)	Acute CVS (n=1222)	No CVS (n=1222)	*P*-value
Age (years)			61.1±14.4	61.5±12.4	**0.75**
Sex (Males)			806 (66%)	852 (70%)	**0.65**
Risk Factors	**DM**		655 (53.6%)	603 (49.3%)	**0.6**
	HTN		702 (57.5%)	675 (55.2%)	**0.55**
	Smoking		599 (49%)	564 (46.2%)	**0.71**
	Dyslipidemia		310 (25.4%)	299 (24.5%)	**0.81**
Clinical examination	**Mean BP (mmHg)**		122±15	119±17	**0.88**
	HR (bpm)		82±16	85±18	**0.76**
Laboratory data	**Hb (g/dl)**		12.3±1.3	12.9±1.7	**0.61**
	Platelets (10^3/l)		255±110	235±95	**0.35**
	INR		1.15±0.11	1.09±0.18	**0.75**
Ejection Fraction %			55±12	51±11	**0.41**
Left atrial volume index (ml/m2)			35±10.3	25.8±6.4	**0.002***

Results are represented as number (%) or mean ± standard deviation, BP = Blood Pressure, HR = Heart Rate, Hb = Hemoglobin, WBC = White Blood Count, INR = International Normalization Ratio, * significant P value < 0.05

Conclusion: LAVI can be used as a strong predictor for the occurrence of CVS in patients with sinus rhythm.

ID: **216**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

ASSOCIATION OF INTERATRIAL SEPTAL THICKNESS WITH SEVERITY OF CORONARY ARTERY DISEASES

Shubhra Chakraborty

National Institute of Cardiovascular Diseases, Dhaka, Bangladesh

**Corresponding Author (shubhra174@gmail.com)*

Background

Paracrine effect of the epicardial adipose tissue may promote coronary atherosclerosis. Adipose tissue is the main determinant of interatrial septum thickness (IST) and is a true marker of cardiac adiposity. The relationship of IST with the presence and severity of coronary artery disease (CAD) is thoroughly investigated around the world. This study was conducted to evaluate the association of interatrial septal thickness with severity of coronary artery diseases.

Methods

A total of 100 patients with ischemic heart disease who agreed to undergo coronary angiography were included in the study. Coronary angiogram was done during index hospital admission. Interatrial septal thickness was measured using bidimensional echocardiography. On the basis of interatrial septal thickness, study subjects were divided into two groups: 50 patients with IST ≥14.2 mm were assigned as Thick and 50 patients with IST<14.2 mm were assigned as Thin. Clinical (age, sex, smoking habit, hypertension and diabetes mellitus, clinical presentation of coronary artery diseases) and anthropometric (waist circumference and body mass index) variables were collected. Severity of coronary artery diseases was expressed by vessels score and Gensini score. Patients with a Gensini score ≤36 points were considered as absent or mild and those with Gensini score >36 points as severe coronary artery diseases.

Results

Severe coronary artery disease patients were significantly more in thick group than thin group (78% vs 14%, p<0.001). The difference of mean interatrial septal thickness between the mild and severe coronary artery disease groups were statistically significant (15.5 mm vs 12.1 mm, p<0.001). Interatrial septal thickness showed a positive correlation with Gensini score (r=0.58) and Vessel score(r=0.51). Univariate and multivariate regression analysis revealed interatrial septal thickness found to be independently significant predictor of severe CAD with odds ratio being 6.61 vs. 9.82.

Conclusions

The study demonstrated that there was significant association of interatrial septal thickness with severe coronary artery disease. So presence of severe coronary artery disease can be predicted by echocardiographic measurement of interatrial septal thickness.

Table: Comparison of mean interatrial septal thickness between patients with significant and insignificant CAD by Gensini Score (N=100)

IST mm	Significant CAD (n=55) ((≥36)	Insignificant CAD (n=45) (<36)	p value
Mean SD	15.6 2.0	12.1 2.5	<0.001s

S=Significant
p value reached from unpaired t test.

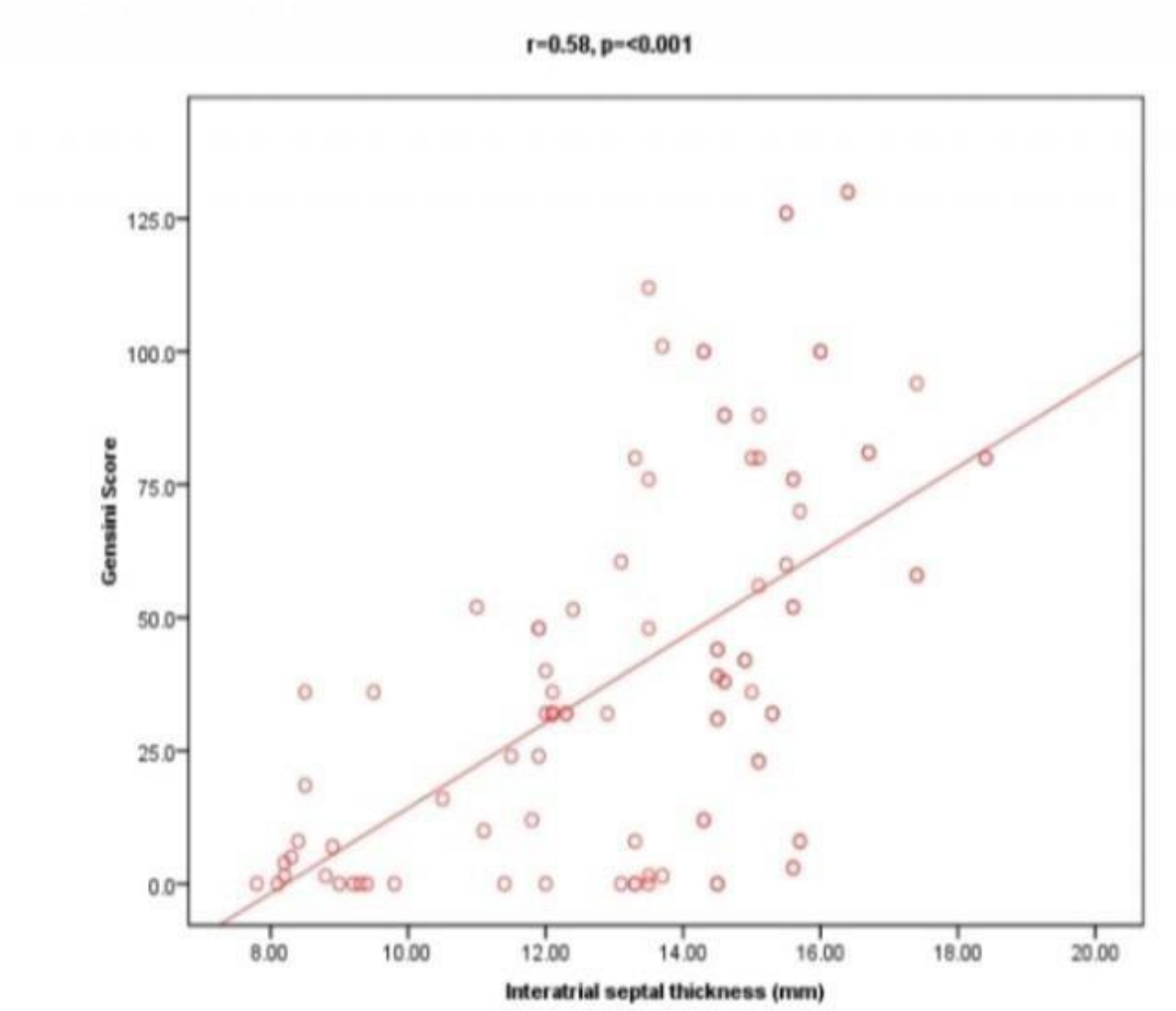


Figure 9: Scatter plot diagram showing correlation between Interatrial septal thickness (IST) and Gensini score.

ID: **209**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

INTEREST OF 3D TRANS THORACIC ECHOCARDIOGRAPHY IN QUANTIFICATION OF RHEUMATIC MITRAL STENOSIS SEVERITY

Ali Rida Bah, Zeine El Abasse, Rachida Habbal

Hospital Ibn Rochd Casablanca, casablanca, Morocco

**Corresponding Author (ridahmed7@gmail.com)*

Introduction: Rheumatic mitral stenosis is a real public health problem in developing countries. Assessment of the mitral valve area (MVA) is essential for the choice of the intervention time. Most of the evaluation parameters of rheumatic MS are derived of two-dimensional echocardiography (2D). Three-dimensional echocardiography (3D) is commonly used in our daily practice today.
The purpose of this study was to evaluate the value of the vena contracta area (VCA) to predict the severity of rheumatic MS by comparing 3D planimetry in transthoracic echocardiography (TTE).

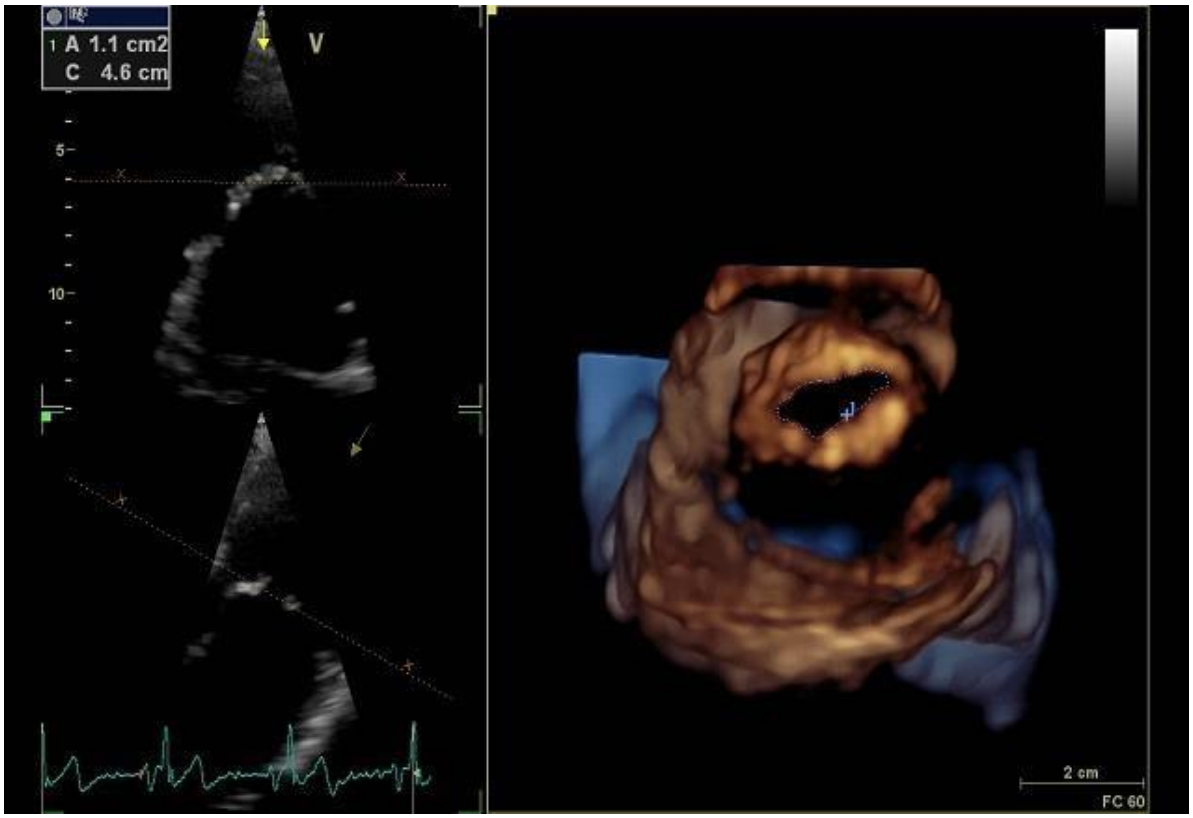
Methods: Patients who were diagnosed with severe rheumatic MS with conventional methods (half-pressure, planimetry) by 2D TTE, underwent 3D TTE assessment. The VCA of the mitral valve was measured at maximum opening with measurement planimetry MVA by mestre /cropping TTE 3D.

Results: A total of 86 consecutive patients with rheumatic MS constituted our study group. The mean age was 36.3 years, 80% of the patients were female. In this study, 27 patients (%) had atrial fibrillation. The mean left ventricle ejection fraction was 61.2 ± 3.2. The MS was the predominant valvular lesion in all patients. In the study, 26 patients had mild/moderate mitral regurgitation. The mean gradient across the mitral valve was 12.5 ± 2.4 mm Hg.

The mean MVA determined by the different methods was; PHT:1.32 ± 0.27 cm2; 2D planimetry: 1.31 ± 0.21 cm2; 3D planimetry:1.20± 0.35 cm2, and 3D VCA: 1.12 ± 0.29 cm2.
no significant differences were found between the different methods of 2D TTE(direct planimetry, PHT)in terms of the MVA measurement($P > 0.05$), while the MVA was significantly larger by all of these 2DTTE methods than by the 3DTEE methods (direct planimetry on3D zoom and 3D VCA) (all $Ps < .05$)

The comparison between 3D MVA planimetry and 3D VCA showed that: 15% (7 cases) had a 3D MVA planimetry less than the 3D VCA, 78% (36 cases) the MVA 3D VCA per was less than 3D and 6% (3cas) MVA was equal in both methods.

Conclusion: The results of our study provide evidence that the 3D TTE can be used routinely to detect the severity of mitral stenosis.


1 A 1.1 cm2
C 4.6 cm
V
5
10
2 cm
FC 60

ID: **11**

Topic: **Cardiology » Cardiac imaging - Cardiac CT**

Presentation Type: **Oral**

ROLE OF MULTI-DETECTOR COMPUTED TOMOGRAPHY IN DETECTION OF FACTORS AFFECTING PROGRESSION OF CORONARY ATHEROSCLEROSIS OVER TIME

Reem Laymouna[1], Eman El-sharkawy[2], Mohamed Sobhy[2]

[1]*International Cardiac Center, Alexandria, Egypt, Alexandria, Egypt*

[2]*International Cardiac Center, Alexandria, Egypt*

[*]*Corresponding Author (reemlamona@gmail.com)*

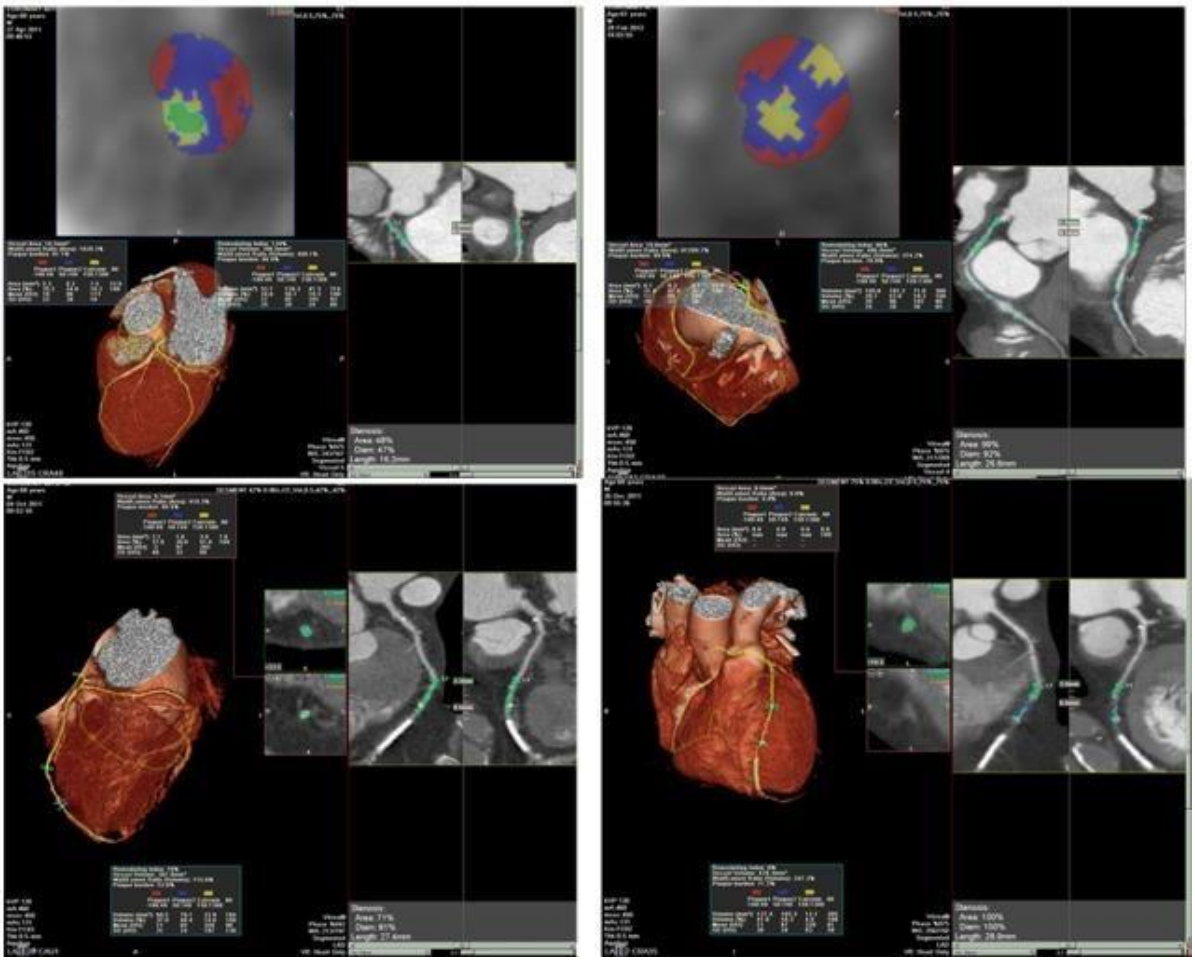
Background: The coronary atherosclerosis clinical presentations (including stable, unstable angina, non-ST and ST elevation myocardial infarction) depends on the composition of the atherosclerotic plaque and the changes occurring on the molecular and cellular level of this plaque. These changes, such as increased plaque volume, positive remodeling and calcium deposition can be detected by coronary MDCT.

The study was designed to determine the value of MDCT to detect factors affecting progression of coronary atherosclerosis by assessing the serial changes in coronary plaques over an interval of time.

Methods: The study was conducted on 40 patients who underwent repeated coronary MDCT. History of risk factors was noted. Baseline and follow-up cardiac CT scans were performed. Detected atherosclerotic plaques were evaluated using these parameters: 1. QCA-Like Parameters: a) Minimum lumen diameter. b) Diameter stenosis %. 2. IVUS-Like Parameters: a) Atheroma volume %. b) Total atheroma volume. c) Normalized total atheroma volume for segment length. d) % change in total atheroma volume. e) Minimum lumen area. f) Area stenosis %. 3. Coronary remodeling was calculated.

Results: Among the 40 patients, 85% were males. The mean age was of 60.5 yea. As for risk factors, 47.5% had DM, 77.5% had HTN, 55% were current smokers and 65% were dyslipidemic. The mean duration between the baseline MDCT and the follow up one was 25.9 months +/- 19.2 months. Sixty-eight plaques were detected, evaluated using MDCT in both settings and compared to each other. To ensure the accuracy of the change in plaque characters we considered this change was significant when observed in two of three characters (the 3 characters were % DS, % AS and % change in TAV). Therefore, we obtained 39 plaques (57.35%) had progressed, 24 plaques (35.3%) had no change and 5 plaques (7%) had regressed. According to our study, the most statistically significant (p value =0.001) risk factor associated with plaque progression is DM. Dyslipidemia is the 2nd statistically significant (p value =0.012) risk factor in our study. Hypertension and smoking are less associated with plaque progression with P value of; P1=0.288, P2=0.593 respectively. Calcium deposits were observed in 17.9%, 50% and 80% of the progressed, stable and regressed plaques, respectively. Therefore, there was a significant association between plaque stabilization and the presence of calcium deposits (P value=0.001).
Positive remodeling was detected in 71.8%, 41.7% and 60% of the progressed, stable and regressed plaques, respectively. Therefore, there was no significant association between vascular remodeling and plaque progression (P value=0.228).

Conclusion: MDCT can be used for noninvasive monitoring and follow up of coronary atherosclerosis. Our study showed that diabetes mellitus and dyslipidemia were the main risk factors associated with coronary artery atherosclerosis progression. Calcium deposits were associated with plaque stabilization.



	Decrease (n = 5)		No change (n = 24)		Increase (n = 39)		F[a]	MC p
	No	%	No	%	No	%		
DM	0	0.0	5	20.8	25	64.1	15.543*	<0.001*
HTN	3	60.0	21	87.5	31	79.5	2.139	0.288
Smoking	2	40.0	13	54.2	21	53.8	0.363	0.866
Dyslipid	1	20.0	14	58.3	31	79.5	8.636*	0.012*
F.H	1	20.0	11	45.8	18	46.2	1.274	0.593

ID: **215**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

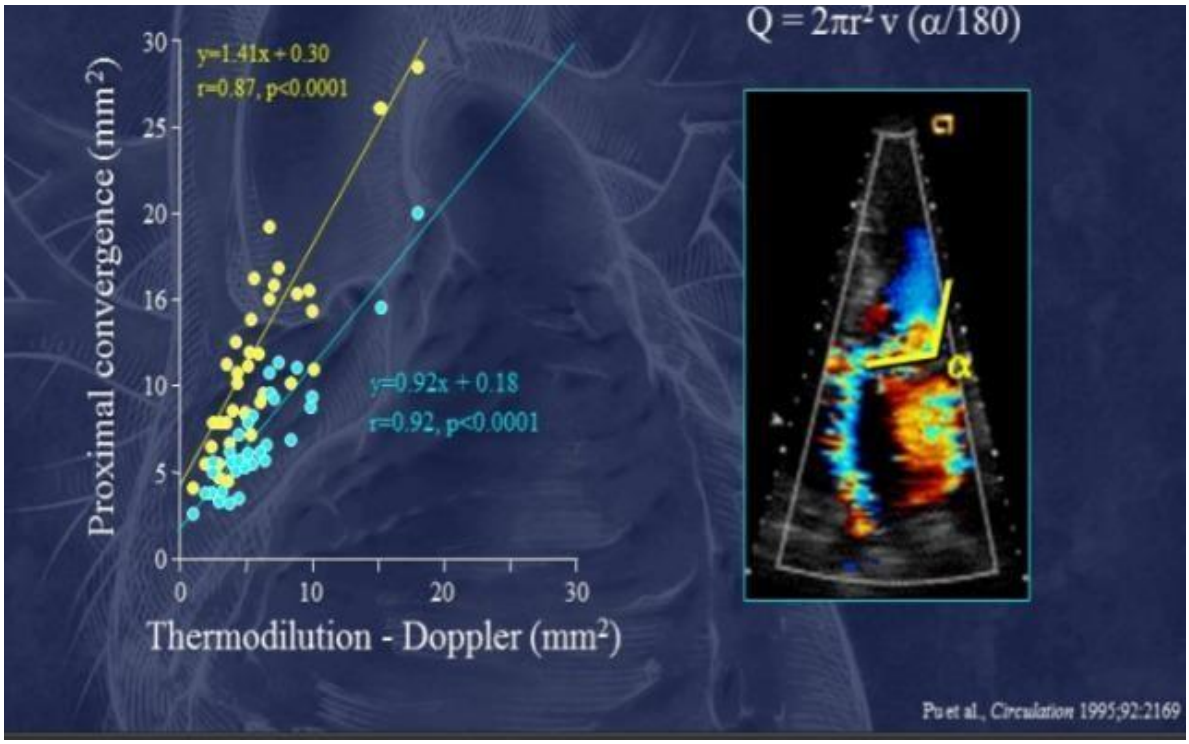
ASSESSMENT OF MITRAL INSUFFICIENCY BY MULTIPARAMETRIC APPROACHES IN CASE OF PROLAPSE

Zeıne El Abasse, Bah Ali Rida

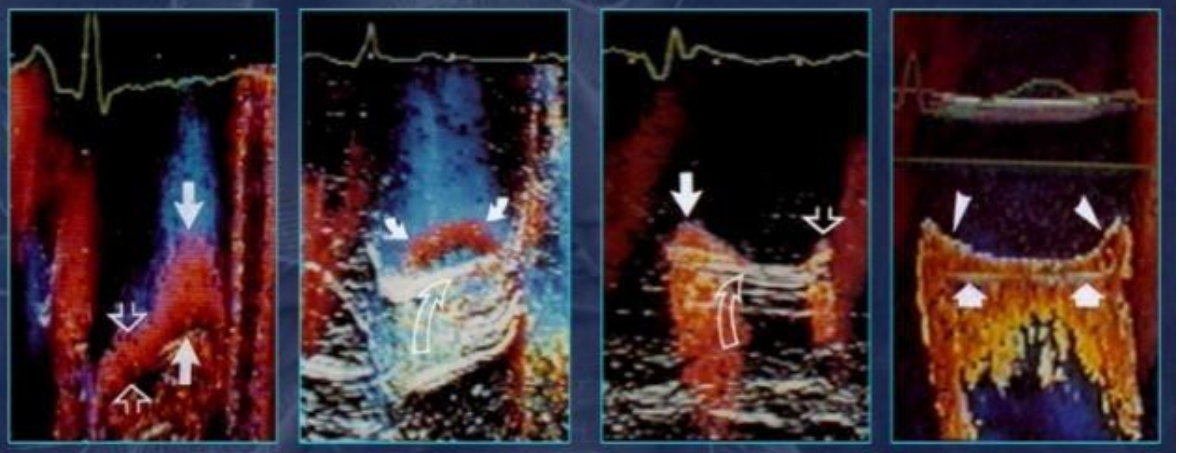
CHU IBNO ROCHD, CASABLANCA, Morocco

**Corresponding Author (abassedr@gmail.com)*

In case of prolapse the evaluation of mitral insufficiency by the surface of the regurgitating orifice and the volume regurgitant often overestimated hence the need to supplement by the multiparametric evaluation essentially to correctly calculate the Telediastolic Volumes and the telesystolic volumes by deducting the true regurgitating volume by the Systolic Ejection Volume and the tissue method to calculate the regurgitation fraction.
This comparison focused on 10 patients with severe MI by the usual measures and when we add these multi-parameter approaches we are approaching validation of our measurements.
3 patients were rated severe by the usual method became moderate to severe and the remaining 7 patients were severe with high reliability.

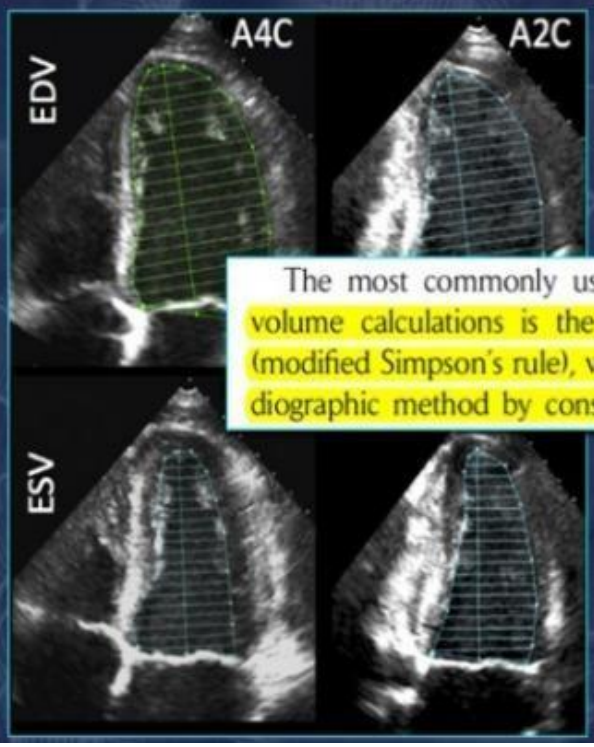


Mitral Regurgitation
Variable ERO during systole

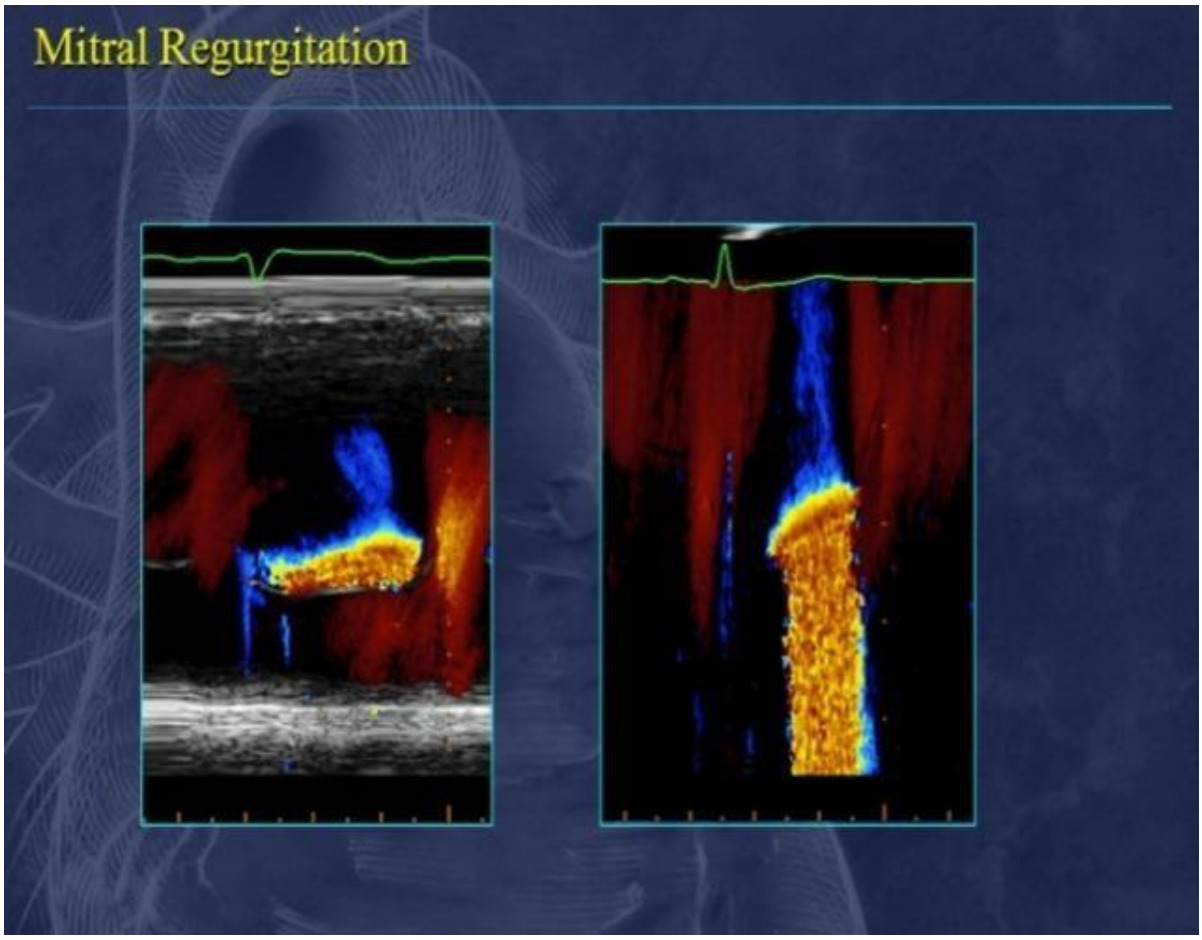


Mitral valve prolapse | Rheumatic mitral valve disease | Functional mitral regurgitation | Functional mitral regurgitation

Mitral Regurgitation
2D-echocardiography is the most commonly used method, …

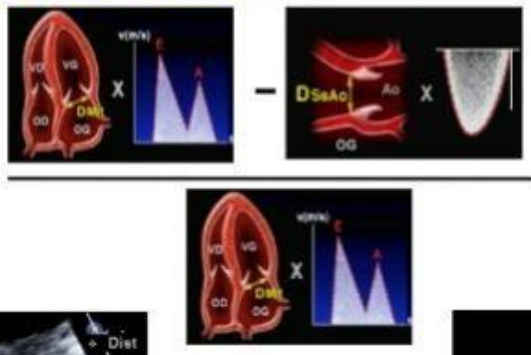


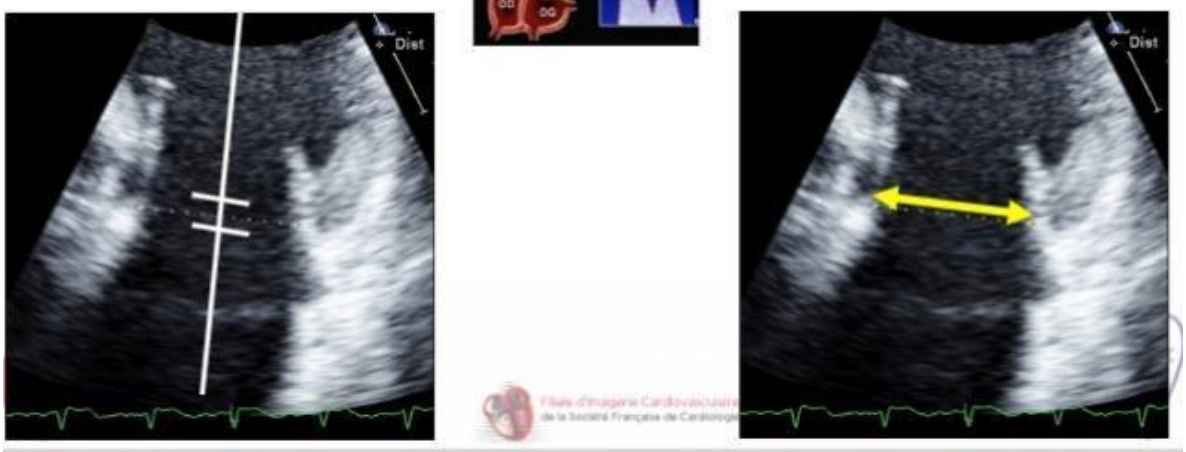
The most commonly used method for 2D echocardiographic volume calculations is the biplane method of disks summation (modified Simpson's rule), which is the recommended 2D echocardiographic method by consensus of this committee (Table 1). An



Fraction de régurgitation

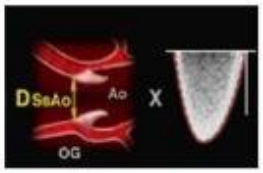
2/ Méthode Doppler pulsé



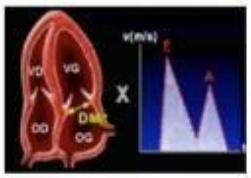
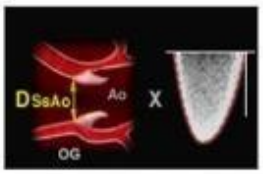
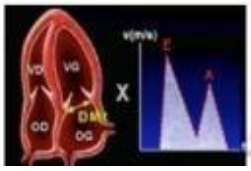


Fraction de régurgitation

1/ Méthode des Volumes

$$\frac{\text{Volume d'éjection - Simpson (biplan) - ou 3D} - \text{}}{\text{Volume d'éjection - Simpson (biplan) - ou 3D}} \times 100$$

2/ Méthode Doppler pulsé

$$\frac{\text{} - \text{}}{\text{}} \times 100$$

ID: **228**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

INITIAL EXPERIENCE OF TRANSTHORACIC ECHOCARDIOGRAPHY AT A NEWLY OPERATIONAL SATELLITE CENTER IN HYDERABAD, PAKISTAN

Iram Jehan Balouch[1], Nadeem Qamar[2], Lubna Baqai[2], Mariam Naz[2], Sumyia Gurmani[2]

[1]*National Institute of Cardiovascular Diseases (NICVD) Karachi, Pakistan, Hyderabad, Pakistan*

[2]*National Institute of Cardiovascular Diseases (NICVD) Karachi, Pakistan, Karachi, Pakistan*

[*]*Corresponding Author (drebalouch@gmail.com)*

Background: Transthoracic echocardiography (TTE) is the primary noninvasive imaging modality for quantitative and qualitative evaluation of cardiac anatomy and function. The Hyderabad satellite center of National Institute of Cardiovascular Diseases (NICVD), Pakistan has recently started its operations, including TTE, therefore, it is imperative to assess the initial experience for the process improvement of the center. Therefore, the aim of this clinical audit was to review our initial experience of TTE at this newly operational satellite center.

Methods: In this clinical audit we reviewed the records of patient undergone transthoracic echocardiography at the echocardiography department of NICVD Hyderabad satellite center from May 2018 to October 2018. Demographic characteristics, clinical history, indications for the ETT, and echocardiographic diagnoses were reviewed.

Results: A total of 2,177 transthoracic echocardiography (TTE) procedures were performed during the study period of six months out of which 68.7% (1,496) were performed in male patients. Mean age of the patients was 50.83 ± 12.44 years with 48.2% (1,050) patients above 50 years of age. The most frequent indication for the procedure was cardiomyopathy, 54.1% (1,177), among other indications, native valve regurgitation was in 49.8% (1,085), ischemic heart disease in 23.2% (504), heart murmurs in 17.3% (377), cardiac masses in 14.3% (312), pericardial disease in 8.5% (184), pulmonary disease in 7.3% (160), infective endocarditis in 6.4% (139), aortic and major disease in 6.3% (138), and native valve stenosis in 5.4% (177) of the patients. Procedures were performed before coronary artery revascularization in 2.2% (47) and for prosthetic valve assessment in 1.7% (38) patients. The TTE was normal in 36.6% (796) patients, while the most frequent diagnosis was cardiomyopathy, 53.8% (1,172), among the other TTE findings valvular heart disease was in 21.8% (475), IHD in 21.6% (470), pericardial disease in 8.0% (175), and congenital heart disease (CHD) in 1.4% (30) patients.

Conclusion: This clinical audit showed an effective use of transthoracic echocardiography (TTE) as a noninvasive imaging modality for quantitative and qualitative evaluation of cardiac anatomy and function at a newly operational satellite center of a resource-limited country.

ID: **340**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

TRANSTHORACIC ECHOCARDIOGRAPHY (TTE) ROLE IN THE ASSESSMENT OF CARDIOTOXICITY DEVELOPED AS A RESULT OF CHEMOTHERAPY TREATMENT OF PATIENTS WITH CANCER

Sara Bayramzade[1], Nigar Mehdiyeva[2], Yasmin Rustamova [1], Muradali Bakhshiyev[1]

[1]*Azerbaijan Medical University, Baku, Azerbaijan*

[2]*Azerbaijan Medical University, baku, Azerbaijan*

[*]*Corresponding Author (sara.qurbanova89@mail.ru)*

Background: The role of Transthoracic echocardiography (TTE) in the evaluation of chemotherapy induced cardiotoxicity.

Methods: 43 patients were included in the research. Inclusion criterias: Cardiologically healthy 20-65 years old females receiving chemotherapy with the anthracycline consisted scheme due to breast cancer diagnosis. Exclusion criterias: those who have structural myocardial disease, those who receive chemotherapy whole life and patients with chronic kidney failure. Criterias for the evaluation of effectiveness: A) dynamics of left ventricle geometric values (end-systolic size, end-diastolic size, end-systolic volume, end-diastolic volume and stroke volume); B) left ventricular systolic function (LVEFsimpson) ; C) left ventricular diastolic function (e΄, E/e΄, LAVİ, TRvel) ; D) function and morphology of valves have been evaluated. All patients were examined with TTE before, between each and after fourth chemotherapy courses.

Results: In TTE examination before, between each and after fourth chemotherapy courses of patients without pre-existing left ventricular systolic and diastolic disfunction: A) significant changes in left ventricle end-systolic size, end-diastolic size, end-systolic volume, end-diastolic volume and ejection fraction are not observed; B) Ejection fraction is not decreased more than a lower limit of 10% of initial values; C) diastolic disfunction was noticed in the assessment of left ventricular diastolic function with the detection of following values: e'septal <7, E/e' > 15, LAVI > 34ml/m²; D) No significant changes of valve functions were noted. Positive correlation was detected between increasing numbers of chemotherapy courses and impairing diastolic function of left ventricles.

Conclusion: TTE is an effective and sensitive method for the evaluation of chemotherapy induced cardiotoxicity. It gives an opportunity to substantiate systolic and diastolic disfunction of patients.

ID: **292**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

LONGITUDINAL 2D STRAIN ANALYSIS TO PREDICT CORONARY ARTERY DISEASE IN PATIENTS WITH NO REGIONAL WALL MOTION ABNORMALITY AT REST

Md Saqif Shahriar

National Institute of Cardiovascular Diseases, Dhaka, Bangladesh

**Corresponding Author (saqifssmc2002@yahoo.com)*

Aims:

Speckle-tracking imaging is a novel method for assessing left ventricular function and ischemic changes. The aim of this study was to predict the presence of coronary artery disease by longitudinal 2D strain analysis using speckle tracking echocardiography in patients with stable or unstable angina with no regional wall motion abnormality at rest .

Methods:

This cross-sectional study included a total 66 patients (mean age, 51.92 ± 8.9 years) with suspected coronary artery disease, without regional wall motion abnormality on resting echocardiography who underwent coronary angiography. Longitudinal 2D strain analysis by speckle tracking echocardiography was performed in all patients before coronary angiography. Global and segmental peak systolic longitudinal strain were recorded & computed by offline dedicated software semi-automatically on bull's-eye report. The patients were divided into two groups according to the coronary angiographic findings; group- I: significant coronary artery disease on coronary angiogram (n=35), group-II : normal coronaries on coronary angiogram (n=31). All the baseline characteristics and outcome were then compared between the two groups.

Results:

Peak systolic longitudinal strain value of all left ventricular segments were obtained successfully in 66 patients. Peak systolic longitudinal strain (both global and segmental) was significantly decreased in patients with significant coronary artery disease on coronary angiogram group. Receiver operating characteristic curve analysis demonstrated that global peak systolic longitudinal strain could effectively detect patients with coronary artery disease (area under receiver operating characteristic curve = 0.877, 95% CI=0.749–0.960). According to receiver operating characteristic curve analysis, -18.77% appeared to be a good cutoff value for predicting those with significant coronary artery disease (specificity 77.4% and sensitivity 82.9 %).

Conclusion:

The present study showed that resting peak systolic longitudinal strain (global & segmental) is significantly reduced and highly sensitive to detect significant coronary artery disease in patients with stable & unstable angina , even when resting wall motion and LV ejection fraction were normal. It is also observed that 2DSTE seems capable in identifying high risk patients with left main & triple vessel disease.

ID: **603**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

ARE THERE ASSOCIATION BETWEEN EPICARDIAL FAT THICKNESS AND CARDIOVASCULAR DISEASE?

Sabiye Yılmaz

Sakarya Eğitim Araştırma Hastanesi, Sakarya, Turkey

**Corresponding Author (ssevincdr@gmail.com)*

BACKGROUND AND AIM: Epicardial adipose tissue (EAT) is reported to be associated with cardiovascular risk profiles and the pathogenesis of atherosclerotic coronary artery disease (CAD). But there are conflicting theories regarding the accuracy of echocardiography for determining the value of EAT in cardiovascular risk assessment. The aim of this study was to determine the association between EAT thickness with CAD and myocardial function.

METHODS: A total of 183 patients were enrolled. Subjects were divided into two groups, those with and without CAD. EAT thickness on the free wall of the right ventricle (RV) in parasternal long-axis view at end-systole were measured using transthoracic echocardiography. Also conventional echocardiography parameters and tissue Doppler imaging were performed to evaluate systolic and diastolic functions.

RESULTS: Population characteristics are displayed in the table1. The patients with CAD were older (54.5± 9.6 years vs 43.4± 8.5 years, P=0.000) and more likely male (86.5% vs 50%). The patients in the non-CAD group had a low cardiovascular risk factors including smoking, BMI, diabetes and hypertension. There was no significant difference between the groups with respect to LDL and TG but HDL cholesterol levels were significantly lower in the CAD. The CAD group had thicker EAT than the non-CAD group (6.2+1.6 mm vs 4.4+1.2 mm P <.001). The area under the curve on receiver operating characteristic (ROC) curve analysis of EAT thickness for predicting CAD was 0.484 with a sensitivity of 79% and specificity of 71%. [ROC area 0.811, P<0.001, 95%CI (0.746-0.877)]. EAT thickness showed a significant positive correlation with age (r = 0.572, P= 0.000), BMI (r = 0.502, P = 0.000), DM (r = 0.323, P= 0.000), and HT (r = 0.304, P= 0.000). There was a negative correlation between lower high-density lipoprotein (HDL) (r=-0.168, P= 0.040) and epicardial fat thickness, but this relationship was not detected with low-density lipoprotein (LDL) and triglyceride (TG) level. Moreover, EAT was associated with reduced diastolic function by lower early diastolic myocardial velocity (e') (r=-0.627, P=0.000) and higher E/e' ratio (r=0,283, p=0.001). Also, EAT was negative correlated with decrease in LV systolic functions evaluated by EF (r=-0.467, P=0.000) and systolic velocity of the mitral annulus (s') (r=-0.501, P=0.000).Multivariate logistic regression analysis revealed that EAT thickness is influenced by age (β =0.009, P<0.001) and BMI (β=0.012, P<0.001) after adjustment for conventional risk factors.

CONCLUSIONS: EAT thicknesses were increased in CAD patients and strongest predictor of CAD and can be evaluated with together other cardiovascular risk factors to determine cardiac risk. Also, patients with CAD had thicker EAT as well as lower systolic and diastolic function compared with controls and it can be used as an easily applicable method with other echocardiographic parameters in the evaluation of cardiac functions.

Oral Presentation Session

Endovascular Solutions for Aortic and Peripheral Vascular Disease

Date: 13.03.2020 Time: 13:30 – 14:30 Hall: 5

ID: **465**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

RE-INTERVENTIONS AFTER TEVAR PROCEDURES: SINGLE CENTER EXPERIENCE

Pavel Bondarenko[1], Vladimir Shlomin[2], Petr Puzdriak[2], Eugeniy Shloido[2]

[1]*Federal State Budgetary Institution "Almazov National Medical Research Centre" of the Ministry of Health of the Russian Federati, Saint-Petersburg, Russia*

[2]*City Multiservice hospital № 2, Saint Petersburg, Saint-Petersburg, Russia*

[*]*Corresponding Author (ximchest@yandex.ru)*

The purpose of study was to present the experience of treating long-term TEVAR complications.

Materials and methods: Fifty patients with various pathologies of the thoracic and thoracoabdominal aorta (TAA) were treated in our vascular center. Of these, 8 (16%) patients required re-intervention on TAA. Average age 66 ± 11 y. Following planned operations were performed on this patients (n=6): TEVAR for TBAD without brachiocephalic arteries reimplantation (n=2), TEVAR for TBAD with chimney stenting of LCCA and LSA (n=2), TEVAR and EVAR for chronic DTAA and AAA (n=1), TEVAR for chronic DTAA and previously prosthetic AAA (n=1); emergency interventions were performed in 2 patients with saccular aortic isthmus ruptured aneurysm, with the aorto-bronchial fistula formation in one case.

The period between TEVAR and complication developing was 22±15m. The following complications were observed: the thoracoabdominal aneurysm formation with endoleak type Ib (n=1), chronic thoracoabdominal aneurysm (n=1), a descending thoracic aortic aneurysm below the stent-graft (Pic. D; n=1), and the TAAA formation between two modules of stent graft due to its migration and type 3 endoleak developing (Pic. A; n=1), DSINE (n=1), RDTA (Pic. C; n=1), type I endoleak pulmonary hemorrhage (n=1), aorto-esophageal fistula (Pic. B; n=1). The following operations were performed: open prosthetics of TAAA (n=2), prosthetics of TAA (n=1), prosthetics of ascending aorta (n=1), re-TEVAR (n=3), aortic-aortic bypass with stent graft explantation, esophagoplasty with omentoplexy (n=1). For keeping the distal perfusion in TAAA and TAA resection/prosthetics we used the passive perfusion through a synthetic shunt.

Results: Technical success was 100%. In-hospital mortality rate was 12.5%. The average time of open intervention was 440±224 min, blood loss 2100±1100 ml. The average time for re-TEVAR 179.2±60.7 min. Early postoperative complications were, mainly, in conventional operations: paraparesis 12.5% (n=1); respiratory failure 25% (n=2); acute kidney insufficiency 25% (n=2) and multiple organ insufficiency in 12.5% (n=1). The cause of mortality in a patient with TEVAR complicated with aorto-esophagal fistula was multiple organ failure syndrome on the 5th day after surgery. During the first year after surgery, the survival rate is 100%.

Conclusion: Re-interventions on the TAA after primary TEVAR can be performed safely and effectively with a high level of survival.


A
B
C
D

ID: **482**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Oral**

IATROGENIC TYPE A AORTIC DISSECTION DURING THE PERCUTANEOUS CORONARY INTERVENTION: MANAGEMENT, IMAGING AND OUTCOMES: A SINGLE CENTRE EXPERIENCE

Serkan Asil[1], Veysel Özgür Barış[2], Suat Görmel[3], Erkan Yıldırım[3], Murat Çelik[3], Uygar Çağdaş Yüksel[3], Cem Barçın[3]

[1]*Gülhane Training and Research Hospital, Ankara, Turkey*

[2]*aziantep Dr. Ersin Arslan Training and Research Hospital, Gaziantep, Turkey*

[3]*Gülhane Trainig and Research Hospital, Ankara, Turkey*

[*]*Corresponding Author (dr_serkanasil@hotmail.com)*

Objective:

Iatrogenic aortic dissection (IAD) during coronary interventions is a rare but fatal complication. It is seen that this experience has been shared as a case report from many centres in our literature research, but there is not enough experience and trial on this subject. İn the literature, there are recommendations and staging in this subject based on an observational study by Dunning et al. In this trial, we report our iatrogenic aortic dissection cases and their acute, short and long-term results.

Material and Method:

We screened 6096 coronary angiographies performed in our centre between February 2017, February 2019. Ascending aortic dissection developed in 8 patients. 7 patients had post-event and control CT angiography images. There were 1-month and 1-year follow-up examinations.

Results:
The incidence of iatrogenic aortic dissection was 0.13%. The female gender ratio was calculated as 63%. 37% of the patients presented with the acute coronary syndrome. In 37% of the patients, dissection was progressed with support catheter use such as AL and EBU, but in other patients, dissections were developed due to hydraulic pressure with the JR catheter. Regardless of the Dunning staging, 7 patients were followed-up with medical treatment and 1 patient with decreased coronary flow was referred to an emergency coronary bypass surgery. In four patients who were followed up with medical treatment, regression was observed in the first tomography and in other patients, regression was observed in the control tomography. In-hospital death was not developed in any patient, 1 month and year mortality rates were 0%.

Conclusion:
It is known that IAD is a mortal disease in the past and urgent surgical treatment is recommended for Dunning stage 3 patients. According to our study, regardless of Dunning staging; medical treatment is the first choice for the all hemodynamically stable patient; however surgical treatment is only needed in patients with the decreased coronary flow.

Table 1: Basal, procedural and follow-up characteristics of aortic dissection patients

Case	Age	Sex	Procedure	Dissection Origin	Catheter type	Cause	Dunning Stage	Hospitalisation Duration	Therapy Modality	Outcome	1 month follow up	1 year follow up	First CT	Control CT
1	61	F	Cx- OM elektif PTCA	LMCA	AL-2 6F	Malaposed Catheter	3	15 day	Stent	D/C	uneventfull	uneventfull	Tip A dissection	Total regression
2	73	M	OM AMI	Non koroner kusp	AL-3	Malaposed Catheter	3	5 day	Medical follow only	D/C	uneventfull	uneventfull	Tip A dissection	Total regression
3	48	F	RCA AMI	RCA	JR 4 7F	Hidrolic dissection	1	5 day	Stent	D/C	uneventfull	uneventfull	Total regression	-
4	70	M	RCA Elektif PTCA	RCA	JR 4	Deep Engage	1	1 day	Stent	D/C	uneventfull	uneventfull	Total Regresyon	-
5	38	F	RCA AMI	RCA	JR 4	Hidrolic dissection	1	5 day	Stent	D/C	uneventfull	uneventfull	Partial Regresyon	Total regression
6	57	M	RCA CTO	RCA	JR4	Hidrolic dissection	1	5 day	Medical follow only	D/C	uneventfull	uneventfull	Tip A dissection	Total regression
7	50	F	RCA CTO	RCA	JR4	Hidrolic dissection	3	3 day	Medical follow only	D/C	uneventfull	uneventfull	Total regression	
8	50	F	RCA CTO	LMCA	EBU	Hidrolic dissection	1	16 day	CABG	D/C	uneventfull	uneventfull	-	-

ID: **438**

Topic: **Cardiology » Interventions for peripheral arterial diseases**

Presentation Type: **Oral**

OUTCOMES AND EFFICACY OF PERCUTANEOUS TRANSLUMINAL RENAL ARTERY STENTING IN PATIENTS WITH ATHEROSCLEROTIC RENAL ARTERY STENOSIS

Nuri Köse

Mugla Private Yucelen Hospital, Mugla, Turkey

**Corresponding Author (drnurikose@hotmail.com)*

Objective: Renal artery stenosis is the most common cause of secondary hypertension. The aim of this study is to evaluate the outcomes of percutaneous transluminal renal artery angioplasty and stenting (PTRAS) procedure for atherosclerotic renal artery stenosis (ARAS) which is the most common cause of secondary hypertension.

Methods: This retrospective chart review included 27 patients who had PTRAS procedure from 2012 to 2017. This procedure was performed to patients with ARAS whose luminal narrowing <70%. Successful intervention was accepted if the residual stenosis <20%.

Results: The mean age of 27 patients with ARAS was 71.4±11.1 years, and 55.6% were males. Most common indication for renal angiography were uncontrolled hypertension (85.2%). PTRAS was indicated due to hypertension resistant to medical treatment in 92.6% of the patients. About 96.3% of the cases had hypertension. Renal artery stenosis was present on the right in 23 patients (85.2%), and on the left in 20 patients (74.1%). Bilateral renal artery stenosis was diagnosed in 16 patients (59.3%). Predilatation was performed in 9 cases (33.3%) with right stenosis, and in 10 cases (37%) with left stenosis, and direct stenting was applied in 7 (25.9%) and 6 (22.2%) of cases, respectively. The overall mortality rate was 22.2% during 5-year follow ups. No other major events were noted.

Conclusions: PTRAS is associated with improved blood pressure control, renal functions, and survival, and it can be performed with high success and low complication rates. Nevertheless, each patient should be evaluated individually for the risks and benefits.

ID: **121**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **Oral**

EFFECT OF CAROTID STENTING ON THYROID FUNCTION

Yusuf Can

Sakarya University, Sakarya, Turkey

**Corresponding Author (dr.ycan@hotmail.com)*

OBJECTIVE: Increased TSH levels were previously reported following revascularization for unilateral carotid artery stenosis in euthyroid patients. In the present study, we aimed to investigate the effect of carotid stenting on thyroid function in euthyroid patients with contralateral carotid occlusion.

METHODS: Twenty patients who had one internal carotid artery with total occlusion and the other one with more than 50% stenosis was analysed from September 2010 to January 2019. All patients underwent carotid artery stenting. Thyroid function was measured before carotid stenting. Thyroid functions were re-measured at least 6 months after carotid stenting.

RESULTS: The mean age was 70.8 ±9.12 years of 20 patients. Fourteen patients were men (70%). Eighteen patients (90%) were hypertensive, 9 patients (45%) had diabetes mellitus, 7 patients (35%) had coronary artery disease, 5 patients (25%) had hyperlipidemia, and 3 patients (15 %) were smokers. TSH levels (0.97 ± 0.73 vs 1.22 ± 0.66, p:0.262) were increased by carotid stenting. T4 levels (14.44 ± 2.19 vs 13.57 ± 1.90, p:0.186) decreased by carotid stenting.

CONCLUSIONS: Although TSH level increases, T4 level decreases by carotid stenting. These findings needs to be validated future prospective studies.

ID: **92**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

THE PROGNOSTIC VALUE OF SERUM ALBUMIN LEVEL IN PATIENTS WITH CAROTID ARTERY STENOSIS UNDERGOING CAROTID ARTERY STENTING

Lütfi Öcal[1], Muhammed Keskin[2]

[1]*Kartal Koşuyolu Training and Research Hospital, Istanbul, Turkey*

[2]*Sultan Abdulhamid Han Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (lutfiocal@hotmail.com)*

Background

The prognostic impact of poor nutritional status and cachexia in carotid artery disease is not clearly understood. Albumin is an important predictor of cachexia and may have an important value in patients with carotid artery stenosis who underwent carotid artery stenting (CAS).

Methods

We evaluated the in-hospital prognostic impact of albumin on 558 patients with carotid artery stenosis undergoing CAS. The patients were categorized three tertiles (T1, T2 and T3) according to their albumin levels. In hospital outcomes were compared between these groups.

Results

The patients' baseline characteristics and in-hospital outcomes were demonstrated in Table 1. The patients with lower albumin level (T1) had significantly higher transient ischemic attack (P=0.036), myocardial infarction (P=0.011) and mortality (P=0.05) compared to other two tertiles. Ipsilateral stroke and major stroke rates were also higher in T1 however it did not reach to statistical significance.

Conclusion

Our study demonstrated that serum albumin level is a prognostic factor for in-hospital outcomes of patients with carotid artery stenosis who underwent CAS. This result confirmed that nutritional situation is important in CAS patients. Further studies on independent multicenter cohorts are warranted to validate our findings.

Table 1 Baseline characteristics and in-hospital outcomes of patients stratified by albumin tertiles

Baseline characteristics	T1 (n=186)	T2 (n=186)	T3 (n=186)	P value
Age	70 ± 8	68 ± 9	65 ± 9	<0.001
Gender, male	129 (69.4)	140 (75.3)	149 (75.3)	0.330
Hypertension	139 (74.7)	145 (78.0)	145 (78.0)	0.696
Diabetes mellitus	88 (47.3)	92 (49.5)	79 (42.5)	0.384
Hyperlipidemia	92 (49.5)	120 (64.5)	102 (54.8)	0.126
Smoking	87 (46.8)	77 (41.4)	78 (41.9)	0.515
Previous myocardial infarction	75 (40.3)	77 (42.3)	62 (33.5)	0.192
Previous percutaneous coronary intervention	79 (42.5)	78 (41.9)	67 (36.0)	0.371
Previous coronary artery bypass grafting	44 (23.7)	45 (24.2)	51 (27.4)	0.664
Symptomatic lesion	57 (30.6)	62 (33.3)	50 (26.9)	0.414
In-hospital outcomes				
Ipsilateral stroke	7 (3.8)	2 (1.1)	3 (1.6)	0.167
Major stroke	4 (2.2)	1 (0.5)	2 (1.1)	0.363
Transient ischemic attack	11 (5.9)	6 (3.2)	2 (1.1)	0.036
Myocardial infarction	6 (3.2)	0 (0.0)	1 (0.5)	0.011
Death	8 (4.3)	2 (1.1)	0 (0.0)	0.005

ID: **232**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **Oral**

COMBINED VALUE OF LOW-DENSITY LIPOPROTEIN CHOLESTEROL AND CHA2DS2-VASC SCORE FOR PREDICTING SEVERE CAROTID ARTERY STENOSIS IN PATIENTS UNDERWENT CAROTID ANGIOGRAPHY

Tarık Yıldırım[1], Eyüp Avcı[2], Tuncay Kırış[3]

[1]*Balikesir University, Faculty of Medicine, , Balıkesir, Turkey*

[2]*Balikesir University, Faculty of Medicine, Balıkesir, Turkey*

[3]*Izmir Katip Celebi University, Ataturk Training and Research Hospital, Izmir, Turkey*

[*]*Corresponding Author (kdrtarik@gmail.com)*

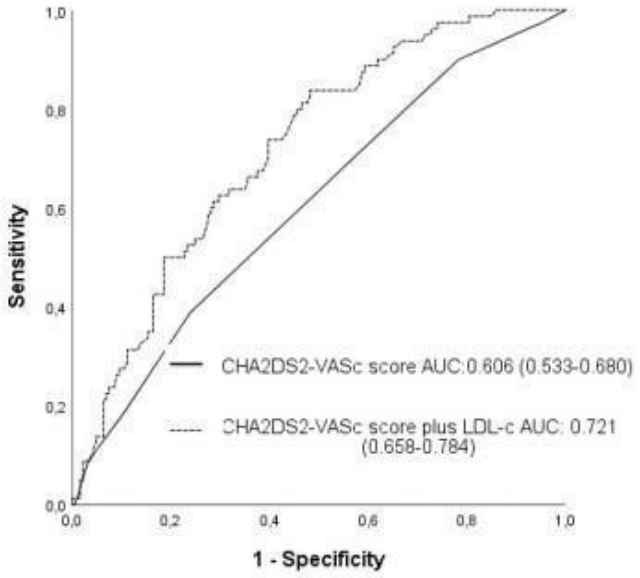
Introduction: The CHA2DS2-VASc score (Congestive heart failure, Hypertension, Age ≥ 75 [doubled], Diabetes, Stroke [doubled], Vascular disease, Age 65 to 74, and Sex category [female]) is a simplified risk score, which is used to predict stroke risk and guide anticoagulation therapy in patients with non-valvular atrial fibrillation (AF). It has been shown that there was an association between carotid plaque formation and several components of the CHA2DS2-VASc score, such as advanced age, diabetes mellitus, and hypertension. Also, CHA2DS2-VASc score was independent predictor of carotid plaques in non-valvular AF patients in recently published a study. Low density lipoprotein (LDL)-cholesterol has been shown to be independent predictor of moderate or severe carotid artery stenosis. As both CHA2DS2-VASc score include the above-mentioned parameters and LDL-cholesterol related to carotid artery disease, we aimed to investigate whether the addition of LDL cholesterol to CHA2DS2-VASc score creates additional predictive value for carotid artery stenosis (CAS) severity in patients undergoing carotid angiography.

Methods: We enrolled 269 consecutive patients who underwent carotid angiography for suspected carotid artery diseases. The patients with stenosis ≥70% were classified as significant CAS and patients with stenosis < 70% as non-significant CAS.

Results: The patients with stenosis ≥70% had higher CHA2DS2-VASc score compared with those with stenosis< 70% (3.3 ± 1.4 vs 2.7 ± 1.4, p = 0.004). In the multivariate logistic regression analysis, the CHA2DS2-VASc score, and LDL-cholesterol were significant independent predictors of severe carotid artery stenosis (OR: 1.1246; 95% CI: 1.372–1.588, p < 0.05, OR: 1.017; 95% CI: 1.008–1.026, p < 0.05, respectively). The addition LDL-cholesterol to CHA2DS2-VASc score was associated with significant improvement in predicting severe carotid artery stenosis compared with the CHA2DS2-VASc score alone (AUC:0.721 vs 0.606, difference p < 0.05). Also, the combining LDL-cholesterol with CHA2DS2-VASc score improved the reclassification (NRI:43.04 %, p < 0.05) and integrated discrimination (IDI:0.083, p < 0.05) of patients compared with CHA2DS2-VASc score alone.

Conclusions: Our study demonstrated that the combining LDL-cholesterol with CHA2DS2-VASc score may be useful to predict severe carotid artery stenosis in patients undergoing carotid angiography.

Variables	No-severe stenosis (n = 189)	Severe stenosis (n = 80)	p-value
Age, years	67.7 ± 8.9	67.5± 9.8	0.889
Men n (%)	109 (58)	50 (63)	0.462
Smoking n (%)	47 (25)	19 (24)	0.846
Glucose (mg/dl)	107 (46.7)	249 (42.9)	0.075
Total cholesterol (mg/dl)	56 (24.6)	142(24:5)	< 0.001
LDL- cholesterol (mg/dl)	38(16.6)	114 (19.8)	< 0.001
HDL-cholesterol (mg/dl)	54 (3.6)	142(18:4)	< 0.001
BMI (kg/cm^2)	27.8 ± 3.2	28.1 ± 3.1	0.429
WBC	8.1 ± 1.1	9.2 ± 1.2	< 0.001
CHA_2DS_2-VASc	2.7 ± 1.4	3.3 ± 1.4	0.004



ID: **250**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **Poster**

RARE MANIFESTATIONS OF BEHÇET'S DISEASE: A CASE REPORT

Abd Alraouf Omar[1], Amdallah Rkha[1], Osama Bheleel[2]

[1]*Tripoli University Hospital, Tripoi, Libya*

[2]*Tripoli University Hosoital, Tripoli, Libya*

[*]*Corresponding Author (abdalraouf.omar@gmail.com)*

BACKGROUND: We are reporting a unique case of Behçet's Disease presented by high mortality systemic complication; right ventricular mass, tricuspid valve mass, right main pulmonary artery thrombosis, inferior vena cava thrombosis and Budd-Chiari syndrome which successfully treated after adding immunosuppressant to anticoagulant.

METHODS: A 30 years old Libyan man, scholar and sheep had a history of intermittent fever, chest tightness, night sweating, productive cough with whitish sputum which become mixed with streaks of blood and photophobia three months before admission treated as a case of enteric fever with no improvement. He was referred to our hospital for further evaluation. Wide range of investigation were done including blood investigation, sputum, and skin biopsy of suspicious nevus and ultra sound abdomen in addition to computed tomography of the brain, chest, abdomen and pelvis were performed in addition to transthorasic echocardiography and transesophegeal echocardiography, cardiac magnetic resonance as well.

RESULTS: laboratory investigation illustrated: Hg 9.7g/dl , WBC 17.5*103 /uL mainly granulocytes 85.9%, PLT 196*103/uL, CRP 16.9mg/dl, ESR 100mm/1st hr , ALT 78.4 U/L, AST 55. U/L, T.bilerubin1.32mg/d , direct bilirubin 0.83mg/dl, alkaline phosphates, INR 2.48 on anticoagulant, urea, electrolytes and creatinine were normal, serum amylase and lipase normal . Blood film for malaria was negative, sputum for AFB negative 3 times. Tumor marker CA19-9 and alfa fetoprotein were normal. Anti-nuclear antibody (ANA) (IgG) (IFT HEp2) 1:160 titer, ds DNA (double strand) abs. IgG < 10.0 IU/ml, c-ANCA <1:2 titer, p-ANCA <1:10 titer. Peripheral blood film showed toxic granulation. Boon marrow biopsy was reactive bone marrow, skin biopsy showed intradermal nevus , ultrasound abdomen hepatomegaly it bright liver moderate ascites, and inferior vena cava thrombosis to the level below the renal vessels CT scan of brain was normal, chest high-resolution CT scan bilateral multiple emboli with radiological suggestion of septic origin, CT abdomen with contrast IVC thrombosis with Budd-Chiari syndrome, Cardiac echocardiography showed RV mass, TV attached structure at the ventricular aspect and pulmonary artery thrombus with no regional wall motion abnormality and preserved ejection fraction. CMR showed cardiac lesions measuring 3.5 cm related to interventricular septum and 1.4 cm related to lateral wall of the right ventricle with voidance of moderate heterogonous contrast enhancement.

CONCLUSION: The patient was diagnosed with Behçet's disease manifested by intracardiac vasculitis and Budd-Chiari syndrome. Although the patient was on anticoagulant and INR within therapeutic range, intravascular thrombosis progressed. But by adding immunosuppressant the thrombosis and intracardiac lesions were diminished and finally disappeared.

Oral Presentation Session

Peripheral Vascular Disease: Diagnosis and Treatment

Date: 13.03.2020 Time: 14:30 – 15:30 Hall: 5

ID: **366**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Oral**

THE CORRELATION BETWEEN HIGH SENSIVITY CRP AND PURE ASCENDING AORTIC ANEURYSM

Güney Erdoğan[1], Diyar Köprülü[2]

[1]*Samsun Eğitim Ve Araştırma Hastanesi, Samsun, Turkey*

[2]*Ordu Devlet Hastanesi, Ordu, Turkey*

[*]*Corresponding Author (guneyerdogan8174@hotmail.com)*

Objective: Ascending aortic aneurysm (AscAA) is a common cardiovascular disease and is associated with aortic wall inflammation and cystic degeneration. In this study, we aimed to investigate the relationship between hsCRP and AscAA.

Method: Ninty-five consecutive patients with AscAA diagnosed by transthoracic echocardiography were prospectively recruited and were compared to 40 age-gender- matched subjects with normal aortic diameters. All patient groups underwent thoracoabdominal CT to determine the aortic diameter. In both groups, blood sample were analyzed for hsCRP.

Results: High-sensitive Creactive protein (hs-CRP) (median 2.21±1,81...., IQR vs. median ..4,01±.2,44..., IQR mg/L, p<0.001..) levels were significantly higher in the AscAA group compared to the control group.

The comparisons of baseline characteristic and laboratory findings of groups were demonstrated in Table 1. In patients with AscAA, the prevalence of gender and age, creatinine, HsCRP low-density lipoprotein cholesterol (LDL-C), HDL, WBC, RDW, MPV, PLATELET, MHR levels were higher than in the control group ($p < 0.05$).
In univariate analysis identified the following variables which were significantly associated with AAA patients: age, gender, creatinine, HsCRP, LDL, HDL, WBC, RDW, MPV,platelet, MHR(monocyte HDL ratio) (Table 2).

In multivariable analysis, presence of HsCRP (OR 1.527, 95% CI 1.117 to 2.086, p=0.008), MPV (OR 0.381,95% CI 0.250 to 0.582, p<0.001), platelet (OR 0.980, 95% CI 0.968 to 0.993, p=0.002) remained to be the independent predictors of AscAA (Table 3).

In ROC analysis, a cut-off value of 2.15 HsCRP had a 68% sensitivity and a 60% specificity for prediction of AscAA patients (AUC: 0.723, p<0.001).

Conclusion: In the present study, there were higher levels of hs-CRP in patients with pure an AscAA than in controls. which may indicate the role of inflammation in the pathogenesis of AscAA. There was an inverse correlation between MPV, Platelet and AscAA which needs further studies with a larger group of patients to confirm the results of the present.

Table 1. Baseline Characteristics and Laboratory Findings

	AscAA (+)	AscAA(-)	P
AGE	57,0±7,3	54,2±6,8	**0.04**
CREATİNİNE	0,86±0,13	0,81±0,12	**0.043**
GENDER(MALE)	%80	%20	**0,006**
ANTİHYPERTENSİVE DRUG USAGE	%71,6	%28,4	0,549
B BLOKER USAGE	%73,6	%26,4	0,511
HYPERLİPİDEMİA	%71,2	%28,8	0,812
CORONARY ARTERY DİSEASE	%63,2	%36,8	0,458
HYPERTENSİON	%71,4	%28,6	0,699
DİABETES MELLİTUS	%70,4	%29,6	1,000
Hs-CRP(mg/L)	4,0±2,4	2,2±1,8	**<0,001**
FASTİNG GLUCOSE (mg/dL)	101,9±18,4	99,1±13,7	0,518
HbA1c(%)	5,7±0,4	5,7±0,3	0,754
TOTAL CHOLESTEROL(mg/dL)	205,99±39,11	205,78±43,95	0,978
LDL CHOLESTEROL(mg/dL)	132,15±34,08	128,55±34,98	0,579
HDL(mg/dL)	42,2±7,2	50,4±11,9	**<0,001**
TRİGLYCERİDES	169±86	147±70	0,112
ALT(U/L)	27,43±20,3	25,0±11,6	0,687
AST(U/L)	24,27±9,63	25,38±11,22	0,979
GGT(U/L)	25,89±9,82	25,35±9,48	0,767
URİC ACİD(mg/dL)	5,51±1,25	5,17±1,17	0,148
WBC(10^3/µL)	7,0±1,6	6,3±1,2	**0,014**
HEMOGLOBİN(g/dL)	14,21±1,43	13,95±1,63	0,361
RDW(%)	12,22±1,68	12,74±0,94	**0,012**
MCV(fL)	86,49±3,98	86,47±4,13	0,972
NEUTROPHİL(10^3/µL)	3,9±1,2	3,5±0,9	0,09
LYMPHOCYTE(10^3/µL)	2,3±0,6	2,1±0,5	0,374
NEUTROPHİL/ LYMPHOCYTE RATİO	1,8±0,6	1,7±0,5	0,591
MPV(fL)	7,89±1,55	9,99±1,54	**<0,001**
PLATELET(10^3/µL)	246±62	274±66	**0,019**
MHR	13,1±3,96	9,69±3,88	**<0,001**

Data are given as mean ±SD, median (interquartile range) or n (%).

AscAA (Ascending Aortic Aneurysm), ALT (Alanin aminotransferaz), AST (Aspartat Aminotransferaz), HbA1c (Hemoglobin A1C), HDL (High Density Lipoprotein Cholesterol), Hs-CRP (High Sensitive C Reactive Protein), LDL (Low Density Lipoprotein Cholesterol) MCV (Mean Corpuscular Volume), MHR (Monocyte HDL ratio)MPV (Mean Platelet Volume), RDW (Red Cell Distribution Width), WBC (White Blood Cell),

Table 2. Univariate logistic regression analysis

	OR	95% CI	p-value
AGE	1.053	1.001-1.107	**0.047**
CREATİNİNE	1,202	1,05-1.606	**0.046**
GENDER	0.35	0.163-0.751	**0.007**
HDL (mg/dL)	0.905	0.862-0.951	**<0.001**
HsCRP(mg/L)	1.467	1.202-1.790	**<0.001**
MHR	1.276	1.132-1.438	**<0.001**
MPV(fL)	0.458	0.344-0.610	**<0.001**
RDW(%)	0.746	0.547-1017	**0.063**
PLATELET(10^3/µL)	0.993	0.988-0.999	**0.025**
WBC(10^3/µL)	1.397	1.069-1.826	**0.014**

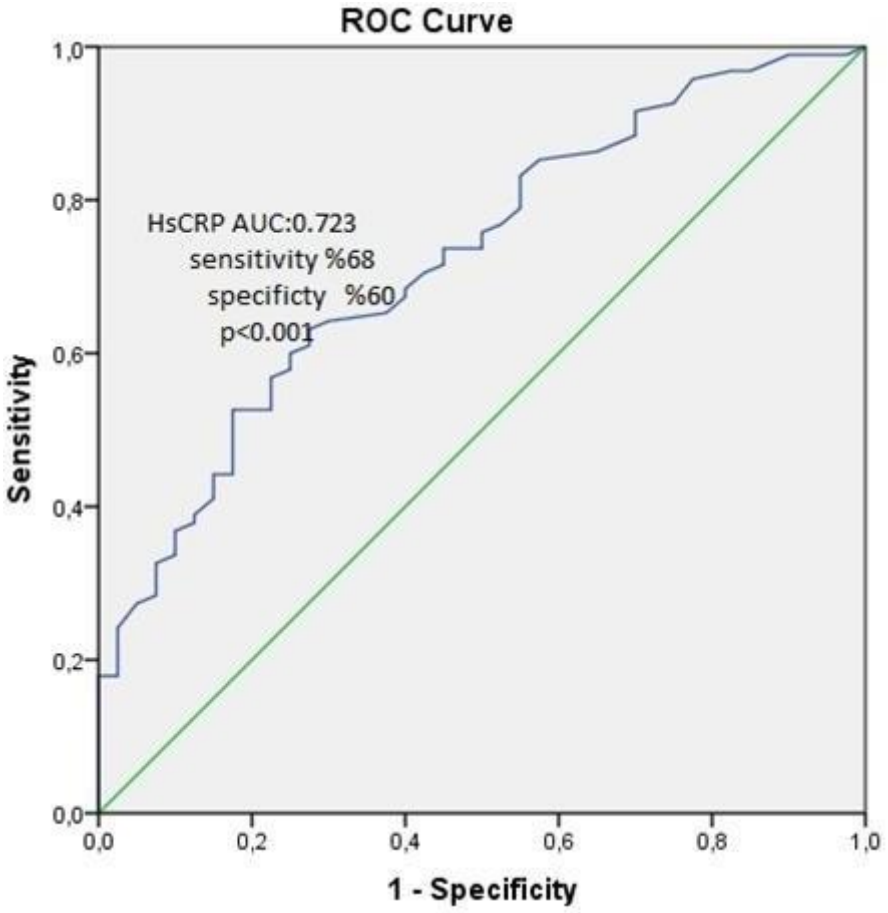
Hs-CRP (High Sensitive C Reactive Protein HDL(High Density Lipoprotein Cholesterol) RDW(Red Cell Distribution Width) MPV(Mean Platelet Volume) WBC(White Blood Cell)

Table 3. Predictors of AscAA in multivariate logistic regression analyses

	OR	95% CI	p-value
HsCRP(mg/L)	1.527	1.117-2.086	**0.008**
MPV(fL)	0.381	0.250-0.582	**<0.001**
PLATELET(10^3/µL)	0.980	0.968-0.993	**0.002**

OR: odds ratio, CI: confidence interval

AscAA (Ascending Aortic Aneurysm), MPV (Mean Platelet Volume)



ID: **271**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Oral**

THE CLINICAL USEFULNESS OF ANTIAGGREGANT OR ANTICOAGULANT THERAPY UPON THE ABDOMINAL AORTIC ANEURSYM

Aysun Erdem Yaman[1], Duygu Inan[2], Esra Poyraz[2]

[1]*Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Department of Cardiology, Istanbul, Turkey, İstanbul, Turkey*

[2]*Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Department of Cardiology, Istanbul, Turkey, istanbul, Turkey*

[*]*Corresponding Author (erdemaysun@yahoo.com)*

Objective:

Abdominal aortic aneurysm (AAA) is a degenerative vascular pathology resulting in morbidity and mortality in older patients due to rupture and sudden death. Established guidelines don't recommend which pharmacological therapies is the best for the prevention of AAA progression or rupture. Most AAA contain mural thrombus. In some study, it was shown AAA containing mural thrombus was protected against the enlargement or rupture. Therefore, the aim of this study is to investigate the effect of anticoagulant and antiaggregant therapy on the mural thrombus size, aneurysmal progression and the clinical endpoints.

Method:

Three hundred fifty-seven patients whose were diagnosed AAA by the computer tomography between 2012 and 2019 were collected from the archive of the hospital. We divided them into groups (group 1 no therapy n:18, group 2 ASA therapy n:145, group 3 clopidogrel therapy n:83, group 4 antiaggregant and anticoagulant therapy n:25, group 5 NOAK therapy n:45, group 6 varfarin therapy n:41). All biochemical parameters, thrombus measurements and abdominal diameters were analysed in patients. The results were evaluated by using statistical methods.

Results:

Demographic and biochemical characteristics of the examined groups were similar. The difference of mural thrombus diameter after therapy was highest in group 6 (group 1; 2,89±4,71, group 2; -2,04±6,56, group 3;- 3,46±5,27; group 4; -5,72±5,78, group 5; -7,11±4,79; group 6; -10,51±7.9; p=0.001). The increasing of the abdominal aortic diameters after therapy was similar in all groups (group 1; 3,44±4,57, group 2; 2,1±3,12, group 3; 1,74±1,56; group 4; 2,60±3,21, group 5; 1,34±1,62; group 6; 1,25±1,37; p=0.37). The correlation was insignificant between decreasing of mural thrombus diameter and increasing of abdominal aortic diameter. The clinical endpoints was similar in all groups (operation, group 1 n:2, group 2 n:41, group 3 n:24, group 4 n:4, group 5 n:10, group 6 n:5; rupture or dissection group 2 n:5, group 3 :2, group 4 n:1; peripheric emboli group 1 n:1, group 2 n:16, group 3 n:5, group 4 n:2, group 5 n:1, group 6:2; death group 1 n:4, group 2 n:21, group 3 n: 20, group 4 n:6, group 5 n:9, group 6 n: 11, p>0.05)

Conclusion:

Anticoagulant therapy especially varfarin decreased the amount of mural thrombus. However, the decreasing of the mural thrombus does not affect the clinical status and the abdominal aortic diameter.

ID: **521**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

COMPLETE BLOOD COUNT PARAMETERS IN PERIPHERAL ARTERIAL DISEASE

Yusuf Velioğlu, **Ahmet Yüksel**

Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey

**Corresponding Author (yusufvelioglu@gmail.com)*

Background: The aim of this study was to determine whether complete blood count parameters could be used as the biomarkers of inflammation in patients with in peripheral arterial disease.

Methods: Seventy-five patients with peripheral arterial disease (study group) and 75 healthy subjects (control group) were included in this retrospective study. Their baseline clinical characteristics and laboratory data were recorded and compared. Data were compared using univariate tests including independent samples t-test, Mann-Whitney U-test and chi-square test. Moreover, multivariate logistic regression analysis was also conducted to determine independent predictors of peripheral arterial disease.

Results: The groups were statistically similar with regards to baseline clinical and demographic features. The values of C-reactive protein, white blood cell and neutrophil-to-lymphocyte ratio values were found to be statistically significantly higher in study group versus control group, but none of them were considered as an independent predictor of peripheral arterial disease according to multivariate logistic regression analysis. Only mean platelet volume was demonstrated to be a statistically significant predictor of peripheral arterial disease.

Conclusions: Our study deduced that mean platelet volume was an independent predictor of peripheral arterial disease, and could be used as a marker of inflammation in patients with peripheral arterial disease.

Key words: Mean platelet volume; complete blood count; hemogram; peripheral arterial disease.

ID: **483**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

INHERITED RISK FACTORS IN PERIPHERAL ARTERIAL DISEASE

Sabür Zengin[1], Ferşat Kolbakır[2]

[1]Sabuncuoğlu Şerefeddin EAH, Amasya, Turkey

[2]19 mayıs Üniversitesi Tıp Fakültesi, Samsun, Turkey

[*]Corresponding Author (dr_sgb@hotmail.com)

Objective: We aimed in this study to examine the presence and frequency of genetic polymorphisms in individuals with lower extremity peripheral arterial disease and to report on their association with this disease.

Material and methods: This cross-sectional study included a total of 38 peripheral arterial disease patients who had lower extremity peripheral arterial occlusive lesions as documented by a computed tomography angiography and had a complete set of thrombophilia marker and genetic risk factor analysis.

Results: A total of 38 patients (mean age: 49.81±4,8 years) were investigated for genetic risk factors and thrombophilia markers. Of the 38 patients; 8 had factor V Leiden mutation and 14 had methylenetetrahydrofolate reductase C677T gene mutation.
Conclusion: Due to the presence of an association between risk factors for thrombophilia and occlusive events, which lead to increased failure rates in revascularization procedures for peripheral arterial disease, we believe that thrombophilic markers and genetic risk factors should certainly be assessed particularly in younger patients or patients undergoing revascularization procedures to improve success and patency rates and to minimize occlusive complications.

Keywords: revascularization peripheral arterial disease, thrombophilia

ID: **518**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

ADMINISTERING SYSTEMIC ANTICOAGULATION (HEPARIN) IS A GOLD STANDARD MANAGEMENT DURING VASCULAR ACCESS SURGERY; IS IT A DILEMMA?

Şahin Şahinalp

Yuzuncu Yıl University, van, Turkey

**Corresponding Author (ssahinalp@gmail.com)*

Purpose: Although administering heparin is being a routine management during vascular access procedure in patients need for a hemodialysis, the result of this treatment is controversy. It has been shown that heparin treatment results postoperative bleeding but it has not any effective support for postoperative AVF duration in literature. Conversely it has been shown that administering heparin during vascular access procedure significantly acts positively to the AVF duration in some of the literature. Because of this dilemma, the aim of this study was to evaluate the effect of the heparin on the patency of the arteriovenous fistula and postoperative complications in patients with undergoing AVF access procedure.

Method: The study was carried out retrospectively on patients admitted to Van Yuzuncu Yıl University Hospital for permanent vascular access placement since April 2017 through September 2019. 253 patients were enrolled in the study. All patients were operated on by a single surgeon by a standardized surgical procedure. 87 patients (Group I) were assigned to receive 100units/kg of heparin after dissection prior to anastomosis while the other 166 (Group II) received no intraoperative heparin injection. In sub-group analysis two another group was consisted as the patients with predialysis and preparative for AVF (Group Ia and IIa) and currently taking a hemodialysis treatment (Group Ib and Group IIb). Auscultation of bruit and palpation of thrill was used to assess arteriovenous fistula patency in the first 2 weeks and 1 month after AVF placement. All the necessary data has been gathered from the hospital records.

Results: Depending on the demographic data's both of the groups were similar. Postoperative bleeding (incision line bleeding and subcutaneous hematoma) was significantly high in Group I than Group II (17 (19.5%) vs 4 (4.8%) ($p<0,001$). The sub-group analysis of the study revealed that the bleeding was statistically high in patients with currently undergoing hemodialysis ($p<0,05$). The AVF patency was similar in both groups but the sub-group analysis was revealed that both Group Ib and Group IIb had the highest patency rates than the other two sub-groups.

Conclusion: Our results show that systemic anticoagulation with heparin increase the bleeding complications during the AVF access procedure, especially in patients whom currently undergoing an hemodialysis treatment. Although systemic heparin administration may be considered as an effective option in preventing early vascular access failure, it has a limited effect to the late patency of AVF. However, considering the contradictory data on the usefulness of heparin injection, larger trials are needed to evaluate efficacy and adverse effects of systemic intraoperative anticoagulation in currently undergoing hemodialysis patients before qualifying it as a method of increasing AVF patency in these patients.

ID: **31**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

TRANSPOSITION OF BASILIC VEIN IN FOREARM FOR ARTERIOVENOUS FISTULA CREATION: OUR MID-TERM RESULTS

Mustafa Seren[1], Alper Uzun[2], Ömer Faruk Çiçek[3]

[1]*dışkapı yıldırım beyazıt education and research hospital, ı, Turkey*

[2]*bozok university cardiovascular surgery department , yozgat, Turkey*

[3]*selcuk university cardiovascular surgery department, konya, Turkey*

[*]*Corresponding Author (drmseren@hotmail.com)*

Background: In this study, we aimed to present our mid-term results of basilic vein transposition in the forearm to create an arteriovenous fistula.

Methods: Between January 2015 and October 2017, a total of 21 patients (13 males, 8 females; mean age 54.2±11.3 years; range, 32 to 74 years) with an adequate basilic vein and radial arterial systems who underwent basilic vein transposition in the forearm were retrospectively analyzed. All operations were performed under local anesthesia and mild sedation. The basilic vein was harvested using a single incision from elbow joint to wrist as an in situ vein graft. If the harvested basilic vein did not extend easily to the radial artery in the wrist region, the saphenous vein was harvested to extend arteriovenous fistula tract.

Results: The mean follow-up was 25.3±9.8 (range, 2 to 32) months. All patients underwent arteriovenous access surgery using transposed basilic vein in the forearm. In all patients, except for two, transposed basilic vein in the forearm stayed patent during follow-up with a patency rate of 90.5%. The mean fistula maturation time was 45.2±10.7 (range, 28 to 59) days.

Conclusion: If cephalic vein diameters are too small for arteriovenous fistula creation, basilic vein system in the medial surface of the forearm may be considered a favorable option.

ID: **560**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

OSCILLOMETRIC EVALUATION OF THE EFFECTS OF CARDIOTOXIC CHEMOTHERAPEUTIC AGENTS ON VASCULAR STIFFNESS

Ömer Kertmen, Okan Gulel, Guzin Demirag, Duzgun Ozatli

Ondokuz Mayis University Faculty of Medicine, Samsun, Turkey

**Corresponding Author (omerkertmen@gmail.com)*

Objective:

It was shown in many clinical trials that arterial stiffness is an early predictor of cardiovascular events. Since cancer patients who have been treated with cardiotoxic chemotherapeutic agents experience an increased risk of cardiovascular events, we aimed to evaluate the arterial stiffness in cancer patients taking cardiotoxic chemotherapeutic agents.

Method:

Our study was a prospective, case-control study involving 70 participants. 30 of the participants were newly diagnosed cancer patients, and 40 were age- and sex-matched healthy individuals. Their ages were between 18 and 50 years. Hypertension, diabetes mellitus, known cardiac diseases, obesity, smoking, and alcoholism were the exclusion criterias. We measured baseline oscillometric arterial stiffness parameters (pulse wave velocity, augmentation index, total vascular resistance, and blood pressures) of all participants with Mobil-O-Graph 24 h ABPM NG® (Stolberg, Germany) device. In addition, we evaluated transthoracic echocardiographic parameters for aortic stiffness (aortic stiffness index, elastic modulus, aortic distensibility, and aortic strain). For cancer patients, the measurements were repeated one month after completion of the chemotherapy protocol. This study was funded by the Ondokuz Mayıs University, Samsun, Turkey (Project Number: PYO.TIP.1904.18.020).

Results:
Mean age of the cancer group was 41.4±5.9 years and that of the control group was 39.6± 6.6 years (p=0.258). 29 patients of the cancer group were women and 38 subjects of the control group were women (p=1.0). 28 patients had breast cancer, one had lung cancer, and one had diffuse B-cell lymphoma. Before chemotherapy, cancer patients had similar values for stiffness parameters as the control group. However, oscillometric pulse wave velocity parameter differed significantly in cancer patients after chemotherapy (p<0.0002). In addition, systolic blood pressure and central systolic blood pressure values increased significantly in cancer patients after chemotherapy (p=0.033 for both). Augmentation index increased in cancer patients after chemotherapy as compared to the controls (p=0.013). On the other hand, echocardiographic stiffness parameters were not different in cancer patients before and after completion of the chemotherapy protocol.

Conclusion:
After administration of cardiotoxic chemotherapeutic agents, we observed significant deteriorations at oscillometric pulse wave velocity and augmentation index parameters which are early predictors of cardiovascular events.

Table: Comparison of arterial and aortic stiffness parameters of the study groups

Parameter	Control Group (n=40)	Cancer Patients Before Treatment (n=30)	Cancer Patients After Treatment (n=30)	p	p*	p**
Pulse Wave Velocity (m/sec)	5,96 ± 0,71	6,23 ± 0,83	6,5 ± 0,81	0,144	**0,004**	**<0,002**
Augmentation Index (%)	24,45±8,8	28,17 ± 9,66	29,67 ± 8,08	0,098	**0,013**	0,293
Total Vascular Resistance (sec*mmHg/ml)	1,22± 0,13	1,23 ± 0,11	1,22 ± 0,12	0,642	0,912	0,407
Systolic Blood Pressure (mmHg)	120,28± 13,29	121,27 ± 14,84	125,67 ± 16,66	0,77	0,137	**0,033**
Diastolic Blood Pressure (mmHg)	75,25±10,42	77,53 ± 11,78	80,1 ± 13,5	0,394	0,094	0,187
Mean Arterial Pressure (mmHg)	96,08±10,67	97,67 ± 12,74	100,97 ± 14,43	0,572	0,107	0,075
Pulse Pressure (mmHg)	44,73±9,33	43,9 ± 7,99	45,6 ± 8,59	0,699	0,689	0,177
Central Systolic Blood Pressure (mmHg)	110,03±11,68	111,33 ± 12,52	115,57 ± 15,85	0,654	0,097	**0,033**
Central Diastolic Blood Pressure (mmHg)	77,23±10,36	79,07 ± 11,96	81,73 ± 13,62	0,493	0,12	0,165
Aortic Strain (%)	7,31 ± 2,98	7,43 ± 2,27	7,21 ± 2,5	0,855	0,875	0,581
Aortic Stiffness Index	3,36 ± 1,66	2,94 ± 1,22	3,21 ± 1,61	0,247	0,706	0,287
Aortic Distensibility ($cm^2.dyn^{-1}.10^{-6}$)	0,34 ± 0,16	0,35 ± 0,13	0,33 ± 0,13	0,749	0,719	0,336
Aortic Elastic Modulus ($dyn.cm^{-2}.10^6$)	7,42 ± 3,82	6,67 ± 3,12	7,36 ± 3,71	0,378	0,944	0,193

p: Between control group and before treatment group
p*: Between control group and after treatment group
p**: Between before treatment and after treatment groups

Oral Presentation Session

Achievements in Percutaneous Coronary Interventions

Date: 13.03.2020 Time: 16:00 - 17:00 Hall: 5

ID: **543**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

CULPRIT CORONARY ATHEROSCLEROTIC PLAQUE CHARACTERISTICS IN YOUNG PATIENTS WITH ACUTE MYOCARDIAL INFARCTION: A VOLUMETRIC INTRAVASCULAR ULTRASOUND STUDY

Ardi Rreka, Atilla Iyisoy

Gülhane Training and Research Hospital, Ankara, Turkey

**Corresponding Author (ardirreka@gmail.com)*

Objective
To demonstrate the culprit coronary plaque characteristics in young patients less than 45-year-old presenting with an acute myocardial infarctionby using a three-dimensional (3D) intravascular ultrasound (IVUS).

Methods
Between September 2005 and May 2016, 75 patients with ST-elevation myocardial infarction (STEMI) less than 45 years were evaluated for the study. All IVUS studies were performed just prior any intervention (coronary balloon and stenting) to all patients with successful reperfusion by thrombolytic agents or thrombectomy catheters. All IVUS imaging and analysis were performed with 40-MHz mechanical IVUS catheter (Boston Scientific,USA). Qualitative and quantitative analyses were performed according to criteria of the clinical expert consensus document on IVUS. While culprit lesion characteristics in the participant young MI patient were presented with mean and standard deviation, clinical characteristics of them were presented with mean, standard deviation, frequency and percentage based on the type of variable. Univariate linear regression model with enter method was used to determine independent variables with statistically significant relationships, multivariate linear regression model with stepwise method was used for hypothesis analysis. Additionally, One-way Anova Test was conducted to present mean differences among the groups along with the Tukey test. $p<0.05$ was accepted as statistically significant.

Results
The mean age of patients was 41.32 (±4.34), 81.3% were male. Of culprit lesion of the young MI patients, mean lesion external elastic membrane (EEM) area was 14.64 mm2, mean lesion lumen area was 4.16 mm2 (±2.40), mean lumen area stenosis (%) was 0,67 (±0,15). Additionally, mean plaque volume was 118,41 (±71.81), mean lesion length (mm) was 15.12 mm (±5.77) and mean of remodeling index was 1,14 (±0.24).

BMI (β=0,275, p<0,001), diabetes mellitus (β=0,329, p<0,001) and LDL (β=0,276, p=0,010) were found to have statistically positive effects on plaque volume (F:29.979, p<0.001). Additionally, lesion length was found affected statistically positive by BMI (β=0,306, p<0,001) and LDL (β=0,260, p<0,001), diabetes mellitus (β=0,207, p=0,031) and statistically negative by HDL (β=-0,213, p=0,033) (F:26,606, p<0.001). It was also seen that remodeling index was found affected statistically negative by HDL (β=-0,339, p=0,003) (F:9,468, p=0.003). Furthermore, mean HDL 34.15 (±7.99) of positive remodeling index group was statistically lower than HDL mean of intermediate remodeling index group 43.26 (±10.12) (F:6.346, p=0.003) (Table 1).

Conclusions
It can be said that BMI, LDL, HDL and diabetes mellitus are important effecting factors for culprit lesion characteristics, including the length of lesions of young MI patients. Additionally, HDL is a independent variables of remodeling index which is a major characteristic of acute coronary syndrome.

Key Words: intravascular ultrasound, young myocardial infarction, remodeling index

Table 1. Multivariate Linear Regression Findings of Relationships Between Culprit Lesion and Clinical Characteristics

Dependent Variable: Plaque Volume*						
Independent Variables	**R**	**R^2**	**β**	**R^2 Change**	**F Change**	**F ChangeSignificance**
BMI	0,622	0,387	0,273	0,387	49,163	**<0,001**
DM	0,704	0,496	0,329	0,109	15,558	**<0,001**
LDL	0,736	0,542	0,276	0,045	7,049	**0,010**
Dependent Variable: Lesion Length*						
Independent Variables	**R**	**R^2**	**β**	**R^2 Change**	**F Change**	**F Change Significance**
BMI	0,667	0,445	0,306	0,445	58,636	**<0,001**
LDL	0,736	0,542	0,260	0,097	15,238	**<0,001**
HDL	0,759	0,576	-0,213	0,033	5,590	**0,021**
DM	0,777	0,603	0,207	0,028	4,854	**0,031**
Dependent Variable: Remodeling Index*						
Independent Variables	**R**	**R^2**	**β**	**R^2 Change**	**F Change**	**F Change Significance**
HDL	0,339	0,115	-0,339	0,115	9,468	**0,003**

**Multivariate Linear Regression Analysis with stepwise method*

ID: **3**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

CORONARY ARTERY PATTERNS AND VOLUME OF ENDOVASCULAR REVASCULARIZATION OF THE MYOCARDIUM IN PATIENTS YOUNGER 40 YEARS OF AGE WITH CONCOMITANT DIABETES MELLITUS

Fuad Abdullayev, Nidjat Babayev, Larisa Shikhiyeva

Topchibashev Research Center of Surgery, Baku, Azerbaijan

**Corresponding Author (larisacardio@gmail.com)*

Background: The aim of study was to present coronary artery patterns, and volume of endovascular revascularization in young adults (≤40years of age) with concomitant diabetes mellitus (DM).

Material: In cohort of 208 patients (≤40years of age) with coronary artery disease concomitant DM comprised 7.2% (n=15). 40% (n=6) patients with diabetes admitted with acute coronary syndrome (ACS); 60% (n=9) - with stable angina.
ACS group included 4 patients with acute myocardial infarction (one patient with STEMI; three patients with NSTEMI), and 2 patients with unstable angina. Three (33.3%) patients with stable angina were in II FC (CCS); 2(22.2%) - in III FC (CCS); 4(44.5%) patients - in IV FC (CCS).
Early myocardial infarction from anamnesis verified in 40% (n=6) patients.
First-time hospitalization noted in 12(80%) patients; second hospitalization - in 3(20%) patients follow early endovascular or surgical revascularization of the myocardium.
11(73.3) young patients with DM underwent endovascular intervention, of them 8 patients - primary revascularization; 3 patients underwent second -, and third - time revascularization. 4(26.7%) patients underwent coronary artery bypass grafting (CABG).

Results: Diabetes dominated with ratio 3:1 in young female rather male patients with coronary artery disease ($p<0.01$).
80% young adults with diabetes manifested with two-three vessels disease dominated in ACS group rather stable angina group, with ratio 2:1($p<0.05$). One-vessel disease revealed in 20% patients, with prevalence in ACS group, rather stable angina, with ratio 3:1($p<0.01$).
Left arterial descending artery lesion noted in 80% (n=12) patients; Right coronary artery in 73.4% (n=11) patients; Left Circumflex artery in 60% (n=9) patients. Concomitant Left Main lesion was verified in 13.4% (n=2) in patients with stable angina only.
ACS group featured with equal rate of right coronary artery, and left arterial descending artery lesion. Patients with acute coronary syndrome differed also with prevalence of Left Circumflex artery lesion, rather stable angina patients, with ratio1.2:1 ($p=0.04$).
Patients with stable angina manifested with left arterial descending artery lesion, rather right coronary artery, with ratio 1.2:1($p=0.04$).
Discrete stenosis of proximal / mid segments of coronary arteries revealed in 53.3% patients; diffuse lesion - in 26.7%; total occlusion of vessels - in 20% patients.

Conclusion: In patients ≤40years of age with diabetes endovascular procedures comprised 73.3% with revascularization of one-two coronary arteries in 72.7% and 27.3%, accordingly. Full-volume revascularization in patients with three vessels disease was restricted due to mild stenosis in one of three vessels, either diffuse lesion of coronary arteries with left main involvement. Endovascular to surgical revascularization ratio in young adults with DM comprised 2.7:1($p<0.01$).
Indication for CABG, performed in 4 (26.7%) young adults with concomitant DM. was diffuse lesion of coronary arteries with left main involvement. All these patients suffered stable angina IV FC (CCS).

ID: **199**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

NEW DETERMINANTS OF SUCCESS OF CTO INTERVENTION

Mohamed Oraby

National Heart Institute, Cairo, Egypt

**Corresponding Author (dr.moh.oraby@gmail.com)*

BACKGROUND: Interventional treatment of chronic total occlusions (CTO) in coronaries continues to be challenging. However, with the advancement in the percutaneous coronary Intervention (PCI) techniques, development of suitable hardware and operator skill, the procedural success has improved from 50 to 60% to 75–90% and therefore, the procedure is now more frequently attempted.

METHODS: The study included 310 patients undergoing PCI for CTO at two centers. Most of cases were done by the same operator and/or assisting team utilizing biplane cath lab devices.

RESULTS: There was statistically significant difference regarding previous MI (P value = 0.003), J CTO score [median (IQR)] (P value = 0.031) and highly significant regarding IVUS use (P value <0.001).

Success rates were affected by J-CTO score i.e. cases of low score had high success rate and those of high score had high failure rate.

CONCLUSION: The current study showed that we can use clinical data (previous MI), angiographic data (J-CTO score) and technical details (IVUS use) to predict success of CTO revascularization using.

ID: **198**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN RED CELL DISTRIBUTION WIDTH AND SUCCESS AS WELL AS SHORT-TERM PROGNOSIS AFTER PRIMARY PERCUTANEOUS CORONARY INTERVENTION

Mohamed Oraby

national heart institute, cairo, Egypt

**Corresponding Author (dr.moh.oraby@gmail.com)*

BACKGROUND:

RDW is a marker of the variability in erythrocyte volume and is a routinely available component of the complete blood count. Clinical usage of RDW has usually been restricted to differential diagnosis of anemia. However, elevated RDW levels are associated with poor prognoses in acute myocardial infarctions (MI) heart failures stable angina in patients undergoing PCI and general population even in the adjustment for multiple potential confounders, including anemia.
Aim of the work:
The aim of this study is to evaluate the predictive value of red cell distribution width (RDW) on the electrocardiographic and angiographic no-reflow phenomenon in patients undergoing primary percutaneous coronary intervention (PCI).

METHODS:

A total of 72 patients were included in this prospective cohort study. The study population was divided into two groups • Group (I): 54 patients with post-procedure ST-T resolution ≥ 50%. • Group (II): 18 patients with post-procedure ST-T resolution < 50%.

RESULTS:

Results of the current study showed that there was significant difference between the 2 groups regarding RDW (P= 0.003), LV systolic function (P= 0.040), TIMI flow after PPCI (P= 0.006) and MBG post PCI (P= 0.002). Also there was significant difference regarding in-hospital MACE (P= 0.023). Cut-off value for RDW as a predictor of outcome was ≥ 14.3 % with accuracy of 68% i.e. the higher the RDW the worse outcome result should be predicted out of PCI results.

CONCLUSION:

More focused care should be delivered to patients presented with STEMI and high RDW value.

ID: **342**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

ANGIOGRAPHIC PERFUSION SCORE TO IDENTIFY 30-DAY RISK OF MAJOR ADVERSE CARDIAC EVENTS IN PATIENTS WITH ST ELEVATED MYOCARDIAL INFARCTION FOLLOWING PERCUTANEOUS CORONARY INTERVENTION

Zahidul Mostafa[1], Shaiful Islam Tipu Chowdhury[2], Lutfun Nahar Begum[3], Khaled Mohammad Iqbal[4], Rahat Noor[5]

[1]*Cox's Bazar Medical College, Cox's Bazar , Cox's Bazar , Bangladesh*

[2]*Cox's Bazar Medical College Hospital , Cox's Bazar , Bangladesh*

[3]*Cox's Bazar Medical College , Cox's Bazar , Bangladesh*

[4]*Central Police Hospital , Dhaka, Bangladesh*

[5]*Cox's Bazar Medical College Hospital , Cox's Bazar , Bangladesh*

[*]*Corresponding Author (zahidulmostafa@gmail.com)*

Background: Prediction of major adverse cardiac events (MACE) following percutaneous coronary intervention (PCI) among patients with ST-segment elevation myocardial infarction (STEMI) is of great clinical importance to identify the patients in risk of adverse outcomes to guide the management. An angiographic perfusion score (APS) is a combination of thrombolysis in myocardial infarction flow grades (TFG) and myocardial perfusion grades (TMPG) before and after PCI, estimates the reperfusion better than those grades alone. This study was conducted to estimate the association of APS with the MACE among STEMI patients who undergone PCI.

Methods: In this Cross-sectional observational study APS was calculated in 205 STEMI patients within 30 days of receiving PCI without thrombolytic pretreatment, who have been selected purposively in the Department of Cardiology, University Cardiac Center, Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka from July 2017 to June 2018. The score ranged from 0-12, where, reperfusion was defined as failed with the score of 0-3, partial: 4-9, and full: 10-12. Along with the ethical clearance from the correspondent authority, respondents were recruited who met the eligibility criteria for the study.

Results: With 7.8% incidence of MACE following PCI, the APS among the MACE patient groups was recorded as partial among 5.6% of them and as failed in 2.2%. No MACE was recorded among the full perfusion group. These differences of adverse outcomes among the groups of perfusion status were statistically highly significant ($p<0.05$).

Conclusion: An APS assesses the reperfusion status of both epicardial and myocardial perfusion and thus better predicts the risk of major adverse cardiac events following treatment.

ID: **200**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE IMPACT OF ADMISSION MEAN PLATELET VOLUME ON LVEF IN STEMI PATIENTS UNDERGOING PRIMARY PCI

Asmaa Elbagoury

national heart institute, cairo, Egypt

**Corresponding Author (shaddow_hope@yahoo.com)*

Aim of the work:
The aim of this study is to analyze the relationship between MPV on admission and left ventricular function in anterior STEMI patients undergoing primary PCI.

BACKGROUND:
MPV is a parameter showing platelet activation and function. Elevated mean platelet volume in patients with MI is an important risk factor for recurrent infarction and death. MPV is a strong, independent predictor for angiographic reperfusion and in-hospital mortality in patients underwent primary PTCA. Impact of admission MPV on LVEF after primary PCI in STEMI patients is still a debatable issue.

METHODS:
A total of 50 anterior STEMI patients who underwent successful primary PCI were included in this prospective cohort study conducted between January 2016 and December 2016. For all patients, admission MPV was recorded and transthoracic echocardiography was done before discharge. The study population was divided into two groups according to MPV, group I with normal MPV, n=22 patients and group II, with high MPV, n=28 patients. Informed consent obtained from every patient.
Group (I): 17 patients (77.3 %) had normal Left Ventricular (LV) systolic function by Echo (EF ≥ 50%) and 5 patients (22.7 %) had LV systolic dysfunction (EF < 50%).
Group (II): 9 patients (32.1%) had normal Left Ventricular (LV) systolic function by Echo (EF ≥ 50%) and 19 patients (67.9 %) had LV systolic dysfunction (EF < 50%).

RESULT:
There was a significant statistical difference between the two groups regarding the left ventricular function by Echo (p value = 0.002). There was no significant statistical difference between the two groups regarding major cardiac events during hospital stay (P value = 0.56). Regarding 6months follow up, there was no significant statistical difference between the two groups regarding CVS (P value = 0.17), but there was statistically significant difference regarding re-infarction , re-hospitalization and highly significant difference regarding HF (P:<0.001), in favor of group II characterized by high MPV.

CONCLUSION:
In our study, we observed a negative relation between admission MPV and subsequent EF. Compatible with previous studies, there was a significant relation between high white blood cells (WBC) count on admission and left ventricular EF. These findings, although do not prove a direct relation, may suggest an indirect role of MPV in LV remodeling. For this reason, in acute anterior STEMI patients, a high MPV may play an alerting role for possible LV dysfunction. Consequently, patients admitting to the Emergency Department with an acute anterior MI and a high MPV, are more likely to develop a ventricular dysfunction and therefore the role of more aggressive antithrombotic therapy in this patient group should be evaluated.

ID: **80**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

BODY MASS INDEX AND "OBESITY PARADOX" IN PATIENTS WITH MYOCARDIAL INFARCTION WHO UNDERWENT PERCUTANEOUS CORONARY INTERVENTION AFTER CARDIAC ARREST

Vojko Kanıc[1], Anton Lobnik[1], Franjo Naji[2]

[1]*University Medical Center Maribor, Maribor, Slovenia*

[2]*University Medical Center Maribor, Maribor, United States*

[*]*Corresponding Author (vojko.kanic@guest.arnes.si)*

Objectives

The data on the association between body mass index (BMI) and survival in patients resuscitated following myocardial infarction are scarce, inconclusive and partly contradictive, especially regarding the "obesity paradox". The data on long-term survival in these patients are missing. We aimed to assess the possible impact of BMI on the hospital and long-term outcomes in patients with MI undergoing PCI who were resuscitated before hospitalization or immediately after admission but prior to PCI.

Methods

Data on 7343 patients with MI, 439 (6.0%) with out-of-hospital cardiac arrest or arrest immediately after admission before PCI, were retrospectively analyzed. The patients were divided into five groups (quintiles) according to their BMI and the groups were compared. The hospital and long-term mortality were determined. Data were analyzed using descriptive statistics.

Results

The rates of death in hospital were similar in all BMI quintiles. In the 1st, 2nd, 3rd, 4th, and 5th BMI quintiles 21.3%, 28.7%, 21.5%, 22.5%, and 23.0% patients died, respectively; p=0.72. After adjustment for confounders, cardiogenic shock (adjusted OR 2.94; 95% CI 1.73 to 5.03;p<0.0001), mechanical ventilation (adjusted OR 2.54; 95% CI 1.44 to 4.18;p=0.001), renal dysfunction (adjusted OR 2.34; 95% CI 1.34 to 4.10;p=0.003), but not BMI (adjusted OR 0.94; 95% CI 0.78 to 1.13) predicted hospital mortality. During the observation period, 237 (54%) patients died. During the mean follow-up of 5.6±3.0 years, the mortality rate was similar in all BMI quintiles (57.3%, 51.9%, 46.8% ,61.8%, and 51.4% patients died in the 1st,2nd,3rd ,4th, and in the highest) quintile, respectively; p=0.33).

Cox regression analysis identified age (HR 1.02; 95% CI 1.01–1.04; p<0.0001), cardiogenic shock (HR 1.64; 95% CI 1.22–2.19; p=0.001), hyperlipidemia (HR 1.80; 95% CI 1.20–2.68; p=0.004), renal dysfunction (HR 1.40; 95% CI 1.03–1.90; p=0.034), but not BMI (HR 0.98; 95% CI 0.89–1.08) as independent prognostic factors for follow-up mortality.

Conclusion

Neither hospital nor long-term mortality was associated with BMI in the patients with MI undergoing PCI who were resuscitated before hospitalization or immediately after admission but prior to PCI. Furthermore, no "obesity paradox" was observed in these patients. Cardiogenic shock and renal dysfunction predicted both hospital and long-term mortality. Additionally, mechanical ventilation predicted hospital mortality and age and hyperlipidemia predicted long-term mortality.

ID: **6**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE PROGNOSTIC VALUE OF GRACE SCORE FOR ACUTE KIDNEY INJURY IN ST ELEVATION MYOCARDIAL INFARCTION PATIENTS COMPLICATED WITH CARDIOGENIC SHOCK

Mert Ilker Hayıroğlu[1], **Tufan Çınar**[1], Ahmet Ilker Tekkeşin[2]

[1]*Sultan Abdulhamid Han Training and Research Hospital, Istanbul, Turkey*

[2]*Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (mertilkerh@yahoo.com)*

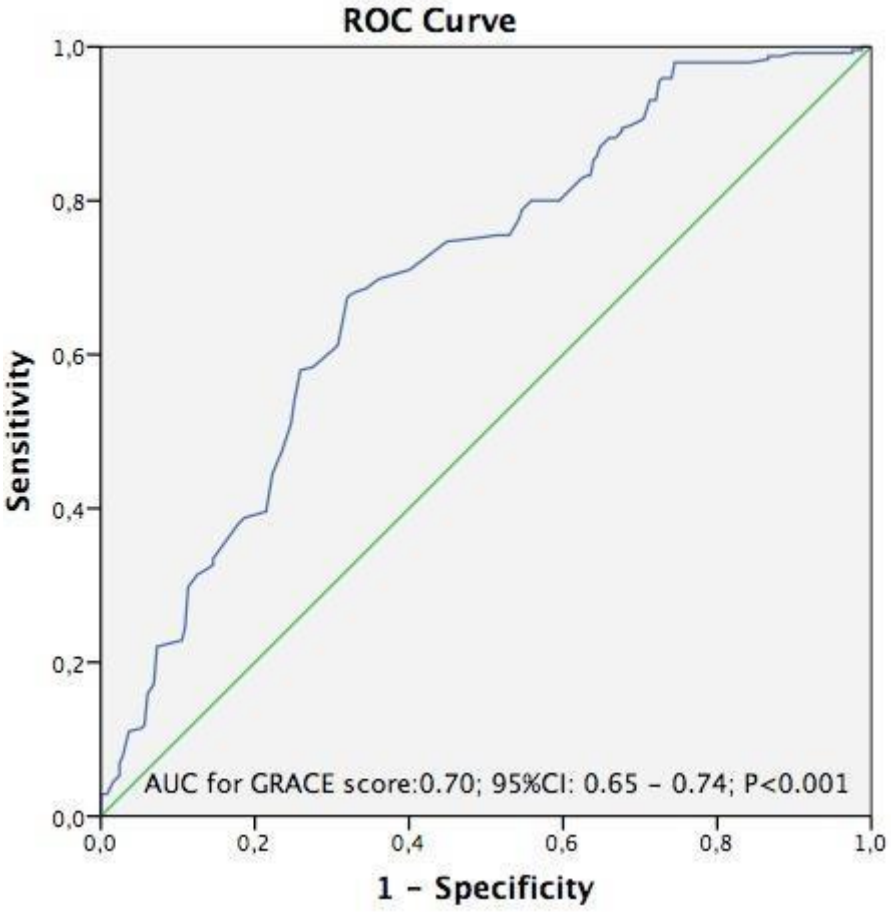
Introduction: The GRACE (Global Registry of Acute Coronary Events) risk score has been proposed in predicting short-term death in patients who are diagnosed with acute coronary syndrome. In this study, we investigated the significance of the GRACE score for acute kidney injury (AKI) in cardiogenic shock (CS)-ST elevation myocardial infarction (STEMI) patients who were treated with primary percutaneous coronary intervention (PPCI).

Methods: We retrospectively examined a total of 492 consecutive CS-STEMI patients who had undergone PPCI. The GRACE score was calculated for each patient. Patients were stratified by tertiles (T1, T2, and T3) according to the GRACE score and the incidence of AKI was compared between the groups.

Results: In univariate analysis, the incidence of AKI was significantly higher for patients allocated into the T3 group, as compared to patients in the T1 group (Odds ratio (OR): 2.8, 95% confidence interval (CI): 1.8–4.1, p<0.001). Following including all confounding variables, participants in the T3 group had a 3.1-fold higher incidence of AKI (OR: 3.1, 95% CI: 1.9–5.4, p<0.001). In a receiver operating curve analysis, the GRACE's score of the area under curve value for AKI was 0.70 (p<0.001, 95% CI: 0.65-0.74) with 69.2% sensitivity and 68.8% specificity.

Conclusion: The GRACE score provides an independent prognostic marker of AKI in CS patients related with STEMI. Based on our data, we propose that the GRACE score is a simple and clinically applicable directive tool for rapid risk stratification of AKI in STEMI patients complicated with CS.

Figure 1 A ROC curve analysis showed that the area under curve value of the GRACE score for acute kidney injury was 0.70 (p<0.001, 95% CI: 0.65-0.74).



Abbreviations: ROC; Receiver Operating Characteristic, GRACE; Global Registry of Acute Coronary Events

Table 1 In-hospital event rates and multivariate logistic regression models for in-hospital mortality and AKI by GRACE score tertiles

	GRACE score		
	T1	T2	T3
In-hospital mortality			
Number of deaths	57	74	90
Mortality, %	34.8	45.1	54.9
Mortality, OR (%95 CI)			
Model I:unadjusted	1[Reference]	1.5 (0.9–2.4)	1.8 (1.2–2.6)
Model II: adjusted for all covariates[a]	1[Reference]	1.9 (1.0–3.5)	2.1 (1.3–3.5)
Acute kidney injury			
Number of events	52	84	109
Events, %	31.7	51.2	66.5
Events, OR (%95 CI)			
Model I:unadjusted	1[Reference]	2.3 (1.4–3.5)	2.8 (1.8–4.1)
Model II: adjusted for all covariates[a]	1[Reference]	2.5 (1.5–4.1)	3.1 (1.9–5.4)

OR, Odds Ratio; CI, Confidence Interval

[a]Includes gender; hypertension; diabetes mellitus; hyperlipidemia; current smoking; chronic renal failure; previous cerebrovascular accident; previous myocardial infarction; previous percutaneous coronary intervention; peripheral artery disease; chronic obstructive lung disease; atrial fibrillation; anterior myocardial infarction; percutaneous coronary transluminal angioplasty; culprit artery; drug-eluting stent; multivessel intervention; thrombus aspiration; the first measurement during hospitalization of the following laboratory values including baseline serum creatinine, blood urea nitrogen, hemoglobin; the left ventricle ejection fraction; left ventricle diastolic diameter; the left ventricular systolic diameter; pulmonary artery systolic pressure; and tricuspid annular plane systolic excursion.

Abbreviations: AKI, Acute Kidney Injury; GRACE, Global Registry of Acute Coronary Events.

ID: **437**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

INFLATE OR NOT INFLATE - THE EFFECT OF PRE-DILATATION ON THE INCIDENCE OF THE NO/ SLOW-REFLOW PHENOMENON IN PATIENTS WITH STEMI (STUDY NORST)

Grigoriy V. Sazanov[1], Oleg S. Belokon[2]

[1]*Stavropol Regional Clinical Hospital, Stavropol, Russia*

[2]*Stavropol State Medical University, Stavropol, Russia*

[*]*Corresponding Author (mc_sagr@mail.ru)*

Background: Currently, there are various studies comparing the survival of patients with STEMI depending on the pre-dilatation. However, the probability of the development of the no-slow reflow phenomenon was not taken into account. It is estimated that in patients with no/slow-reflow, a decrease in the cardiac output fraction, dilatation of the heart cavities, ventricular arrhythmias, and left ventricular aneurysm more often registered and, most importantly, the risk of death increases. We concentrated to assess the effect of balloon pre-dilatation on the incidence of no/slow-reflow complication during percutaneous coronary intervention (PCI) in patients diagnosed ST-elevation myocardial infarction (STEMI).

Methods: We analyzed the experience of the department of endovascular diagnostic and treatment methods of the Stavropol Regional Clinical Hospital for endovascular surgical treatment of patients with STEMI, including after thrombolytic therapy (TLT). The study included 757 patients admitted to the hospital within the first 48 hours from the moment of the first contact with a medical staff. For the study, patients were divided into 2 comparable groups according to the number of patients by their gender, age, and other characteristics. The basic difference between the groups was the blood flow for infarct-related artery (IRA) according to the gradation scale TIMI (Thrombolysis in myocardial infarction). Each of the groups had 2 subgroups that were also comparable among themselves by the number of patients by their gender, age, and other characteristics. This groups were divided by performing pre-treatment.

Results: The lowest frequency of no/slow-reflow phenomenon was in the groups in which pre-dilatation was not performed before stent implantation.

Conclusion: The most preferred in PCI is not to perform pre-dilatation if there is an appropriate technical feasibility. In patients with a blood flow level TIMI 0 is recommended to make balloon sliding and tracking over the occlusion place. After this manipulation antegrade blood flow may be achieved.

Oral Presentation Session

Risk Scores and Laboratory Assessments in Acute Coronary Syndromes

Date: 13.03.2020 Time: 17:00 – 18:00 Hall: 5

ID: **35**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

PROGNOSTIC VALUE OF THE ACUTE-TO-CHRONIC GLYCEMIC RATIO FOR IN-HOSPITAL OUTCOMES IN PATIENTS WITH NON-ST ELEVATION MYOCARDIAL INFARCTION

Veysel Ozan Tanık, Hilal Erken Pamukcu

Diskapi Yildirim Beyazit Training and Research Hospital, ANKARA, Turkey

Objective

Some previous studies have found an association between high glucose levels and increased mortality in patients with cardiovascular diseases. Acute-to-chronic glycemic ratio (ABG/eAG) has been found to be a predictor of stress-induced hyperglycemia in ST elevation myocardial infarction (STEMI) patients better than admission glucose. In addition, in a recently published study, ABG/eAG ratio has been found to be more useful in demonstrating in-hospital events compared to the admission glucose. In this study, we aimed to test the prognostic value of ABG /eAG for in-hospital outcomes in patients with non-ST elevation myocardial infarction (Non-STEMI).

Methods

In total, 373 consecutive diabetic Non-STEMI patients were included in the study. Patients were divided into two groups according to median value of ABG/eAG ratio. We prospectively collected admission glycaemia value and estimated average chronic glucose levels (mg/dL) using the following formula: [(28.7 × glycosylated hemoglobin %) - 46.7], and calculated the ABG/eAG ratio of all patients. The primary end point was in hospital all-cause mortality.

Results

Patients with higher ABG/eAG ratio had significantly elevated incidence of acute cardiogenic shock, acute pulmonary edema, and in-hospital mortality [5.4% (n=10 patients) vs. 1.6% (n=3 patients); p<0.005, respectively]. The optimal value of ABG/eAG ratio for prediction of in-hospital mortality was >1.11 with a sensitivity of 77.0% and a specificity of 62.0% [area under curve (AUC): 0.67, 95%CI: 0.55-0.79, p=0.003]

Conclusion

We found that ABG/eAG ratio may be a better parameter in predicting in-hospital adverse outcomes and mortality of Non-STEMI patients with diabetes than the admission glucose.

Keywords: Non-ST segment elevation myocardial infarction; acute-to chronic glycemic ratio; in-hospital outcomes

Table 1 Baseline characteristics and clinical outcomes of all patients

Parameters	Group 1 Below median ABG/eAG N:188	Group 2 Above median ABG/eAG N:185	P value
Age, years	65±10	67±11	0.239
Female gender, n (%)	83(44.1)	88(47.6)	0.288
Hypertension, n (%)	147(78.2)	154(83.2)	0.135
Hyperlipidemia, n (%)	57(30.3)	57(30.8)	0.504
Renal failure, n (%)	34(18.1)	39(21.1)	0.275
Prior MI, n (%)	72(38.3)	83(44.9)	0.119
Smoking, n (%)	105(55.9)	84(45.4)	**0.028**
LVEF,%	50(40-60)	48(35-58)	0.078
Killip class	1.12±0.5	1.22±0.6	0.090
Laboratory parameters			
ABG, mg/dl	123(104-155)	238(188-308)	**<0.001**
eAG	160(137-200)	171(140-214)	0.124
HbA1C	7.2(6.4-8.6)	7.6(6.5-9.1)	0.122
ABG/eAG	0.81(0.69-0.88)	1.29(1.13-1.56)	**<0.001**
Creatinine, mg /dl	0.92(0.78-1.19)	1.02(0.81-1.3)	**0.001**
Hemoglobin, g/dL	12.9(11.4-14.2)	13.2(11.8-14.4)	0.184
WBC, cells/mL	8.9(7.5-11)	10.1(8.1-12.7)	**<0.001**
Peak troponin I, ng /dL	0.17(0.04-1.1)	0.42(0.8-2.1)	**0.005**
Total cholesterol, mg/dL	178(149-219)	180(140-210)	0.549
Triglyceride, mg/dL	161(115-230)	171(111-227)	0.834
HDL cholesterol, mg /dL	35(28-40)	34(27.5-39.5)	0.152
LDL cholesterol, mg /dL	105(83-135)	112(75-136)	0.825
Treatment strategy			
PCI, n (%)	70(37.2)	59(31.9)	**<0.001**
CABG, n (%)	29(15.4)	12(6.5)	**<0.001**
Conservative, n (%)	89(47.3)	114(61.6)	**<0.001**
In hospital outcomes			
All cause death, n (%)	3(1.6)	10(5.4)	**0.040**
Cardiogenic shock, n (%)	2(1.1)	9(4.9)	**0.029**
Acute pulmonary edema, n (%)	14(7.4)	26(14.1)	**0.029**
In hospital hemorrhagic stroke, n (%)	1(0.5)	0(0)	**0.513***
In hospital ischemic stroke	1(0.5)	2(1.1)	
In hospital AF, n (%)	6 (3.2)	7(3.8)	0.488
Bleeding needed blood transfusion, n (%)	4(2.1)	4(2.2)	0.629
Renal failure needed hemodialysis, n (%)	4(2.1)	8(4.3)	0.182

*p value for all stroke types

ABG: admission blood glucose, eAG: estimated average glucose

ID: **19**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

PREVALENCE AND MORTALITY OF MYOCARDIAL INFARCTION WITH NONOBSTRUCTIVE CORONARY ARTERY DISEASE

Murat Oguz Ozilhan[1], **Serkan Unlu**[2], Huseyin Murat Ozdemir[2]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Gazi University, Ankara, Turkey*

[*]*Corresponding Author (murat_ozilhan@hotmail.com)*

OBJECTIVE: There are a number of patients diagnosed with AMI but no-obstructive lesions on coronary angiography. This group of patients is termed as MINOCA. The purpose of this study is to compare the prevalence, clinical characteristics and mortality rates of MINOCA with MICAD (Myocardial Infarction with Coronary Artery Disease).

METHODS: Our study was planned retrospectively in a single-center. All patients were evaluated with angiograms and the patients who had at least 50% in any major epicardial coronary artery were included in this evaluation and the patients who did not have MICAD, were included in the MINOCA group. After that, the clinical features, in-hospital and out-of-hospital mortality of both groups were compared.

RESULTS: 857 patients were included in the study. 98 of them had MINOCA and 759 of them had MICAD. Cardiovascular risk factors were found to be less in MINOCA. Most MINOCA patients had NSTE-ACS. In-hospital mortality rate was 1% and out-of-hospital rate was 7.1% in the MINOCA-group. The corresponding rates for the MICAD-group were 5.1% and 13.1%, respectively. On the other hand, in order to minimize the effect of risk factors which are thought to be contributing to mortality, the paired MICAD-group was formed and the mortality was found to be similar in both groups when compared to the MINOCA-group.

CONCLUSIONS: MINOCA patients have differences frequency of cardiovascular risk factors compared to patients with MICAD. Although the survival of the MINOCA-group seems to be better at a first glance, it was observed that the mortality of MINOCA was not different from MICAD when patients with similar clinical features were compared.

ID: **476**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE ASSOCIATION OF SERUM OSMOLARITY AND INFLAMMATORY STATUS WITH CONTRAST INDUCED NEPHROPATHY IN NON-ST ELEVATION MYOCARDIAL INFARCTION PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTIONS

Hasan Aydın Baş[1], Fatih Aksoy[2]

[1]*Isparta City Hospital, Isparta, Turkey*

[2]*Suleyman Demirel University Faculty of Medicine, Isparta, Turkey*

[*]*Corresponding Author (hasanaydinbas@hotmail.com)*

OBJECTIVE: Contrast induced nephropathy (CIN) is a life-threatening complication that can be seen after percutaneous coronary intervention (PCI). A strong relationship between CIN and adverse events in patients with nonST-segment elevation myocardial infarction (NSTEMI) has been shown. The association between serum osmolality and renal disease has been well understood but relation among inflammation, osmolality and CIN in patients with NSTEMI undergoing PCI needs to be elucidated.

METHODS: Serum osmolarity on admission was calculated. The study population was divided into 2 groups according to CIN development, and both groups were compared according to clinical, laboratory, and demographic features, including the serum osmolarity. We evaluated the predictive value of serum osmolarity (SO), inflammatory and oxidative parameters including High sensitive C reactive protein (Hs-CRP), uric acid (UA) and gamma glutamyl- transferase (GGT) for CIN development in patients with NSTEMI (n = 628) undergoing pPCI.

RESULTS: Serum osmolarity, Hs-CRP, UA, GGT was significantly higher in patients with CIN than in those without CIN. Additionally, serum creatinine, glucose, blood urea nitrogen, potassium and peak creatinine kinase myocardial bundle (CK-MB) levels were higher in patients with CIN than in those without CIN on admission. Patients with CIN have higher rates of diabetes mellitus, hypertension and female gender than patients without CIN (Table 1).

CONCLUSIONS: Serum osmolality on admission and inflammatory and oxidative parameters can be useful to define patients with NSTEMI undergoing PCI who are more likely to develop CIN.

	Contrast induced nepropathy (-) (n=500)	Contrast induced nepropathy (+) (n=128)	P value
Diabetes Mellitus n,%	120 (24.0)	40 (31.3)	0.06
Hypertension n,%	190 (38.0)	88 (68.8)	< 0.001
Hyperlipidemia n,%	120 (24.0)	26 (20.3)	0.224
Smoking n,%	328 (65.6)	60 (46.9)	< 0.001
Obesity n,%	180 (36.0)	50 (39.1)	0.294
Female Gender n,%	78 (15.6)	48 (37.5)	< 0.001
Serum osmolarity	291.28± 15.7	297.31±9.4	< 0.001
Age (years)	61.2±12.3	66.7±13.7	< 0.001
Heart rate (bpm)	77.7±17.8	74.6±19.7	0.08
Diastolic blood pressure (mmhg)	73.5±14.9	69.3±17.9	0.006
Sistolic blood pressure (mmhg)	123.08±26.7	115.10±31.5	0.004
Weight (kg)	74.5±12.01	76.9±17.2	0.06
Height (cm)	166.85±7.2	164.2±8.4	< 0.001
Body mass index	26.3±3.7	27.9±4.8	< 0.001
Waist circumference (cm)	92.1±7.4	95.2± 10.02	< 0.001
Peak CK MB (mg/dl)	201.42±153	256.52±181	0.001
Peak Troponin (u/L)	5.3±7.6	5.7±4.7	0.511
Hemoglobin (mg/dl)	14.3±1.8	13.9±3.4	0.02
Glucose (mg/dl)	160.58±77.1	224.17±122.17	< 0.001
Creatinin (mg/dl)	1.0±0.2	1.2±0.3	< 0.001
Blood urea nitrogen	18.2±6.2	23.5±9.3	< 0.001
Total cholesterol (mg/dl)	177.5±42.1	172.04±44.1	0.193
Triglyceride (mg/dl)	144.8±118.8	133.7±71.5	0.314
HDL- Cholesterol (mg/dl)	41.0±9.4	40.3±7.0	0.419
LDL- Cholesterol (mg/dl)	108.53±35.4	104.3 ±36.2	0.233
Hs-CRP (mg/dl)	22.5±26.01	56.9±35.5	< 0.001
GGT (mg/dl)	31.8±23.2	47.3±52.9	< 0.001
Sodium (mg/dl)	137.91±7.4	138.23±3.8	0.636
Potassium (mg/dl)	4.3±0.5	4.6±0.6	< 0.001
LV ejection fraction (%)	45.4±9.2	38.2±10.4	< 0.001

Table 1 Demographic, Clinical and Laboratory of All Patients and Patients With and Without CIN With P Value.

Advanced age; high peak CK-MB, glucose, creatinine, HS-CRP, UA levels, presence of hypertension, low left ventricular ejection fraction and serum osmolality were found to be independent predictors of CIN (Table 2).

	Unadjusted Odds Ratio	Confidence interval	P value	Adjusted Odds Ratio	Confidence interval	P value
Age	1.03	1.01-1.05	< 0.001	2.96	1.17-7.48	0.02
Diastolic blood pressure	0.983	0.971-0.995	0.007			
Systolic blood pressure	0.99	0.98-0.99	0.004			
Height	0.95	0.93-0.98	0.001	1.05	1.00-1.11	0.03
Peak CK-MB	1.002	1.001-1.003	0.001	1.00	1.00-1.003	
Glucose	1.006	1.004-1.008	< 0.001	1.004	1.001-1.007	0.005
Creatinine	12.4	6.1-25.0	< 0.001	7.09	2.45-20.47	< 0.001
BUN	1.098	1.06-1.12	< 0.001			
Hs-CRP	1.03	1.02-1.03	< 0.001	1.024	1.015-1.033	< 0.001
GGT	1.01	1.00-1.01	< 0.001			
Uric acid	1.84	1.59-2.14	< 0.001	1.24	1.025-1.509	0.02
Potassium	2.44	1.71-3.45	< 0.001			
LV ejection fraction	0.92	0.90-0.94	< 0.001	0.96	0.93-0.99	0.03
Diabetes Mellitus	1.43	0.94-2.20	0.09			
Hypertension	3.58	2.37-5.43	< 0.001	1.86	1.05-3.28	0.03
Female Gender	3.24	2.10-4.99	< 0.001			
Serum osmolarity	1.06	1.03-1.08	< 0.001	1.02	1.01-1.03	0.01

Table 2. Univariate and Multivariate Logistic Regression Analysis of Demographic, Clinical and Laboratory Characteristics for CIN Prediction.

ID: **186**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

EVALUATION OF THE RELATIONSHIP OF COPEPTIN LEVELS WITH CLINICAL AND ANGIOGRAPHIC SCORING SYSTEMS IN UNSTABLE ANGINA PATIENTS

Onur Sinan Deveci, Çağlar Özmen, Muhammed Bugra Karaaslan, Ömer Tepe, Anıl Akray, Cuma Yesildaş, Rabia Eker Akıllı, Ali Deniz, Mehmet Kanadaşı, Ayhan Usal

Çukurova University Faculty of Medicine, Department of Cardiology, Adana, Turkey

**Corresponding Author (onurdeveci@yahoo.co.uk)*

Objective

To identify the serum copeptin levels in patients diagnosed with UA and evaluate the relationship of these levels with the clinical and angiographic severity of patients.

Subjects and Methods

Out of the 335 patients that were primarily included; 200 patients who were diagnosed with UA and underwent coronary angiography (CAG) have been included in the study after exclusion. Each patient underwent a clinical evaluation which included 12-lead ECG, echocardiographic evaluation and standard laboratory tests (blood count, sodium, potassium, creatinine, glomerular filtration rate, HbA1c, high sensitive Troponin-c level (hscTn), creatine kinase myocardial bound (CK-MB) and copeptin levels) and GRACE 1.0 risk score calculation at the time of admission. hscTn and CK-MB levels have been re-evaluated at the 6th hour. SYNTAX score was calculated after CAG.

Results

Patients were divided into two groups according to their coronary angiography results and they have been categorized as patients with non-critical or normal coronary angiography (Group-1, n: 105) and patients with critical CAD (Group-2, n: 95). The rate of cases with a GRACE score higher than 140 in group-2 were significantly higher than group-1 ($p<0.001$). The SYNTAX score and Copeptin levels were significantly higher in the group-2 than the group-1 ($p<0.001$ for both data). When the correlation between serum copeptin levels and CAD severity was examined, a high level of positive correlation has been found between copeptin levels and SYNTAX scoring. (Rho: 0.944 with Spearman correlation analysis and p value <0.001). When the serum copeptin level was determined as the threshold at 18 pmol/l as a predictor of high SYNTAX score, the diagnostic sensitivity has been found to be 98.9%, the specificity has been found to be 100%, the positive predictive value has been found to be 100%, the negative predictive value has been found to be 99.1%, and the area under the curve (AUC) has been found to be 1.0.

Conclusion

In conclusion our study revealed that intended for the identification of high-risk patients among UA cases, using both conventional scoring systems and the serum copeptin level could have beneficial effects to detect the right group of patients for the early invasive strategy.

ID: **513**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

THE ASSOCIATION OF SERUM OSMOLALITY AND INFLAMMATORY STATUS WITH NEW ONSET ATRIAL FIBRILLATION FOLLOWING NON-ST ELEVATION MYOCARDIAL INFARCTION PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTIONS

Fatih Aksoy[1], **Hasan Aydin Baş**[2]

[1]*Suleyman Demirel University, Isparta, Turkey*

[2]*Isparta City Hospital, Isparta, United States*

[*]*Corresponding Author (dr.aksoy@hotmail.com)*

OBJECTIVE: Atrial fibrillation (AF) is the most common supraventricular arrhythmia following non ST elevation myocardial infarction (NSTEMI). Serum osmolality (SO) have been associated with several cardiovascular diseases. Its usefulness in predicting AF in the development of AF in patients presenting with STEMI is unknown.

METHODS: Serum osmolarity was calculated on admission. The study population was divided into 2 groups according to AF development, and both groups were compared according to clinical, laboratory, and demographic features, including the SO. We evaluated the predictive value of SO, inflammatory and oxidative parameters including High sensitive C reactive protein (Hs-CRP), uric acid (UA) and gamma glutamyl- transferase (GGT) for AF development in patients with NSTEMI (n = 656) undergoing pPCI.

RESULTS: Serum osmolarity, Hs-CRP, UA, GGT was significantly higher in patients with AF than in those without AF. Additionally, serum creatinine, glucose, blood urea nitrogen, potassium and peak creatinine kinase myocardial bundle (CK-MB) levels were higher in patients with AF than in those without AF on admission. Patients with AF have higher rates of diabetes mellitus, hypertension and female gender than patients without CIN (Table 1).

CONCLUSIONS: Serum osmolality on admission and inflammatory and oxidative parameters can be useful to define patients with NSTEMI undergoing PCI who are more likely to develop AF.

	Atrial fibrillation (-) (n=520)	Atrial fibrillation (+) (n=136)	P value
Diabetes Mellitus n,%	122 (23.5)	48 (35.3)	0.004
Hypertension n,%	202 (38.8)	98 (72.1)	< 0.001
Hyperlipidemia n,%	118 (22.7)	32 (23.5)	0.458
Smoking n,%	342 (65.8)	60 (44.1)	< 0.001
Obesity n,%	178 (34.2)	64 (47.1)	0.004
Female Gender n,%	80 (15.4)	58 (42.6)	< 0.001
Age (years)	61.1±12.7	68.2±11.7	< 0.001
Heart rate (bpm)	76.8±17.1	77.6±22.7	0.660
Diastolic blood pressure (mmhg)	74.2±12.0	64.8±19.2	< 0.001
Sistolic blood pressure (mmhg)	123.9±26.9	109.25±30.9	< 0.001
Weight (kg)	74.2±12.01	78.8±18.7	< 0.001
Height (cm)	167.22±6.9	161.9±9.1	< 0.001
Body mass index	26.0±3.6	29.4±5.1	< 0.001
Waist circumference (cm)	91.6±7.3	98.0± 9.8	< 0.001
Peak CK MB (mg/dl)	204.49±158.47	255.38±168.63	0.001
Peak Troponin (u/L)	5.3±7.6	5.6±3.7	0.733
Hemoglobin (mg/dl)	14.5±2.0	13.1±2.7	< 0.001
Glucose (mg/dl)	163.89±84.8	224.02±112.14	< 0.001
Creatinin (mg/dl)	1.08±0.2	1.2±0.3	< 0.001
Blood urea nitrogen	18.7±7.4	22.4±6.1	< 0.001
Total cholesterol (mg/dl)	178.93±42.28	165.19±43.11	0.001
Triglyceride (mg/dl)	147.83±119.6	119.70±41.5	< 0.001
HDL- Cholesterol (mg/dl)	41.02±9.1	40.3±7.7	0.413
LDL- Cholesterol (mg/dl)	109.26±35.6	100.4 ±35.87	0.01
Hs-CRP (mg/dl)	23.4±27.13	62.72±33.59	< 0.001
GGT (mg/dl)	31.8±26.0	52.26±53.6	< 0.001
Uric acid (mg/dl)	5.99±1.4	7.9±1.1	< 0.001
Sodium (mg/dl)	137.9±7.3	138.4±3.8	0.382
Potassium (mg/dl)	4.3±0.5	4.7±0.6	< 0.001
LV ejection fraction (%)	45.0±9.5	37.9±10.2	< 0.001
Left Atrial Diameter (mm)	39.4±3.3	42.3±2.6	< 0.001
Serum osmolarity	291.62±15.7	297.39±8.9	< 0.001

Table 1 Demographic, Clinical and Laboratory of All Patients and Patients With and Without AF With P Value.

Glucose, HS-CRP, UA levels, female gender, low blood pressure, high heart rate, low hemoglobin level, left atrial diameter and serum osmolality were found to be independent predictors of CIN (Table 2).

	Atrial fibrillation (-) (n=520)	Atrial fibrillation (+) (n=136)	P value
Diabetes Mellitus n,%	122 (23.5)	48 (35.3)	0.004
Hypertension n,%	202 (38.8)	98 (72.1)	< 0.001
Hyperlipidemia n,%	118 (22.7)	32 (23.5)	0.458
Smoking n,%	342 (65.8)	60 (44.1)	< 0.001
Obesity n,%	178 (34.2)	64 (47.1)	0.004
Female Gender n,%	80 (15.4)	58 (42.6)	< 0.001
Age (years)	61.1±12.7	68.2±11.7	< 0.001
Heart rate (bpm)	76.8±17.1	77.6±22.7	0.660
Diastolic blood pressure (mmhg)	74.2±12.0	64.8±19.2	< 0.001
Sistolic blood pressure (mmhg)	123.9±26.9	109.25±30.9	< 0.001
Weight (kg)	74.2±12.01	78.8±18.7	< 0.001
Height (cm)	167.22±6.9	161.9±9.1	< 0.001
Body mass index	26.0±3.6	29.4±5.1	< 0.001
Waist circumference (cm)	91.6±7.3	98.0± 9.8	< 0.001
Peak CK MB (mg/dl)	204.49±158.47	255.38±168.63	0.001
Peak Troponin (u/L)	5.3±7.6	5.6±3.7	0.733
Hemoglobin (mg/dl)	14.5±2.0	13.1±2.7	< 0.001
Glucose (mg/dl)	163.89±84.8	224.02±112.14	< 0.001
Creatinin (mg/dl)	1.08±0.2	1.2±0.3	< 0.001
Blood urea nitrogen	18.7±7.4	22.4±6.1	< 0.001
Total cholesterol (mg/dl)	178.93±42.28	165.19±43.11	0.001
Triglyceride (mg/dl)	147.83±119.6	119.70±41.5	< 0.001
HDL- Cholesterol (mg/dl)	41.02±9.1	40.3±7.7	0.413
LDL- Cholesterol (mg/dl)	109.26±35.6	100.4 ±35.87	0.01
Hs-CRP (mg/dl)	23.4±27.13	62.72±33.59	< 0.001
GGT (mg/dl)	31.8±26.0	52.26±53.6	< 0.001
Uric acid (mg/dl)	5.99±1.4	7.9±1.1	< 0.001
Sodium (mg/dl)	137.9±7.3	138.4±3.8	0.382
Potassium (mg/dl)	4.3±0.5	4.7±0.6	< 0.001
LV ejection fraction (%)	45.0±9.5	37.9±10.2	< 0.001
Left Atrial Diameter (mm)	39.4±3.3	42.3±2.6	< 0.001
Serum osmolarity	291.62±15.7	297.39±8.9	< 0.001

Table 1 Demographic, Clinical and Laboratory of All Patients and Patients With and Without AF With P Value.

	P value	OR	CI
Serum osmolarity	<0.001	2.54	2.00-4.55
Female Gender	0.007	2.822	1.33-5.97
Systolic Blood Pressure	<0.001	0.973	0.96-0.98
Heart rate	<0.001	1.034	1.01-1.051
BMI	0.077	1.086	0.99-1.18
Hemoglobin	0.049	0.874	0.76-0.99
Glucose	0.006	1.006	1.002-1.010
HS-CRP	<0.001	1.022	1.013-1.031
Uric Acid	<0.001	2.155	1.65-2.80
LA Diameter	<0.001	1.341	1.19-1.50

Table 2 Independent predictors of atrial fibrillation in multivariate analysis

ID: **495**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN FREE TESTOSTERONE LEVEL AND THE EXTENT OF CORONARY ARTERY DISEASE IN MALE PATIENTS WITH NON-ST ELEVATED MYOCARDIAL INFARCTION

Diyar Koprulu[1], **Mustafa Begenc Tascanov**[2]

[1]*Ordu State Hospital, Ordu, Turkey*

[2]*Harran University, Sanlıurfa, Turkey*

[*]*Corresponding Author (drkoprulu12@icloud.com)*

Background: Syntax score (SS) is an angiographic scoring system for determining the extent of CAD using features such as number of lesions, location and functional significance of the lesion. High SS and low testosterone levels are associated with poor cardiac events in patients with coronary artery disease. In this study, we aimed to investigate the relationship between free testosterone and SS in male patients Non ST-Elevation Myocardial Infarction (NSTEMI).

Material and Method: The study included 98 male patients with NSTEMI who underwent coronary angiography. Syntax score was evaluated using the version downloaded from http://www.syntaxscore.com. Patients with SS <22 were defined as group 1, while patients with SS ≥22 were defined as group 2. SS and serum free testosterone level were compared between two groups.

Results: The clinical characteristics of the study population are presented in Table 1. When both groups were compared, in group 2 patients had significantly lower levels total testosterone (32 ±23 vs. 23±17; P=0.032) and free testosterone (10 [4 -16]) vs. 8 [4-12], P= 0.011). In correlation analysis, SS and total testosterone, free testosterone level were negatively correlated (respectively, r = -0.480, p = 0.001), (r = -0.733, p = 0.001). Multivariate logistic regression analysis demonstrated that free testosterone was an independent predictor of high SS (odds ratio, 0.906; 95% confidence interval, 0.838-0.980, P<0.014) (Figure 1).

Conclusion: Low free testosterone level is independently associated with high SS in male patients NSTEMI
09

Keywords: Syntax score, free testestorone, Non ST-Elevation myocardial infarction

Table 1. Basic and biochemical characteristics of the study population.

Variables	Group 1 n=57	Group 2 n=41	P
Age	58± 11	56 ±10	0.962
Body mass index (kg/m2)	25 ±5	24±3	0.910
Hypertension (%)	21 (37)	22 (54)	0.100
Hyperlipidemia (%)	21 (37)	15 (37)	0.979
Smoking (%) 21 (46) 16 (39) 0.518			
Diabetes mellitus (%)	13 (23)	11(27)	0.650
Syntax score	16(10-21)	27(13-39)	0.001
EF (%)	56 (45-60)	48 (40-61)	0.127

Leukocyte (103/µL)	10 ± 3.4	11 ± 5	0.407
Erythrocyte sedimentation rate (mm/h)	18(10-25)	21(14-35)	0.172
Total cholesterol (mg/dl)	177 (144-177)	198(169-227)	0.038
Low density Cholesterol (mg/dl)	106 (74-130)	124 (98-157)	0.025
High desity Cholesterol (mg/dl)	29 ±10	30 ± 9	0.818
Triglyceride (mg/dl)	156 (106-193)	140 (106 -183)	0.430
C-reactive protein (mg/dL	12 (6 -34)	28 (10 - 67)	0.048
Free testosterone (pg/ml)	10 (4 -16)	8 (4 -12)	0.011
Total testosterone (nm/l)	32 ±23	23±17	0.032

Figure 1. Multivariate logistic regression analysis showing independent predictability of syntax score

Variables	OR (% 95 CI)	p
Age	0.980 (0.936-1.025)	0.374
BMI	0.998 (0.884-1.109)	0.865
DM	1.628 (0.517-5.123)	0.547
HT	0.511 (0.205-1.273)	0.149
S	1.830 (0.628-5.338)	0.275
TK	1.002 (0.982-1.022)	0.869
LDL	0.990 (0.979-1.002)	0.100
CRP	1.005 (0.997-1.013)	0.239
Total testosterone	0.929 (0.700-1.232)	0.608
Free testosterone	0.906 (0.838-0.980)	0.014

BMI: Body mass index, HT: Hypertension, DM: Diabetes mellitus, TK: Total cholesterol, LDL: low dansity cholesterol, CRP: C-reactive protein,

ID: **582**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

DO IMMIGRANT STATUS EFFECT THE FIRST ACUTE CORONARY SYNDROME AGE?

Deniz Demirci, **Duygu Ersan Demirci**

Antalya Education and Training Hospital, Antalya, Turkey

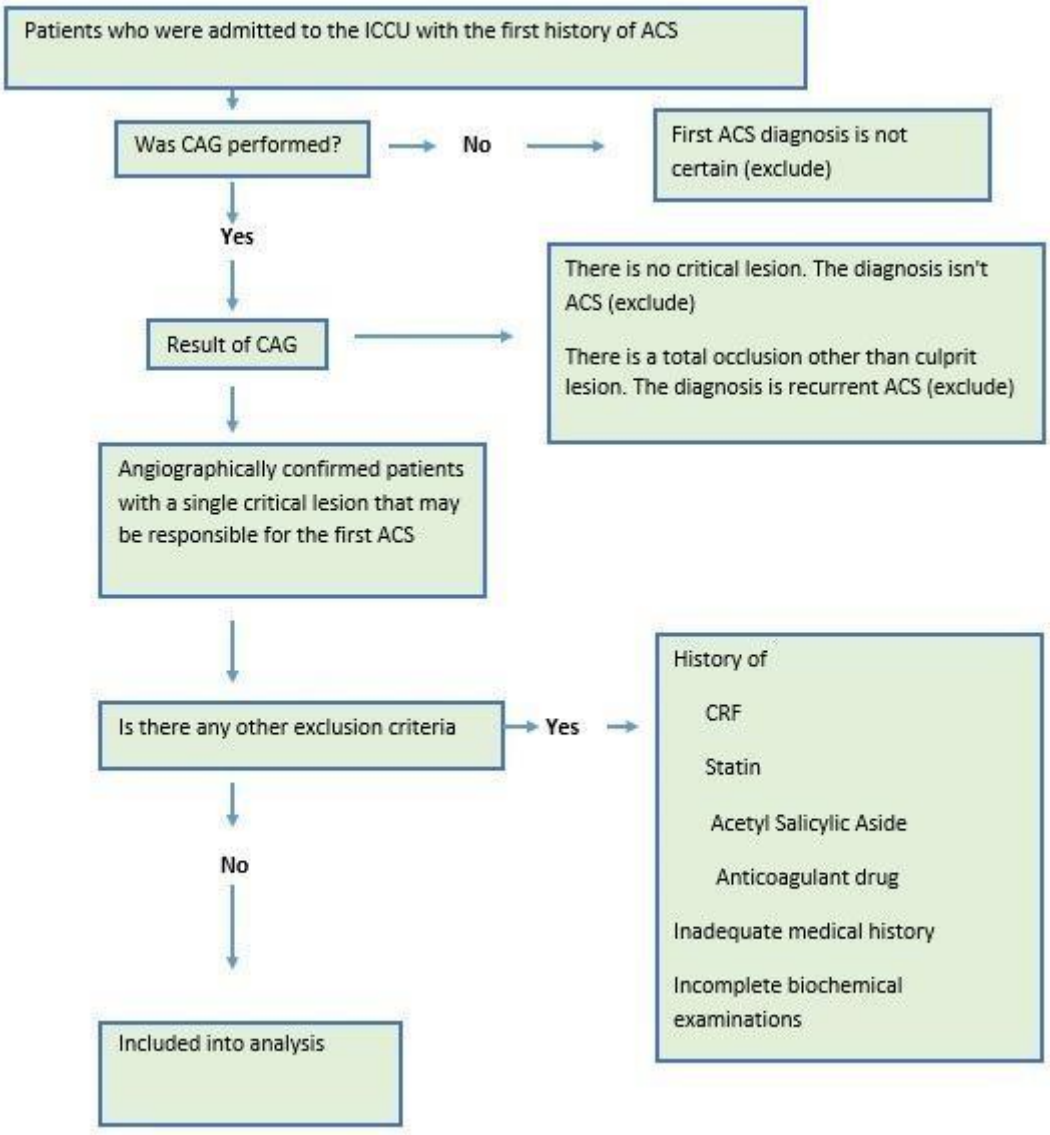
**Corresponding Author (duygu_ersan@yahoo.com)*

Introduction
Cardiovascular events are the major causes of mortality and morbidity. Defining risk factors is very important to prevent the cardiovascular events. Changing life conditions create new risk factors. One of them is the increasing migration due to urbanization. In the present study, we evaluated whether there was a difference between the ages of the first acute coronary syndrome (ACS) episodes of migrants or non-migrants.

Method
This is a cross-sectional and observational study. We examined consecutive 1233 patients whose first diagnosis of ACS was confirmed in 2014 to 2019 years (Figure 1). Patients were classified according to their immigrant status. Independent variables were examined by linear regression analysis.

Results
Of 1233 patients (80.8% male) with a first episode of ACS, the mean age was 57.7 ± 12.3 years (non-migrants, 59.3 ± 12.9 years; migrants, 55.2 ± 10.8 years, p< 0.001). The general characteristics of the patients were demostroted in Table 1. There was a strong relationship between immigration status of patients and the age of first ACS episode. The most important factor in the migration of patients was working conditions with 66.3%. 20% of patients had migrated because of familial reasons and 6% had migrated because of life preference. There was no statistically significant difference in the first ACS age between the groups, according to migration reasons (migrants due to working condition, 56.9±11.1 years; migrants due to familial reasons, 56.1 ±10.9 years; migrants due to life preference, 57.4 ±11. 4, p= 0.849). Male sex and smoking rates were higher in the group who migrated. In correlation analysis, these risk factors were associated with lower ACS age (p<0.001). However, in the linear regression analysis model, which included migration, smoking and gender risk factors, migration risk was determined as an independent risk factor that attracted the age of 2.2 years (p<0.002).

Conclusions
Our findings suggest that migration is an independent risk factor associated with ACS at an earlier age.



ACS:Acute Coronary Syndrome, CAG: Coronary Angiography, CRF: Chronic Renal Failure

Non-Immigrant n:762	Immigrant n:471	P value	
Age (mean ±SD)	59.3 ± 12.9	55.2 ± 10.8	<0.001
Male n (%)	597 (78.3 %)	401 (85.1)	0.003
HT n (%)	305 (42.1 %)	207 (45.6 %)	0.243
DM n (%)	201 (28.9 %)	138 (29.9 %)	0.728
HL n (%)	192 (31.0 %)	122 (30.7 %)	0.902
Smoke n (%)	375 (51.2%)	287 (61.7 %)	<0.001
FH n (%)	301 (52.7 %)	180 (43.4 %)	0.004
MS n (%)	211 (81.8 %)	73.9 (81.5 %)	0.929
BMI (mean ±SD)	27.8 ± 4.9	28.2 ± 4.7	0.160
Total C (mean ±SD)	205.3 ± 50.4	205.8 ± 50.1	0.877
LDL-C (mean ±SD)	133.9 ± 40.4	133.4 ± 41.1	0.860

HDL-C (mean ±SD)	43.1 ± 11.0	41.9 ± 10.2	0.081
Non-HDL-C (mean ±SD)	156.3 ± 50.1	157.4 ± 56.9	0.743
TG (mean ±SD)	160.8 ± 142.4	161.6 ± 124.1	0.915

BMI: body mass index,C: cholesterol, DM: diabetes mellitus, FH: family history, HDL: high density lipoprotein, HL: hyperlipidemia, HT: hypertension, LDL: low density lipoprotein, MS: mental stress , SD: standard deviation, TG: triglyseride

ID: **556**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

EVALUATION OF TICAGRELOR EFFICIENCY ACCORDING TO HBA1C LEVELS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Faruk Aydınyıl maz[1], Hamza Sunman[2], Engin Algul[3], Aysenur Ozkaya Ibis[2], Nail Burak Ozbeyaz[2], Ilkin Guliyev[4], **Veysel Ozan Tanik**[2], Tolga Cimen[2], Murat Tulmac[2]

[1]*Igdir State Hospital, Igdir, Turkey*

[2]*University of Health Sciences, Diskapi Yildirim Beyazit Training and Research Hospital, Ankara, Turkey*

[3]*Bitlis State Hospital, Bitlis, Turkey*

[4]*Medical Park Hospital, Tokat, Turkey*

[*]*Corresponding Author (faruk_aydinyilmaz@hotmail.com)*

BACKGROUND/AIM: There are studies in the literature showing that ticagrelor is an appropriate treatment option in patients with acute myocardial infarction and diabetes. In this analysis, we aimed to systematically compare the post-interventional angiographic outcomes of ticagrelor versus clopidogrel according to HbA1c levels in patients with acute myocardial infarction.

MATERIALS AND METHODS: This cross-sectional study included 532 patients with ST elevated myocardial infarction [STEMI] Patients were divided into ticagrelor (n = 334) [62,8%] and clopidogrel (n = 192) [37,2%] groups. TIMI flow grade (TFG) and TIMI frame count were calculated after the coronary intervention and compared between two groups according to HbA1c percentiles. (<25 percentile: 4,8-5,7%, 25-50 percentile 5,8-6,1%, 50-75 percentile 6,2-7,1%, 75-90 percentile 7,2-9,5%, >90 percentile >9,5%)

RESULTS: Baseline characteristics such as glucose, HbA1c, troponin levels and pre-interventional angiographic parameters and procedural parameters were almost the same in the ticagrelor and clopidogrel groups. The statistical analysis showed TIMI flow grade 2 was higher (21.2% versus 9.3%; p <0.001) in clopidogrel-treated patients compared to those using ticagrelor, and the rate of patients with TIMI flow grade 3 was low after the procedure (73.7% vs. 89.2%). ; p <0.001). The frame count median was higher in clopidogrel-treated patients compared to ticagrelor (24 vs 20; p <0.001). There was a positive correlation between the increase in HbA1C levels and the increase in TIMI frame count levels in whole group (r = 0.225; p = 0.004). Clopidogrel users had higher mean TIMI frame count compared to ticagrelor according to the HbA1c <25 and 25-50 percentile (23 vs 20; p <0.001 and 25 vs 20; p <0.001, respectively). The median TFC did not differ significantly according to the HbA1c 50-75 and 75-90 percentile (22.3 to 20; p = 0.192 and 22 to 20; p = 0.017, respectively). In the group of percentile >90, mean TIMI frame count level was higher in clopidogrel group compared to ticagrelor group (36.5 vs. 20; p <0.001).

CONCLUSION: Ticagrelor is a more effective treatment than clopidogrel in patients with and without diabetes, and this difference is more pronounced in HbA1c <6.1% and> 9.5%.

ID: **162**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

SENSITIVITY OF LEFT VENTRICULAR MASS INDEX IN PREDICTING GRADE 2 RETINOPATHY IN PATIENTS WITH RESISTANT HYPERTENSION

Şahbender Koç

University of Health Sciences Ankara Keçiören Education Hospital, Ankara, Turkey

**Corresponding Author (sahbenderkoc@hotmail.com)*

Objective: Cardiovascular complications such as myocardial infarction, heart failure, stroke, and renal failure are related to both the degree and duration of blood pressure increase. Two signs of target organ damage in hypertension (HT) are the degree of retinopathy and left ventricular (LV) hypertrophy. Grade 2 retinopathy shows the pressure of the atherosclerotic artery on the vein. The relationship between cardiovascular disease and target organ damage can be bidirectional. This study asked whether grade 2 retinopathy is predictable in patients with resistant HT when the LV mass index (LVmass i) is known.

Methods: This study included 120 patients with resistant HT and 233 patients with Non Resistant HT; the patients had the same duration of HT (8 ± 1 years) and a similar age range (49,5 ± 3 years). Echocardiography was performed to investigate LV mass i. and ophthalmoscopy was used to investigate HT-related retinopathy.

Results: In the stable HT group, 42.4% of the patients did not exhibit retinopathy, 48% exhibited grade 1 retinopathy, 9.4% exhibited grade 2 retinopathy, and 0% exhibited grade 3 retinopathy. In the resistant HT group, 19.1% of the patients did not exhibit retinopathy, 30.8% exhibited grade 1 retinopathy, 45% exhibited grade 2 retinopathy, and 3% exhibited grade 3 retinopathy ($p < 0.001$).Grade 2 retinopathy was found to be correlated with LV mass i. ($r = 0.43$, $p = 0.001$). By regression analysis, LV mass, HT duration, and HT stage explained 38% of the formation of grade 2 retinopathy ($R2 = 0.38$). The sensitivity and specificity of LV mass i. in predicting grade 2 retinopathy were 72% [95% confidence interval (CI)= 64–79%] and 62% [95% CI = 59–66%], respectively.

Conclusions: In resistant HT, grade 2 retinopathy can be predicted with a sensitivity of 72% when the patient's LV mass i. is known.

Oral Presentation Session

Carotid Endarterectomy: New Techniques and Outcomes

Date: 13.03.2020 Time: 08:00 – 08:45 Hall: 6

ID: **625**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

STAGED REVASCULARIZATION OF COMBINED ATHEROSCLEROTIC LESIONS OF CAROTID AND CORONARY ARTERIES

Yulbarisov Abdurasul, Karimov Sh.I., Irnazarov A.A., Yulbarisov A.A., Alidzhanov H.K., Akmatov A.M., Muminov R.T., Djalilov A.A., Nurmatov D.H., Tsay V.E.

Republican Special Center of Surgical Angionevrology, Tashkent, Uzbekistan

**Corresponding Author (rasul-1981@mail.ru)*

Objective: to analyze the results of the staged treatment of patients with combined lesions of the carotid (CA) and coronary arteries (CO).

Material and methods: results of surgical treatment of 702 patients with combined atherosclerotic lesions in CA and CO were analyzed. The average age of patients was 63 ± 4.8 years. There were 526 men (75%), 176 women (25%). All patients underwent standard examination methods: duplex scanning (DS), echocardiography, multislice computed tomography angiography (MSCTA), as well as in 88 (12.5%) cases, simultaneous selective coronary angiography (SCA) and selective carotid angiography. Indications for carotid endarterectomy (CEA) were stenosis, asymptomatic CA stenosis of more than 70% and symptomatic CA stenosis of more than 55%. Indications for coronary angiography with stenting were myocardial infarction (MI) in the presence of a two-vessel or three-vessel disease in patients with a functional class of IHD III and IV.

Results: All patients were divided into two groups: 362 (51.7%) patients of the first group performed the first stage of myocardial revascularization, followed by CEA. The results of stenting of the spacecraft showed that in the postoperative period, according to echocardiography, the ejection fraction (EF) increased from 45.6 ± 4.2 to 56.2 ± 2.8%, the stroke volume from 45-65 ml per min. In patients who underwent myocardial infarction without a Q wave, a positive ECG change was noted. On the 7-10th day after myocardial revascularization by the second stage, these patients had CEA with a positive hemodynamic and clinical effect.

The second group consisted of 340 (48.3%) patients who underwent carotid reconstruction on the first stage. Before and after interventions, all patients underwent DS of CA and echocardiography, as well as ECG in dynamics. After reconstruction of CA, all patients underwent DS, in which hemodynamic improvement and stabilization on the operated side were revealed. The second stage of this group of patients was performed stenting of the CO after 10 days.

Conclusions: the priority of operations is determined by the degree of atherosclerotic lesion of the vessel and its hemodynamic significance, the number of affected arteries of the brain and heart. The use of a staged approach to the treatment of combined atherosclerosis leads to a significant reduction in the total number of cerebral and cardiac complications.

ID: **318**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

CAROTID ENDARTERECTOMY WITH PRIMARY CLOSURE: ONE CENTER EXPERIENCE UNDER REGIONAL ANESTHESIA

Ibrahim Erdinç[1], Fulya Yılmaz[2], Koray Bas[3]

[1]*Health Science University Izmir Bozyaka Training and Research Hospital Research Hospital Cardiovascular Surgery, İzmir, Turkey*

[2]*Health Science University Izmir Bozyaka Training and Research Hospital Research Hospital Anesthesiology and Reanimation, Izmir, Turkey*

[3]*Health and Science University Bozyaka Training and Research Hospital General Surgery, Izmir, Turkey*

[*]*Corresponding Author (patentheart@yahoo.com)*

Introduction: Carotid endarterectomy is well-established surgical intervention to prevent stroke in symptomatic and asymptomatic patients with carotid artery stenosis. But one of the ongoing debates for CEA is the type of arterial closure. The aim of this study is to assess our cases retrospectively who underwent CEA with primary closure under regional anesthesia.
Material method: This study was a retrospective analysis of the short-term results of patients who underwent CEA with primary closure between the years 2008 and 2018 under regional anesthesia (Deep cervical plexus block (C2-C3-C4) and superficial cervical plexus block by conventional technique)

Anesthetic management: No premedication was administered on the day of the surgery. In the operating room, a peripheral venous line was established and monitoring included peripheral pulse-oximetry, 3-lead electrocardiography and invasive blood pressure via contra-lateral radial artery catheter connected to a monitoring kit. First the anatomical landmarks were identified and marked as sternocleidomastoid (SCM) muscle, cricoid cartilage, mastoid process. After the skin of the lateral neck and puncture side were disinfected, deep cervical plexus blocks C2, C3, C4 were performed respectively. Then superficial cervical plexus block was applied at the level of the 6th cervical vertebra by conventional technique.

Surgical technique: After parallel incision to SCM, ECA and CCA were found and suspended with tape. Then patients received 5000 IU heparin intravenously before clamping the carotid artery. After clamping of the artery, consciousness and motor status of the patients were tested. If patients were well after 45-50 seconds later after clamping, the endarterectomy was completed classically. The incision was closed primary with 6-0 proline.

Follow up: Patients were followed up in the clinic every 6 months on average. Carotid duplex ultrasound was performed every follow-up visit on all patients. Carotid stenosis >50% accepted as restenosis after surgery.

Results: 553 patients were operated. The average age and preoperative stenosis were 67.26 ± 8.93 year (Min=41, Max91) and 76.21 ± 10.20 (Min= 50%, max: 100 %) respectively. In 282 patients left and in 272 patients right carotid artery stenosis was revealed. Demographic, preoperative, perioperative and postoperative data were on Table 1. There was no statistically significant difference between the groups. Five patients required shunt insertion intraoperatively and 3 patients developed hematoma after surgery that necessitate decompression surgery. No patient developed restenosis after surgery.

Table 1

Male
Female
p

Age

67.04 ± 8.76

67.88 ± 9.40

0.612

Preoperative stenosis (%)

76.32 ± 10.19

75.90 ± 10.25

0.957

Surgical time (min)
58.79 ± 12.26
60.99 ± 12.69

0.193

Preoperative hospital stay (day)
5.24 ± 2.33

5.19 ± 2.38

0.329

Post-operative hospital stay (day)
3.55 ± 1.57

3.45 ± 1.70

0.422

Conclusion: In our experience, CEA with primary closure under regional anesthesia is a safe and effective surgical treatment for carotid stenosis.

ID: **502**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

THE EFFECT OF HEMOYNAMIC PARAMETERS ON CEREBRAL OXYGENIZATION DURING CAROTID ENDARTERECTOMY

Cihan Yücel[1], Mete Gürsoy[1], Serkan Ketenciler[2], Seray Türkmen[3], Nihan Kayalar[4]

[1]*Okmeydanı Training and Research Hospital, Istanbul, Turkey*

[2]*Okmeydanı Training and Research Hospital, Istanbul, Turkey*

[3]*Okmeydanı Training and Research Hospital, Istanbul, Turkey*

[4]*Okmeydanı Training and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (cihanyucell@hotmail.com)*

Objective/Background: Near-infrared spectroscopy (NIRS) is a non-invasive technique to detect cerebral ischemia by monitoring changes in regional cerebral oxygenation (rSO2) in the frontal lobes. However, there are no studies showing the changes of NIRS values in response to hemodynamic variations during stages of carotid endarterectomy procedure and clinical implications of these changes. The aim this study was to determine if hemodynamic changes affect NIRS values and if they can be used to decrease or avoid shunt use during CEA.

Methods: Between October 2018 and September 2019, 50 consecutive patients undergoing CEA under general anesthesia were prospectively included in the study. All patients gave informed consent to participate and CEA was performed under general anesthesia in all. During clamping of the carotid artery, NIRS at first minute was measured and then systolic blood pressure was increased above 150 mmHg. NIRS values from both hemispheres were recorded simultaneously at certain time points and were analyzed evaluate the changes at different stages of operation and to assess correlations with hemodynamic parameters.

Results: NIRS values from right and left hemispheres were not different from each other at any of the time points. NIRS values were observed to drop significantly from pre-incision values just after CC of carotid artery in both hemispheres ($p=0.005$ for right and $p<0.001$ for left side). Blood pressures were increased above 150 mmHg and NIRS values were observed to increase immediately and were comparable to values before the intubation. Right and left sided NIRS values were correlated well with systolic (right $p<0.001$, R2:0.24, left $p=0.02$, R2:0.10) diastolic (right $p<0.001$, R2:0.36, left $p=0.001$, R2:0.18) and mean (right $p<0.001$, R2:0.33, left $p=0.003$, R2:0.17) blood pressures when patient is under general anesthesia. In 5 of 6 patients in whom NIRS values decreased more than 20%, they increased to levels that are more than 80% of initial measurements after increase of blood pressures.

Conclusion: NIRS values show a correlation between hemodynamic changes and cerebral oxygenation. Close monitorization of NIRS values and changing hemodynamic parameters may help to avoid unnecessary shunt use in patients undergoing CEA.

ID: **113**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

COMPARISON OF CONVENTIONAL SURGICAL METHODS AND EVERSION TECHNIQUES IN CAROTID ENDARTERECTOMY OPERATIONS

Hacı Ali Uçak[1], Ibrahim Özsöyler[2]

[1]*Adana City Training and Research Hospital, Adana, Turkey*

[2]*Adana City Training and Research Hospital, Adana, Turkey*

[*]*Corresponding Author (dr.haliucak@gmail.com)*

BACKGROUND

Carotid endarterectomy is a highly effective and safe operation for preventing the risk of stroke in patients with symptomatic internal carotid artery stenosis. Conventional carotid endarterectomy (CCA) and eversion carotid endarterectomy (ECA) techniques are the two most commonly used surgical techniques. The superiority of these two techniques to each other has not yet been clearly demonstrated.

METHODS

Forty-three patients operated for symptomatic carotid stenosis were divided into two groups according to the preferred surgical method. (CCEA vs. ECEA). Postoperative hospital stays, use of shunts and antibiotics, early (30-day) complications, long-term restenosis, and mortality rates were compared between two groups.

RESULTS

Demographic data and preoperative stenosis rates are similar in two groups. In CCEA group subjects had a significantly longer clamping time (19.3±4.1 vs 15.4±3.4 min. respectively, p= 0.002) and significant difference was found between operative time (35.1 ± 3.2 vs 28.7 ± 4.3 min) and need for shunting (25.7% vs 2.1%, p<0.001), between CCEA and ECEA. In CCEA patients had a higher percentage of antibiotic use (49.8 % vs. 31.1% respectively; p=0.04). There was no other statistical difference in hematoma rates. Complications during follow up period, including stroke, heart attack, re-stenosis and mortality rate, showed no difference between the groups. Re-stenosis and survival rates were not different between the groups significantly (P=0.754, P=0.241, respectively) in Kaplan-Meier analysis.

CONCLUSIONS

Our results showed that ECEA was a convenient surgical technique and had some advantage compared to CCEA in the aspect of the early and long term follow up. ECEA can be performed in a significantly shorter operative time and may decrease the necessity for shunting although it may require specific experience with the technique.

Early Complications (in 30 days)	CCEA n=24	ECEA n=19	p value
Bleeding (re-explored)	4.1 %	0	0.865
Hematoma	8.2 %	5.2 %	0.724
Cranial nerve injury	4,1 %	5,2 %	0.812
Stroke	0	0	-
Postoperative MI	0	0	-

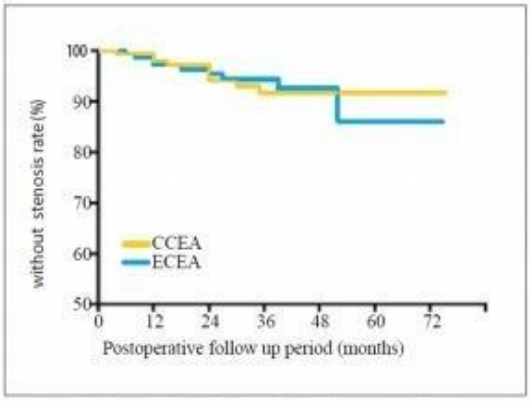


Figure 2. Kaplan-Meier analysis of the without restenosis rates. The log-rank test showed P=0.754.

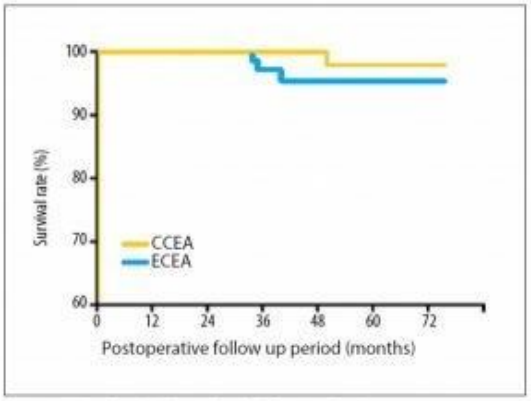


Figure 3. Kaplan-Meier analysis of the survival rates. The log-rank test showed P=0.241.

ID: **358**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

CAROTID BODY TUMORS AND SURGICAL COMPLICATIONS

Mustafa Dağlı, Mustafa Cüneyt Çiçek

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Carotid body tumors are very slow-growing tumors, mostly benign, originating from neural crest. Carotid body tumors located in the cervical region show high vascularity and close anatomical relationship with the carotid arteries is one of the main reasons for the interest of vascular surgeons. Due to the difficulties experienced in surgical resection and serious complications that may develop, surgical experience is required. Paragangliomas are tumors arising from the chromaffin cells of the sympathetic ganglia. Carotid body tumors account for 3% of all paragangliomas and 0.6% of head and neck tumors. The carotid body tumors are divided into three groups according to the gross tumor-vessel relationship (Shamblin Classification): localized tumors (Shamblin I), those adherent and partially surrounding the carotid vessels (Shamblin II), and those intimately surrounding the carotid vessels (Shamblin III). The definite treatment for these tumors is surgical resection, often augmented with preoperative embolization due their highly vascular nature, especially for Shamblin II and III tumors.

METHODS

In our clinic, fewer carotid tumor operations are performed compared to carotid endarterectomy. However, when we examined the last 6 cases, one of these cases was excessive. A 32-year-old male patient had no complaints other than neck swelling. The tumor was approximately 6 cm in size, extending to the cranial. There was no intravenous invasion. We also consulted this case with otorhinolaryngology clinic. This case, which we accepted as inop on behalf of our clinic, showed us the size of the carotid body tumor. Interventional radiology clinic was interviewed for embolization. Since the tumor of this size was difficult to perform, he was referred to a head and neck surgery clinic.

The other five patients who were operated were all female. The mean age was 55.7 years. The largest diameter was 2.5 cm and the smallest was 1 cm. All patients were diagnosed with carotid doppler ultrasound first and then neck MRA was taken to support. The tumors were located only between the internal and external carotid artery (Shamblin I)(Image 1).None of the patients had intravenous invasion. All of the tumors were removed during the operation.

RESULTS

All carotid body tumors referred to pathology resulted in benign. Complications developed in 2 patients. After the operation, one of the patients had slippage at the rim, while the other patient had difficulty in slipping and swallowing the tongue due to twelfth nerve damage. Prednol treatment was given to both patients. After 2 months it almost completely recovered. There was no recurrence at 1-year follow-up.

CONCLUSIONS

Surgical resection will be more difficult as the carotid body tumors reach larger diameters. Carotid body tumors can be treated with appropriate preoperative imaging, careful surgical planning and adequate surgical experience with acceptable complication rates.



ID: **486**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

CAROTID BODY TUMOR RESECTION: IS PRE-OPERATIVE EMBOLIZATION NECESSARY?

Fehim Can Sevil[1], Mehmet Tort[2], Mehmet Ali Kaygın[3]

[1]*Afyonkarahisar Sağlık Bilimleri Üniversitesi Tip Fakültesi, Afyon, Turkey*

[2]*Erzurum Sağlık Bakanlığı Bölge Eğitim Araştırma Hastanesi, Erzurum, Turkey*

[3]*Erzurum Sağlık Bakanlığı Bölge Eğitim Araştırma Hastanesi, Erzurum, Turkey*

[*]*Corresponding Author (fhm_can@hotmail.com)*

Background: Carotid body tumors (CBTs) are rare tumors in the neck. Surgical resection is the gold standard of treatment. Surgical resection may be complicated by bleeding. Pre-operative embolization has recently been introduced for the treatment to reduce the quantity of blood loss; however, the outcomes of this procedure are still under debate. In this article; we have presented the outcomes of patients, who underwent surgical resection for CBT without undergoing pre-operative embolization in our institution.

Patients and methods: This retrospective study reviewed 67 tumor resection cases that underwent surgical resection for CBT without undergoing pre-operative embolization. Tumor classification was performed according to the Shamblin classification. The demographic, clinical characteristics and the operative information about the patients were retrieved from the patient records. The obtained data were analyzed with descriptive statistics.

Results: The study included 12 male and 55 female patients. The mean age was 51.95±16.59 years. Of the surgically resected tumors; 11(16.4%) were Shamblin Type I, 30 (44.8%) were Shamblin Type II, and 26 (38.8%) were Shamblin Type III. The mean duration of operation was 109.10±32.36 minutes. The volume of intraoperative blood loss in the Shamblin Type I, Type II, and Type III groups were 98.64±23.46 cc, 215.33±75.74 cc, and 351.73±62.51 cc; respectively and they were significantly different among the groups ($p<0.001$). The volume of postoperative blood loss in the Shamblin Type I, Type II, and Type III groups were 34.09±10.44 cc, 53.00±20.02 cc, and 62.50±25.11cc, respectively and they were significantly different among the groups ($p=0.003$). Cranial nerve injury developed in 10 (15.0%) patients. Postoperative stroke developed in two (3%) patients. No mortality or persistent nerve injury was observed in association with the injury in the patients during the one-year follow-up period.

Conclusion: Carotid body tumors can be surgically resected safely and effectively without a need for pre-operative embolization.

ID: **627**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

SURGICAL TREATMENT OF CRITICAL LOWER LIMB ISCHEMIA IN MULTIFOCAL ATHEROSCLEROSIS

Irnazarov Akmal[1], Karimov Shavkat[2], Rakhmanov Sobir[2], Asrarov Uktam[2], Yulbarisov Abdurasul[3], Hasanov Vali[2], Avlonazarov Hurshid[2]

[1]*Tashkent Medical Academy, Tashkent, Uzbekistan*

[2]*Tashkent Medical Academy, Tashkent , Uzbekistan*

[3]*Republic Specialized Center of Surgical Angioneurology, Tashkent , Uzbekistan*

[*]*Corresponding Author (rasul-1981@mail.ru)*

Aim of study: Improving the results of treatment of patients with critical lower limb ischemia (CLLI) in multifocal atherosclerosis by improving the tactics of surgical treatment.

Material and methods: From 2016 to 2020, 180 patients (151 men, 29 women) were hospitalized in the vascular surgical department. All patients had combined atherosclerotic lesions of the carotid and / or coronary arteries. In 136 (75.6%) patients, hemodynamically significant stenosis of the carotid arteries (CA) was revealed. In 85 (47.7%) patients with CA and CLLI lesions, coronary heart disease (CHD) was detected. CHD was detected in 35 (19.4%) patients with CLLI without CA lesion. Of 180 (100%) patients with coronary heart disease, angina pectoris FC II was observed in 70 (38.9%), FC III - in 35 (19.4%). Unstable angina was observed in 28 (15.6%) patients. Coronary angiography was performed in 62 (34.4%) patients with coronary artery disease.

Results: In 48 (26.7%) patients with CA stenosis and CLLI, regression of lower limb ischemia was achieved with BMT, of which 29 (16.1%) underwent long-term intra-arterial catheter therapy, after which they underwent carotid endarterectomy. On the 7th day after interventions on CA in 25 (13.8%) of these patients, reconstruction of the aorta and arteries of the lower extremities was performed. Endovascular interventions on the arteries of the lower extremities (ALE) were performed in 9 (5%) patients after reconstruction of CA. 5 (2.8%) patients had a high amputation of the limb due to the progression of ischemia. In 2 (1.1%) patients developed acute myocardial infarction with a fatal outcome.
The choice of simultaneous tactics was based on the impossibility of stopping CLLI and conducting interventional interventions or their inefficiency. Simultaneous operations were performed in 12 (6.7%) patients with CA stenosis with CLLI. No complications were observed. In 35 (19.4%) patients with lesions of CA and CLLI, on the first stage was performed endovascular interventions on the ALE, 18 (10%) of them had hybrid interventions. 1 (0.5%) patient had a high amputation with a fatal outcome, another 2 (1.1%) - amputation.
Open interventions for CLLI on the first stage were performed in 33 (18.3%) patients. All operations on the lower extremities were performed under spinal anesthesia, with access below the pupart ligament. In 1 (0.5%) patient in the early postoperative period, a high amputation of the limb was performed.
For patients with coronary artery disease, coronary reserve was an important criterion. In 18 (10%) patients with coronary artery and lower limb lesions, the first stage was coronary stenting, the second stage was the reconstruction of the lower limb arteries. In 16 (8.8%) patients, an open intervention was performed on the lower limb arteries in connection with hemodynamically insignificant lesions of the coronary artery during coronarography. In 11 (6.1%) patients, palliative interventions were performed after stenting of the coronary arteries. When assessing regression of lower limb ischemia, ABI was taken into account: initially, this indicator was 0.35 ± 0.05; on the 3-4th day after interventions on lower limb arteries, it increased to 0.67 ± 0.03 ($p < 0.05$).

Conclusion: The use of hybrid surgical interventions in patients with CLLI at a high risk of complications is an effective method of surgical treatment of patients with multiple stenotic lesions, which leads to regression of ischemia and increases the salvage of the limb.

Oral Presentation Session

Controversial Issues in Carotid Endarterectomy

Date: 13.03.2020 Time: 08:45-09:45 Hall: 6

ID: **488**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

A CASE OF PAPILLARY CARCINOMA IN THYROGLOSSAL DUCT CYST MIMICKING CAROTID BODY TUMOR

Fehim Can Sevil

Afyonkarahisar Sağlık Bilimleri Üniversitesi , Erzurum, Turkey

**Corresponding Author (fhm_can@hotmail.com)*

Background: Carotid body tumors (CDTs) are rare tumors of the neck also known as paragangliomas. Thyroglossal duct cyst (TDC) occurs as a result of an abnormality in the development of the thyroid gland, and accounts for approximately 70% of congenital neck masses. Sometimes differential diagnosis of neck masses can be difficult.

Methods: The patient presented with a painless, slowly growing lateral neck mass that had previously been operated in another hospital. The tumor which we considered as vascular tumor was operated. Sistrunk's procedure was performed after the identification of a papillary thyroid carcinoma.

Results: The surgical specimen was sent for histopathological examination after surgery, revealing a papillary carcinoma containing cystic structures. After Sistrunk's procedure microscopic examination of thyroid, revealed a papillary thyroid carcinoma with vessel and capsule invasion.

Conclusions: The thyroglossal duct cysts and malignancies should be kept in mind in the lateral masses of the neck.

ID: **112**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

SUCCESSFULLY MANAGED CAROTID ENDARTERECTOMY WITH SHUNTING UNDER ULTRASOUND GUIDED CAROTID SHEATH BLOCK COMBINED WITH SUPERFICIAL CERVICAL PLEXUS BLOCK

Fulya Yılmaz[1], Ibrahim Erdinç[2], Ahmet Dede[3], Koray Bas[4]

[1]*Health and Science University Bozyaka Training and Research Hospital Department of Anesthesiology and Reanimation, Izmir, Turkey*

[2]*Health and Science University Bozyaka Training and Research Hospital Department of Cardiovascular Surgery, Izmir, Turkey*

[3]*Health Science University Izmir Bozyaka Training and Research Hospital Department of Anesthesiology and Reanimation, Izmir, Turkey*

[4]*Health and Science University Bozyaka Training and Research Hospital Department of General Surgery, Izmir, Turkey*

Introduction: Carotid endarterectomy is the best treatment option in patients with high grade carotid artery stenosis but there is still no consensus on the optimal anesthetic management. Although so many methods have been used for cerebral function monitoring during general anesthesia; awake patient is still the gold standard. Both ultrasound guided carotid sheath block(U-CSB) and ultrasound guided superficial cervical plexus block(U-SCPB) are performed rapidly with lower complication rates. Hereby we report a CEA with shunt insertion successfully managed under U-CSB combined with U-SCPB.

Case report: A 73-year-old-man(100kg,175cm) with a history of hypertension, ischemic coronary artery disease, bening prostat hypertrophy and smoking was presented to Emergency Department with a left sided weakness 10 days ago. Cranial tomography was revealed ischemic stroke and medical therapy was started. Doppler ultrasound revealed bilateral carotid stenosis with a 90% stenosis on the right internal carotid artery and a 60 % stenosis on the left side. Semi-urgent CEA under regional anesthesia was planned.
In the operating room, after monitoring (pulse-oximetry,3-lead electrocardiography and invasive blood pressure via contralateral radial artery). Patient was placed in supine position. After disinfection of puncture side and sterile covers applied to the transducer; under ultrasound visualization, the needle was advanced into the carotid sheath from the posterior border of the SCM muscle at C6 level, close to the carotid artery and away from the nervus vagus. Then transducer was applied anterior border of the SCM muscle at C6 level. LA was administered to posterior border of SCM, superficial to the investing layer of deep cervical fascia under spread of LA was visually assessed on the ultrasound image. For both blocks 10mL LA solution (5ml,0.5%bupivacaine and 5ml,20%prilocaine) was administered. Clamping was performed three times but the patient's consciousness was deteriorated within 30,10 and 7 seconds respectively. So the surgeon was planned intraoperative shunting and carotid shunt was placed. Shunting, clamping and overall surgery time were 19,33 and 55 minutes respectively. It was not used any additional local anesthetic supplementation and systematic sedo-analgesic during the surgery.

Discussion: Carotid sheath surrounds the internal juguler vein, carotid artery and vagus nerve. Rössel, Casutt, Martusevicius and Madro et al reported that U-CSB is safe, simple, can be performed rapidly, sufficient for surgery, requires lower supplemental LA during surgery and an alternative approach with lower complication rate. We thought it should be combined with U-SCPB to block skin sensation. Further studies are needed to demonstrate the reliability and effectiveness of this new technique.
Figure 1. Ultrasonographic anatomic landmarks for superficial cervical plexus block and carotid sheat block

Picture 1. Shunting during CEA and dissected aterom plaque

ID: **420**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

A RARE CASE: EARLY SURGERY OF CAROTID STRING SIGN USING EXTERNAL CAROTID ARTERY SHUNT

Erdal Simsek[1], Soner Yavas[1], Muharrem Tola [1], Muhammed Sefa Saglam[1], Emre Kulahcioglu[1], Muhammed Selim Yasar[2], Fatma Ayca Edis Ozdemir[1]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Ankara City Hospital, Ankara, Turkey*

[*]*Corresponding Author (erdaldr@yahoo.com)*

INTRODUCTION

In patients with severe stenosis of the carotid artery, string thinning, elongation, and narrowing of the artery due to decreased flow instead of poststenotic dilatation may result. Collapsed of the poststenotic lumen is dependent on low blood flow in cases with string sign findings.

CASE REPORT

A 60-year-old male patient presented with complaints of chest burning and tongue numbness. Coronary angiography revealed coronary artery disease and carotid artery stenosis. There was a string sign on the angiogram (Figure1). Right ophtalmic artery originating from only right external carotid artery (Figure 2). Doppler ultrasonography showed a fibrofaty stenosis in the right proximal ICA (%90) and left proximal ICA (%60-70). Right carotid endarterectomy + patch plasty (dacron patch) operation was performed by shunting the external carotid artery (for preserve the ophtalmic blood streem). There was no neurological complication after the operation. He was discharged on the third postoperative day. After 5 months, the right carotid artery was normal in the control tomography, but a string sign was detected in the left carotid artery (Figure 3). The left carotid artery was operated with the same technique. control ultrasonography showed improvement of string sign and normal diameter of carotid artery.

Carotid stenosis with string sign findings and patients with severe carotid artery stenosis should be evaluated and operated for the same indication. Patients with carotid stenosis with string sign findings should be intervened and should not be left alone.




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ID: **247**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

CAROTID ENDARTERECTOMY AND CORONARY ARTERY BYPASS GRAFTING PERFORMED IN SAME SESSION IN PATIENT WITH FAMILIAL HYPERCHOLESTEROLEMIA

Atıf Yolgösteren, Nuri Burkay Soylu, Mustafa Tok

Uludag University of Medical Fakulty, Bursa, Turkey

**Corresponding Author (atif@uludag.edu.tr)*

Objective: Familial hypercholesterolemia (FH) is a genetic disorder which is predominantly caused by mutations in low-density lipoprotein receptor gene, characterized by severely increased risk of atherosclerosis and associated vascular and coronary diseases. These patients also demonstrate characteristic findings like xanthomas in tendons]. We would like to present a case operated in the same session with a diagnosis of FH and with carotid artery stenosis and coronary artery disease

Method: Our patient was a 23 year-old male, followed by endocrinologist for seven years due to FH. His brother was diagnosed with FH. Patient received lipid apheresis every two months. Coronary angiography and digital subtraction angiography were performed to the patient who applied to the hospital with flushing, palpitation and sweating. Angiography demonstrated 80% stenosis on proximal LAD, 90% on middle LAD, 50% on D1, 98% on D2, 100% on middle Cx, and 90% stenosis on RCA. In digital subtraction angiography, irregularities due to atherosclerosis and findings of ulceration were clearly visible in both common carotid artery and in cervical segments of internal carotid artery respectively. Stenosis in middle segment of left common carotid artery was 90%. There was also a plaque which stenosed the flow on right renal artery by 60%. Patient was scheduled for left carotid endarterectomy and CABG. Creatinine and GFR was normal, no further intervention was required and routine follow ups were scheduled

Results: Endarterectomy was performed on CCA and proximal internal carotid artery. In the same session, following sternotomy, D1 - saphenous vein, RCA- saphenous vein and LAD - LIMA anastomosis were performed during CPB. Cx was too thin for bypass grafting. Plaques were diffuse in coronary arteries. 2 proximal anastomoses was performed to ascending aorta. Ascending aorta contained soft plaque

Conclusion: In familial hypercholesterolemia patients, coronary plaques are seen very often and might also be accompanied by carotid artery lesions. In general, CAD manifests itself in early phases of disease; but in patients with FH, the involvement of carotid arteries may easily be overlooked and this involvement might manifest itself in later phases of disease. Carotid Doppler USG is suggested for this patient group. Peripheral artery disease is also common in patients with CAD, and might not be symptomatic. These patients should also be checked for peripheral artery disease in a routine manner.

ID: **557**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

THE IMPORTANCE OF EVERSION PATCHPLASTY WITH LOCAL ANESTHESIA IN FAST TRACK DISCHARGE AFTER CAROTID ENDARTERECTOMY

Mustafa Dağlı

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmstafaaaa@gmail.com)*

OBJECTIVE

The discharge time after carotid endarterectomy is generally known as 2 days. We wanted to show in our study that early discharge was possible with excellent surgical results.

METHODS

Patients with carotid endarterectomy who underwent eversion patch plasty in our clinic during the last year who were included in the study. 7 patients (2 female) underwent eversion patch plasty. The mean age of the male was 69.3 and the mean age of the female was 72.1. Hypertension was present in 43% of the patients. 29% had diabetes mellitus. One patient had had coronary bypass grafting. Two patients had coronary stents.

Two patients were operated within 15 days of the previous cerebrovascular event, and one patient was operated 3 months after the serobrovascular event. Four patients were diagnosed during preparations for preoperative aorta coronary bypass, while one patient was diagnosed for dizziness. One patient had severe lesion on the opposite side.

NIRS monitoring was performed in each patient. All patients who were discharged on day 1 were operated with lidocaine and 2% arithmal local anesthesia only. Some of the other patients underwent cervical block. Patients underwent routine carotid endarterectomy with eversion patch plasty. Radial artery was used as patch in one patient. During the operation, the blood pressure of the patients was kept above 160 mm-hg. Carotid block was performed because of bradycardia in one patient.

RESULTS

In our study, we found that bleeding and blood pressure irregularity were not observed within 4 hours postoperatively in patients operated with local anesthesia and in all cases where we performed eversion patch plasty. The duration of discharge was also significantly lower. The discharge time of the patients was 0 and 1 day, except for proep bypass patients. The mean duration of discharge from these patients was 0.66 days. Patients who were discharged early were reevaluated on the third postoperative day. No problems were observed.

CONCLUSIONS

Fast track discharge is possible in patients undergoing carotid endarterectomy with eversion patch plasty by local anesthesia.

ID: **542**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

PRIMARY CLOSURE OR PATCH GRAFTING FOR THE TREATMENT OF CAROTID STENOSIS AFTER CAROTID ARTERY ENDARTERECTOMY

Fahri Adalı, Fehim Can Sevil, Necip Becit

Afyon Sağlık Bilimleri Üniversitesi, Afyonkarahisar, Turkey

**Corresponding Author (drfadali@yahoo.com)*

OBJECTIVE

The safety and durability of carotid endarterectomy (CEA) require attention to certain technical details that may evolve over time. The objective of this study was to compare the patch grafting and primary closure techniques for the treatment of carotid stenosis after carotid artery endarterectomy.

METHODS

A total of 64 consecutive patients underwent 70 CEAs (six bilateral) for severe carotid artery stenosis. 38 of 70 CEAs were performed with patch graft, 32 of 70 CEAs were performed by primary closure. There were 53 males and 11 females. All patients underwent Color Doppler ultrasonography and pulse Doppler ultrasonography, computed tomography angiography/ conventional angiography and a detailed cardiological evaluation. The procedure was done under general anesthesia or regional anesthesia and closure was done using 6-0 prolene. Patients were followed up for 1 years to 7 years. Clinical and radiological follow-up was done.

RESULTS

Although graft patching alone seemed to have less risk for perioperative or postoperative morbidity than primary closure, these differences did not attain statistical significance. There were also no significant differences in the perioperative stroke and ICA thrombosis rates. We adjusted for the various lengths (one year to seven years) of follow-up in the study groups. In this study redo CEA patients were excluded. 6 patients required intraoperative shunting. In the patients there was no mortality or stroke perioperatively during hospital stay. With CT angiographic imagining we obtained more non critical carotid artery restenosis (<50) in primary closure group than patch grafting group on the follow-up.

CONCLUSIONS

Carotid endarterectomy with patch graft exerted a high protective effect from restenosis up to 1 and 7 years in our institution. The number of carotid artery stenting is increasing all over the world but we speculated that the established surgical procedure of patched CEA prevented restenosis.

Oral Presentation Session

Mastering in Coronary Surgery

Date: 13.03.2020 Time: 09:45 - 11:15 Hall: 6

ID: **34**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

CORONARY FLOW RESERVE ASSESSMENT VIA ECHOCARDIOGRAPHY IN PATIENTS WITH CORONARY BYPASS SURGERY UNDERGOING LONG ONLAY-PATCH ANASTOMOSIS WITHOUT ENDARTERECTOMY

Esra Erturk Tekin, Ozden Vezir

Mersin City Training and Research Hospital, Mersin, Turkey

**Corresponding Author (dresraer@yahoo.com)*

Abstract:

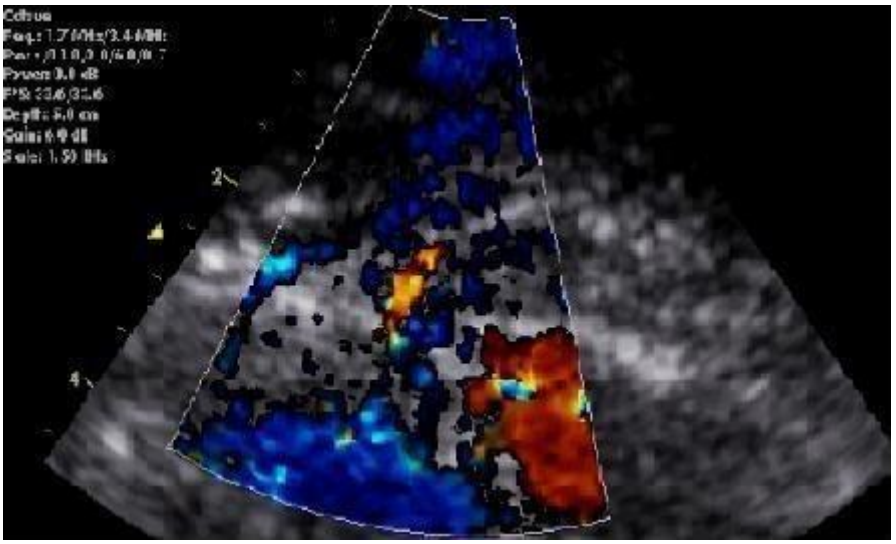
Objectives: In severe calcified and diffuse coronary lesions, long onlay-patch anastomosis without endarterectomy is another technique to promote augmented blood flow especially to septal perforator branches of left anterior descending artery (LAD). In this study we aimed to demonstrate the efficacy of the long segment onlay-patch anastomosis without endarterectomy via using coronary flow reserve (CFR) measured by doppler echocardiography.

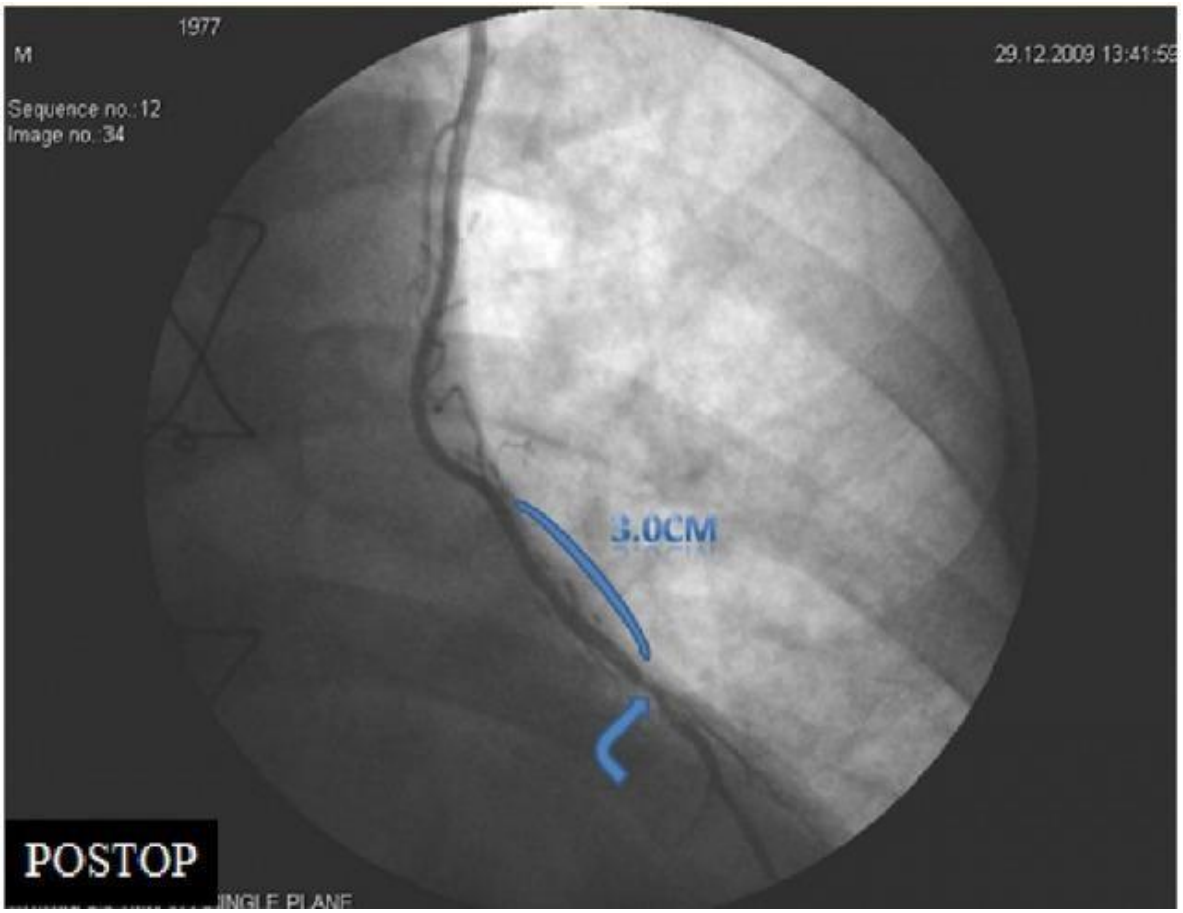
Methods: Fifty-six patients who underwent CABG onlay-patch anastomosis technique without endarterectomy were evaluated by transthoracic echocardiography for CFR which represents the rates of blood flow both during resting and maximal hyperemia provided by dipyridamole. LAD - LIMA along the long anastomosis line mid and distal flow patterns were examined, peak systolic and diastolic flow velocities and diastolic velocity time integral were registered.

Results: The mean onlay-patch length was 2.97 ± 0.72 cm. When correlation of changes in coronary flow reserve and other echocardiographic findings were evaluated, there was a statistically significant however, for all patients (normal values: CFR>2, n:49 and low values: CFR<2, n:6) inverse correlation between onlay-patch anastomosis length and CFR (2.97 ± 0.72 cm; 2.35 ± 0.56 m/sec; p value: 0,008, respectively). Coronary angiography was performed for 4 patients with CFR<2. Angiography showed post anastomosis segment 80% stenosis in one patient.

Conclusion: We explained the reliability of the onlay-patch anastomosis technique without endarterectomy and the usability of CFR measurement with transthoracic echocardiography in the postoperative follow-up of patients who underwent coronary bypass.

Key words: Long onlay-patch anastomosis, endarterectomy, coronary flow reserve, coronary bypass, multi-vessel coronary artery disease




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ID: **236**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

CLINICAL RESULTS OF PREPARATION OF LEFT INTERNAL THORACIC ARTERY WITHOUT PLEUROTOMY IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

Celalettin Günay, **Hüseyin Sicim**, Hakan Kartal, Elgin Hacızade, Tuna Demirkıran, Muharrem Emre Özdaş, Gökhan Erol, Gökhan Arslan, Ertan Demirdas, Bilgehan Savaş Öz

Gülhane Training and Research Hospital, Ankara, Turkey

**Corresponding Author (celalettin.gunay@sbu.edu.tr)*

OBJECTIVE

Left internal thoracic artery (LITA) is an arterial graft that is frequently used in coronary artery bypass grafting (CABG) for long-term patency and survival rates. In this study, we aimed to investigate the effects of LITA harvesting on pulmonary functions with and without pleurotomy.

METHODS

Between March 2019 and November 2019, 49 patients who underwent CABG operation at Gülhane Training and Research Hospital Cardiovascular Surgery Clinic were included in the study. LITA harvesting was performed in 11 patients (Group 1) without pleurotomy and in 38 patients (Group 2) with pleurotomy. Patients who underwent additional procedure for CABG and opened right pleura during sternotomy were not included in the study. These two patient groups were evaluated for partial carbon dioxide pressure (pCO2), partial oxygen pressure (pO2), atelectasis and pleural effusion in the early postoperative period.

RESULTS

pCO2 was found to be lower in group 2 patients after extubation compared to group 1 because of higher respiratory rate in group 2 patients ($p = 0.014$). There was no significant difference between two groups in terms of postoperative Po2 ($p = 0.341$). When both groups were compared in terms of postoperative pleural effusion and atelectasis, pleural effusion and atelectasis were significantly less in group 1 than in group 2 ($p = 0.021$, $p = 0.018$).

CONCLUSION

In conclusion, LITA harvesting in underwent CABG surgery without pleurotomy may reduce the incidence of postoperative pulmonary complications

ID: **280**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

COMPARISON OF THE EFFECTS OF TWO DIFFERENT CARDIOPLEGIA METHODS USED IN OPEN HEART SURGERY ON RENAL FUNCTION IN CORONARY BY-PASS OPERATION

Erdinç Eroğlu[1], Omer Arıcı[2], Mehmet Acıpayam[2]

[1]*Kahramanmaras Imam University Faculty of Medicine, Kahramanmaraş, Turkey*

[2]*Kahramanmaras Imam University Faculty of Medicine, Kahramanmaraş, United States*

[*]*Corresponding Author (erdinc046@hotmail.com)*

Aim: To determine whether the effects of Del-Nido cardioplegia, which is one of the different cardioplegia methods used during coronary by-pass operation, over the renal function is superior to the method of blood cardioplegia.

Methods: We formed two groups of 20 patients who underwent blood cardioplegia and 20 patients who underwent Del-Nido cardioplegia, including the years 2018 and 2019. Preop and post-op 1, 2, 3 days Bun, Creatinin, Na, Potassium, Calcium values of these two groups We got the results. The results of these laboratory findings were analyzed and the effectiveness of two different cardioplegia methods on renal function was compared.

Results:

BYPASS VESSELS

Delnido Blood Cardioplegia
n % n % p
CABGX3 3 15.0 8 40.0 0.273
CABGX4 10 50.0 8 40.0
CABGX5 6 30.0 4 20.0
CABGX6 1 5,0 0 0,0

Conclusion: Del nido cardioplegia reduces the operation time by shortening the cross-clamp time. It also increases the comfort of the surgeon. When two different cardioplegia methods are compared, there is no difference between their effects on renal function.

ID: **66**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

THE EFFECTS OF PREOPERATIVE AMINOPHYLLINE ON MYOCARDIUM AT THE BEATING HEART CORONARY BYPASS SURGERY

Bilal Perçin, Hakan Saçlı

Sakarya University Research and Training Hospital, Sakarya, Turkey

**Corresponding Author (bilalpercin@gmail.com)*

Objective: Coronary artery bypass surgery on the beating heart and its advances have taken their place in modern surgery. We planned a prospective, randomised, controlled, clinical study to determine the effects of preoperative aminophylline usage on myocardial ischemia-reperfusion injury during the beating heart coronary artery bypass surgery.

Methods: We randomized 30 patients into two groups who were planned coronary artery bypass grafting electively. Daily dose of 200 mg aminophylline was applied to 15 patients at preoperative three consecutive days in the aminophylline group (AG). 15 patients in the control group (CG) had taken no extra medication. Measurements of serum creatine kinase (CK), creatine kinase MB (CK-MB), troponin I (Tn-I) concentrations were obtained before surgery, 5 minutes after the end of surgery, and at the 1st, 124th, 48th hours postoperatively. Mean pulmonary artery pressure, cardiac index, ejection fraction, operative data, and morbidity were recorded in all patients preoperatively and postoperatively.

Results: Preoperative risk profiles and operative variables were statistically similar in the comparison of two groups. Serum concentrations of CK, CK- MB, Tn-I were increased after off-pump coronary artery bypass surgery without any statistically significant intergroup differences. Preoperative and postoperative cardiac index (CI) measurements via echocardiography were statistically significant between groups ($p<0.05$). Preoperatively we calculated 3.2±0.7 L/m2/min in AG and 3.2±0.6 L/m2/min in CG. Postoperative values were 4±0.9 L/m2/min in AG and 3.6±0.8 L/m2/minin CG ($p<0.05$).

Conclusions: In this study, we suggested that the usage of preoperative aminophylline decreases the injury of the ischemia-reperfusion and myocardial protection during the off-pump coronary artery bypass surgery.

Key words: Aminophylline, cardiac index, off-pump coronary artery bypass surgery, ischemia reperfusion injury, myocardial protection.

ID: **41**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

NORMOXIC MANAGEMENT OF CARDIOPULMONARY BYPASS DURING CORONARY ARTERY BYPASS GRAFTING IS ASSOCIATED WITH DECREASED MYOCARDIAL OXIDATIVE STRESS

Ahmet Can Topcu, Tugba Kavasoglu, Ahmet Bolukcu, Kamile Ozeren, Ilyas Kayacioglu

Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey

**Corresponding Author (ahmetcan1987@gmail.com)*

Background: Patients undergoing coronary artery bypass graft surgery have chronic myocardial ischemia, and their hearts are rendered acutely ischemic during aortic cross clamping. Upon revascularization, they are at risk of myocardial ischemia-reperfusion injury, which may be exacerbated by higher oxygen contents.

Objectives: We aimed to investigate whether normoxic cardiopulmonary bypass would limit myocardial oxidative stress in adults undergoing coronary artery bypass graft surgery.

Methods: Adult patients scheduled to undergo elective isolated on-pump coronary artery bypass grafting were randomized into normoxia and hyperoxia groups. The normoxia group received 35% oxygen during anesthetic induction, 35% during hypothermic bypass, and 45% during rewarming. The hyperoxia group received 70%, 50% and 70% oxygen, respectively. Coronary sinus blood samples were taken prior to initiation of cardiopulmonary bypass, and after reperfusion. Myocardial total oxidant and antioxidant states were measured. The primary endpoint was myocardial total oxidant status. Seondary endpoints were myocardial total antioxidant status, and length of intensive care unit and hospital stay.

Results: Forty-eight patients were included (40 men). Twenty-two received normoxic management. Mean±SD age was 58±9.07 years. Groups were balanced in terms of demographic characteristics, risk factors and operative data. Myocardial total oxidant status was significantly lower in the normoxia group following reperfusion (p=0.03). There was no statistically significant difference between groups regarding myocardial total antioxidant status, and length of intensive care unit and hospital stay (p=0.08, p=0.82, p=0.54, respectively).

Conclusions: Normoxic cardiopulmonary bypass is associated with less production of myocardial oxidative stress compared to hyperoxic cardiopulmonary bypass in adult patients undergoing coronary artery bypass graft surgery.

Table 1. Total oxidant and antioxidant status

.	**Normoxia (n=22)**	**Hyperoxia (n=26)**	**p value**
TOS-T_1 (µmol H2O2 Eq/L); median (IQR)	18.5 (13.9-25.7)	20.06 (13.5-28.2)	0.83
TOS-T_2 (µmol H2O2 Eq/L); median (IQR)	49.5 (40.8-68.1)	66.9 (55.8-87.8)	**0.03***
TAS-T_1 (µmol Trolox Eq/L); mean±SD	1.8±0.21	1.7±0.22	0.07
TAS-T_2 (µmol Trolox Eq/L); mean±SD	1.6±0.21	1.5±0.17	0.08

*Mann-Whitney U test was used for statistical analysis. *IQR*, interquartile range; *SD*, standard deviation; T_1, prior to initiation of cardiopulmonary bypass; T_2, 4 minutes after removal of aortic cross clamp; *TAS*, total antioxidant status; *TOS*, total oxidant status.

ID: **285**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

EARLY RESULTS OF ORTHOLOX POLYMER STERNOTOMY CLOSURE SYSTEM IN OPEN HEART SURGERY

Erdinç Eroglu[1], Ahmet Acıpayam[2], Mehmet Acıpayam[2]

[1]*Kahramanmaras Imam University Faculty of Medicine, Kahramanmaraş, Turkey*

[2]*Kahramanmaras Imam University Faculty of Medicine, Kahramanmaraş, United States*

[*]*Corresponding Author (erdinc046@hotmail.com)*

Aim: To present the early results of ortholox polymer sternotomy closure system in open heart surgery

Materials and Methods: Between 2018-1019, 210 patients with BMI above 30 who underwent open heart surgery were included in the study. 105 patients were group1 and 105 patients were group 2. In Group 1, the sternum was closed with standard steel wire. In Group 2, polymer sternum closure system was used.

Result: There was no difference between the two groups in terms of age, gender, BMI, and operative methods. In Group 2, only one patient had infection at the sternal incision site, and no patient had sternal dissociation. In Group 1, 5 patients had infection at the sternum incision site and 8 patients had sternal dissociation. The mean duration of ICU stay was 1.4 days in Group 2 and 2.1 days in Group 1. Postoperative pain scoring was 3.4 in Group 1, 2.1 in Group 2, and was statistically significant.

Conclusions: Polymer sternal closure system increases patient and surgeon satisfaction with less sternal dissociation, less pain and less intensive care time than standard steel wire closure. However, more patient-numbered and multicenter studies are needed.

ID: **140**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

A RETROSPECTIVE COHORT STUDY ON CORONARY ENDARTERECTOMY OUTCOMES IN CORONARY ARTERY BYPASS GRAFT PATIENTS

Dr. Adnan Khan

HAYATABAD MEDICAL COMPLEX, PESHAWAR, Pakistan

**Corresponding Author (dr.adnan34@gmail.com)*

Introduction:
The aim of this study is to determine the outcomes following coronary endarterectomy (CE) in patients who underwent coronary artery bypass grafting (CABG) for revascularization in our hospital.

Methods:
We retrospectively reviewed patients who underwent CABG over a six-month period, from November 1, 2016 to May 31, 2017 and examined their outcomes in regards to CE.

Results:
A total of (n=361) CABG procedures were performed in our study period, though complete records were available for only (n=254) patients. Amongst these, (n=37) patients (14.5%) required CE. Ages ranged from 43 to 75 years for these patients, (n=7) were females and (n=30) males. Comorbidities included hypertension in (n=19) patients, diabetes in (n=12) patients and hepatitis B in (n=11) patients. The right coronary artery (RCA) was the most common artery endarterectomized (n= 15), followed by the left anterior descending (LAD) (n= 10), obtuse marginal (n= 6 patients), diagonals (n=5) and ramus (n=2). Two vessels were endarterectomized in (n=4) patients. A total of (n=9) patients had two-vessel CABG, (n=16) had three-vessel CABG and (n=8) had four-vessel CABG. The left internal mammary artery (LIMA) was used in (n=25) patients. Two patients required intra-aortic balloon pump postoperatively. All the patients had received inotropic support postoperatively in the intensive care unit (ICU). There were no reports of postoperative mortality. One patient remained in the ICU for four days postoperatively, the rest of the patients were stepped down to the ward in less than four days.

Conclusions:
Coronary endarterectomy is a safe and viable option as an adjunct to CABG in long segment totally occluded vessels needing revascularization and reconstruction.

Keywords: revascularization, coronary endarterectomy, coronary artery bypass graft (CABG)

ID: **477**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

RESULTS OF CORONARY ARTERY BYPASS GRAFTING IN MYOCARDIAL BRIDGING OF LEFT ANTERIOR DESCENDING ARTERY

Ilkhom Abdukhalimov, Oybek Mashrapov

Republican Research Center for Emergency Medicine, Tashkent, Uzbekistan

**Corresponding Author (ilk99@yandex.ru)*

BACKGROUND: We aimed to evaluate the graft patency rate following coronary artery bypass grafting (CABG) to the left anterior descending artery (LAD) with proximal myocardial bridging (MB). While MB is generally a benign coronary abnormality, ischemia, stunning, and sudden death have been reported. In symptomatic patients with proximal LAD systolic compression of >50%, positive for ischemic noninvasive testing and noneffective optimal medical therapy, coronary intervention could be indicated. Few studies of CABG in myocardial bridging have been reported. The influence of high flow in coronaries with MB on graft patency is cause for concern.

METHODS: We retrospectively studied 19 patients operated on for isolated MB of proximal LAD with >50% systolic compression. All patients were severely symptomatic despite optimal medical therapy and positive noninvasive tests for myocardial ischemia. CABG was performed through the thoracotomy without cardiopulmonary bypass. In all cases LIMA was used as a graft for LAD bypass. All patients underwent follow-up coronary angiography.

RESULTS: There was no mortality or major morbidity. Freedom from angina was 98% at 18 months postoperatively.

CONCLUSIONS: LIMA could be the “graft of choice” for LAD bypass in patients with myocardial bridging of the proximal LAD, following by zero mortality and morbidity.

ID: **234**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

IS IT POSSIBLE TO PREDICT ADDITIONAL CAROTID ARTERY DISEASE WITH PLATELETCRIT IN PATIENTS WITH CORONARY ARTERY DISEASE?

Burak Erdolu[1], Mesut Engin[2]

[1]*University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital, Bursa, Turkey*

[2]*University of Health Sciences, Mehmet Akif İnan Training and Research Hospital, Şanlıurfa, Turkey*

[*]*Corresponding Author (kalpcerrahi@gmail.com)*

OBJECTIVE: The incidence of atherosclerotic cardiovascular diseases, which constitute an important disease group, is expected to rise with increasing life expectancy. Plateletcrit (PCT) is a parameter that shows total platelet mass in blood and it has been shown in several studies that it may be effective in the pathogenesis of vascular diseases. In this study we aimed to investigate the role of PCT in showing additional carotid artery disease in patients scheduled to undergo coronary artery bypass graft (CABG) surgery.

METHODS: The patients scheduled for CABG between January 2015 and September 2018 were included in the study retrospectively. According to the tests and physical examination datas, patients with carotid arterial disease were included in Group 2. Patients in whom carotid arterial disease were not detected in carotid Doppler ultrasonography were included in Group 1.

RESULTS: A total number of 176 patients in the Group 1 (65.3% male, mean age: 61.4± 9.1 years) and 92 patients in the Group 2 (68.4% male, mean age: 67.8 ± 11.9 years) were included in the study. There were statistically difference between two groups in terms of age ($p< 0.001$), PCT ($p< 0.001$), triglyceride ($p= 0.038$), previous percutaneous coronary intervention (PCI) ($p= 0.018$) and presence of Diabetes mellitus ($p = 0.029$). In multivariate analysis; advanced age, history of PCI and PCT were identified as independent predictors of concomitant carotid artery disease.(OR: 1.018, 95% CI: 1.007-1.210, $p = 0.012$; OR: 1.300, 95% CI: 1.136-2.470, $p = 0.026$, OR: 2.154, 95% CI: 1.780-4.570, $p < 0.001$, respectively) In Receiver Operating Characteristic analysis, for PCT it was determined a cut-off level of 0.211 for predicting concomitant carotid artery disease (72.7% sensitivity and 64.7% specificity) (Figure 1).

CONCLUSION: In this study, we found that it is possible to predict additional carotid artery disease with PCT in patients scheduled to undergo CABG surgery.

Key Words: Coronary artery disease, Coronary artery bypass graft, Carotid artery disease, Plateletcrit

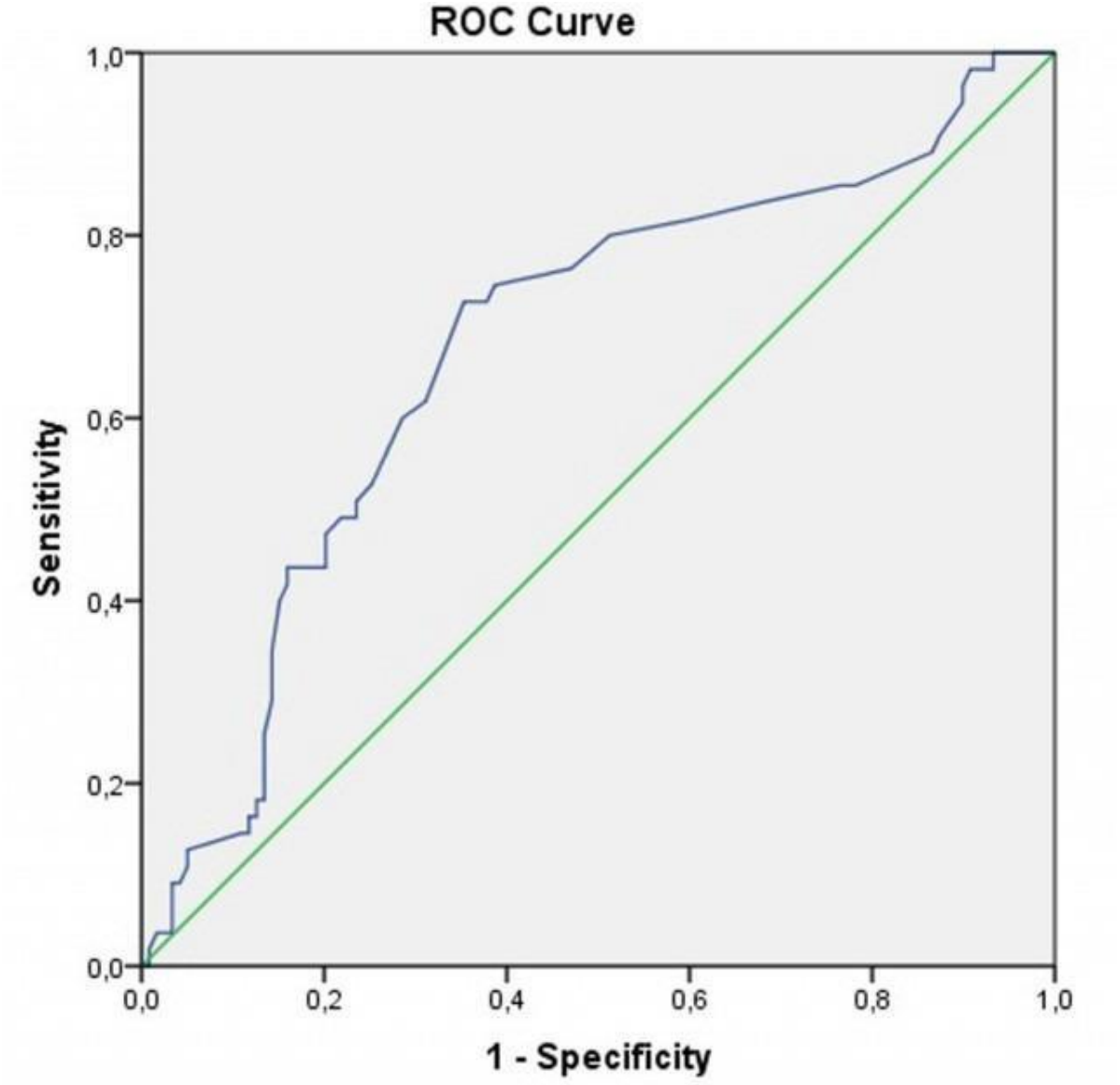


Figure 1. Receiver operation characteristic (ROC) curve and area under the curve (AUC) for Plateletcrit to identify concomitant carotid artery disease (AUC=0.677, cut-off= 0.211, 95% CI= 0.590- 0.765, 72.7% sensitivity and 64.7% specificity)

Oral Presentation Session

Surgery for Congenital Heart Defects: Important Observations and Outcomes

Date: 13.03.2020 Time: 11:45 – 13:00 Hall: 6

ID: **211**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

PREVALENCE OF LEFT SUPERIOR VENA CAVA IN PATIENTS WITH CONGENITAL HEART DISEASE

Bah Ali Rida, Abdenasser Drighil

Hospital Ibn Rochd Casablanca, Casablanca, Morocco

**Corresponding Author (ridahmed7@gmail.com)*

Background: Persistent left superior vena cava (PLSVC) is an anomaly of systemic venous return with a prevalence of 0.1% to 0.3% in general population and about 3 to 10% in case of congenital heart disease (CHD). This congenital anomaly is without hemodynamic consequence if it's isolated. Its recognition is important in many circumstances including cases of open heart cardiac surgery during cannulation and in case of central venous catheterization maneuvers by upper left channel.

Goal: The aim of this study was to evaluate the prevalence of persistent LSVC among Moroccan population

Methods: In this retrospective study, one thousand nine hundred and twenty three patients with PLSVC were collected from all patients who underwent trans-thoracic echocardiography at our institution between December 2008 and January 2014.

Results: Among 4034 patients examined, 1923 had CHD. The persistent LSVC was present in 76 patients of which 71 had CHD with a prevalence of 3.7%. The most common cardiac defect associated with persistent LSVC was atrial septal defect (ASD) (32.3%) (OR 1.60, 95% CI 0.95-2.68, ρ = 0.07). Among the five patients having LSVC in the absence of cardiac malformation (prevalence 0.2%), one had iridocoloboma, a second had a mucopolysaccharidosis and the other patients had no extra-cardiac anomalies.

Conclusion: The persistence of LSVC is a rare entity that should be sought systematically, especially in case of any heart defects or extracardiac malformation.

ID: **59**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

POST-OPERATIVE OUTCOME OF PARTIAL ATRIOVENTRICULAR CANAL REPAIR- IN A PEDIATRIC CARDIAC CENTER IN BANGLADESH

Kazi Zahidul Hoque

Dhaka Shishu (Children) Hospital, Dhaka, Bangladesh

**Corresponding Author (kzhoque72@yahoo.com)*

Background: We assessed the post-operative result of patients who went through surgical repair of partial atrioventricular canal defect and quantify the short-term outcome.

Materials and Methods: This is a perspective study, in our center, where we included children undergoing surgical repair of Partial AV canal defect from 2012 to 2019. Total 70 patients were enrolled in this study. We performed the intracardiac repair and monitor these patient whether they have developed mitral valve regurgitation, any residual defect and immediate post-operative complications and reappearance of symptoms.

Results: During the study period 70 patients were selected and performed intracardiac repair of partial av canal defect and along with mitral valve cleft repair. The median age of repair was 2.8 years. There were no operative death only 1 death after 1 month post operatively due to infective endocarditis, and 2 most-operative wound infection. During our one year follow-up, no reoperation was done. However, 10 patients were detected mild to moderate left ventricular outflow tract obstruction, with minimal symptoms, may require reoperation in future. No patient had post-operative pacemaker implantation. 4 patients were detected mild to moderate mitral valve regurgitation, may need surgery in future. Mean hospital stay was 9 +- 2 days. Our average follow-up periods were 12 months.

Conclusion: Intracardiac repair of partial atrioventricular canal defect is quite good at the median age of 2.8 years with no increased in mortality, re-operation and other complications which were reveal with one year follow-up. Patients will be needed to monitor more to order to quantify the outcome.

ID: **128**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

THE EARLY AND MID-TERM OUTCOMES OF A SINGLE INSTITUTE IN THE SURGICAL MANAGEMENT OF THE AORTOPULMONARY WINDOW

Gökmen Akkaya[1], Çağatay Bilen[2], Osman Nuri Tuncer[2], Yuksel Atay[2]

[1]*Ege University, Izmir, United States*

[2]*Ege University, Izmir, Turkey*

[*]*Corresponding Author (akkayagokmen@gmail.com)*

Objective

Aortopulmonary window (APW) is a rare congenital defect that represents approximately 0.2–0.5% of all among congenital heart diseases; nonetheless, it may accompany various cardiac defects. Progressive pulmonary arterial hypertension development and its consequences is a major source of concern in such patients. Herein with this report, we share our single institute experience in patients who underwent APW repair.

Methods

Overall 9 patients were included in the study of who had undergone surgical repair with the diagnosis of APW between 2005- 2018 in our center. The medical records were reviewed retrospectively. Postoperative clinical and echocardiographical examinations in follow-up were performed.

Results

The median age was 4.4 months (range 2 – 10 months) and mean weight at repair was 4.7 kg (range 3.5–8 kg). Four patients had Mori's Type I while 4 patients had Type II and 1 patient had Type III APW. Three patients had simple APW whereas, six patients had additional surgical procedures due to concomitant heart defects including atrial septal defect (n=4), ventricular septal defect (n=3), patent ductus arteriosus (n=1) and subaortic discrete membrane (n=1). The baseline mean systolic pulmonary artery pressure was 72.7 ± 11.4 mmHg (range 50–100mmHg). Patch repair method was performed via the sandwich technique (transwindow) in four patients; one of those was performed as a result of bleeding during simple ligation process. On the other hand, transaortic and transpulmonary approaches were utilized in two each patient. Double ligation was performed on one patient. Two hospital mortalities occurred: in one due to the prolonged mechanic ventilation support followed by pneumonia and in another individual due to the low cardiac output. The mean follow-up was 32 months (range 10-76 months). Five patients were in NYHA Class I at last follow-up; beyond that, there was no requirement for reoperation during follow-up.

Conclusion

APW leads to pulmonary hypertension, surgical correction therefore should be performed as soon as the diagnosis is established, regardless of age. Although various techniques have been introduced so far, precautions should be taken in each patient considering the fragile nature of the affected tissue. Moreover, associated anomalies remain challenge thus require further imaging and advanced strategies. However, surgical repair provides satisfactory results in the early and mid-term follow-up.

Keywords: Aortopulmonary window, simple ligation, congenital heart disease

ID: **146**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

TOTAL CORRECTION IN TETRALOGY OF FALLOT PATIENTS WITH LOWER PULMONARY INDEX

Ramal Hasanov[1], Dinara Mammadzada[2], Umid Mahmudov[1], Tural Mammadzada[1]

[1]*Azerbaijan Medical University.Educational Surgical Clinic, Baku, Azerbaijan*

[2]*Central Hospital of Oilworkers, Baku, Azerbaijan*

[*]*Corresponding Author (hesenovramal1989@gmail.com)*

BACKGROUND: The Tetralogy of Fallot is still one of the most controversial topics in pediatric cardiac surgery. Although it is the most frequently finding in cyanotic congenital heart diseases, in some group of patients whether -total correction or palliative surgery should be done can be very disputed.

METHODS: In our Hospital we prefer total correction in all suitable cases even when pulmonary index is low. The reason is that palliative surgery complications are more and more severe than after total correction. As we know if Mcgoon ratio is more than 2 total correction is recommended. In total correction VSD is closed, RVOT enlarged. If Mcgoon ratio between 1.6 and 2.0 total or palliative surgery can be done dependent on surgeon choice. if Mcgoon ratio is less than1.6 it is recommended to go under 2 phases repair. But We gave a chance to 2 patients with Mcgoon ratio less than 1.6. to make primary repair with extended pulmonary reconstruction. If the patient pulmonary vascular bed is well developed as you see on the picture, we can expand sizes of pulmonary branches to the pulmonary Hilus with the patch. During last year 11 Tetralogy patients we have implemented Total Corrections. Pulmonary Artery Index was so low in these two patients. In 1st one, we evaluated pulmonary arteries by echocardiography. In 2nd one was done both with Echocardiography and CT Angiography. The kids were 40 and 43 months. McGoon ratio in 1st was 1.59 and 1.33 in 2nd.

RESULTS: Cardiopulmonary Bypass and X clamping time is prolonged in both, in 1st patient CPB 120 min, X clamping 108 min, in 2nd CPB 132 min, X clamping 115 min. We can say as comparison CPB time was approximately 60 min in rest. After CPB RV/LV pressure ratio was high, we measure in both patients again in 20 mins, and was high yet. Both patients were monitored for 1 day in ICU. We observed only Sinus Tachycardia in 1st patient and no other complication. In 7th postoperative day was observed degradation in RV pressure and RV/LV pressure ratio. In 1st patient RV pressure 32 mmHg, in 2nd 38 mmHg.RV/LV ratio <0.35 in both. 1 month after surgery sizes of pulmonary branches are LPA~9.0 mm RPA~12.0 mm. During Echocardiography examination we didn't observe any serious difference with rest of patients.

CONCLUSIONS: As we know these patients are candidate for Palliative surgery, we think that this type of Primary Repair, is a suitable alternative for Palliative surgery, if Pulmonary Vascular Bed is normal developed

ID: **224**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

SURGERY OF EBSTEIN DISEASE: REPORT OF 7 CASES

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Rare congenital heart disease characterized by the displacement of the tricuspid septal leaflet towards the right ventricle apex. The etiology is not known. It manifests as cyanosis. The prognosis is linked to functional status, the importance of correct dysfunction, the severity of arrhythmias and cyanosis. The diagnosis is based on echocardiography. The aim of our study is to determine the predictors of early mortality and to evaluate surgical treatment result.

Methods: It is a retrospective, descriptive and monocentric study on 07 patients with an Ebstein disease operated at our institution between January 2004 and august 2016. This study covered the first month after surgery correction.

Results: The average age of discovery of the disease is twenty-six years with female predominance. All patients are symptomatic with cyanosis. The rhythm was sinus in 06 patients. Left ventricular volume and the function were correct in all cases. The function of the right ventricular was alters in 50% of cases with rights cavities dilated in all patients. Tricuspid insufficiency was present in all patients. The preferred gesture is the technique of carpentier. Valve tricuspid replacement with cavopulmonary derivation was realized in one case, Da Silva technique was praticated in two cases. The postsurgical echocardiography showed satisfactory tricuspid repair in all cases. Narrowing mortality one case per ventricular fibrillation in 04 day post operation. The factor predictive of early mortality was ventricular rhythms disorders with good result of conservative surgery.

Conclusion: It's a rare heart disease; echocardiography remains the key diagnostique. It must operate patient before the onset of complications. The prognosis is improved by the trial of the chirurgicales. The treatment techniques is based mainly on conservative surgery.

Oral Presentation Session

Essentials for Aortic Valve Surgery

Date: 13.03.2020 Time: 13:45 – 14:45 Hall: 6

ID: **389**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

INFRA-AXILLARY MINI-THORACOTOMY FOR AORTIC OR DOUBLE VALVE REPLACEMENT

Mahmut Akyıldız, Ahmet Refik Turgut

Medistate Kavacık Hastanesi, İstanbul, Turkey

**Corresponding Author (dr.m.akyildiz@hotmail.com)*

OBJECTIVE: We prefer right infra-axillary mini-thoracotomy (RIAMT) for minimally invasive aortic or mitral or double valve replacement. Its cosmetic superiority over standard sternotomy was apparent, and remoteness from the ascending aorta was compensated for by using long-shafted minimally invasive instruments.

METHODS: Between July 2012 and December 2019, we have performed 390 operations using this approach. Aortic valve replacement group of this study has included 161 patients, double valve replacement group of this study has included 57 patients and 84 aortoplasty were performed.

Surgical technique: The right thorax was opened via a small, vertical right axillary skin incision and a third intercostal thoracotomy was performed. Cardio-pulmonary bypass was established through the right femoral artery and bicaval venous cannulation. The ascending aorta was clamped with flexible clamp. All sutures, for prosthetic valve seating, were tied down with the aid of a knot pusher. Other minimally invasive long shafted instruments were also utilized. Meanwhile, if aortic dilatation is moderate (<45 mm diameter) and another minimally invasive cardiac valve procedure (aortic or double valve replacement) is being performed and patient is not marfanoid, we have concomitantly reduced the diameter of the ascending aorta with a longitudinal J-shaped incision by this right infra-axillary mini-thoracotomy technique.

RESULTS: As concomitant procedures, annular patch enlargement was performed in five patients, right coronary artery bypass grafting in two (totally in six) and mitral valve repair in one (totally in twenty-one) patients. The length of skin incision was 8.5+/-0.5 cm for a double valve procedure. No case was converted to sternotomy. Between 1 and 90 months of follow-up, there were 6 (3.72%) (totally 1.53%) in-hospital mortality, and 5 long-term mortality, all the other patients were alive, and no valve-related complications were observed. The mean age was 50+/-9 (range, 15-77) years, of which 179 (45.89%) were female (56 % in mitral group). 60 patients had rheumatic complex valve diseases as the predominant lesion in aortic valve replacement group, 12 patients had bicuspid valve, and 38 patients had isolated aortic valve insufficiency.

CONCLUSIONS: This approach offers multiple advantages including cosmetic superiority, and facilitates direct access to the rib-cage by cutting only skin and subcutaneous fat. Despite these advantages, the ascending aorta is relatively distant compared with fore-chest thoracotomy or partial sternotomy. This procedure may carry a potential risk of stroke associated with retrograde perfusion through the femoral artery, this approach is limited by the longer cross-clamp and cardiopulmonary bypass times, which have raised some concerns in fragile, and high risk patients.

Keywords: Infra-axillary, mini-thoracotomy, aortic or double valve replacement, aortoplasty

Table 1: Infra-axillary mini-thoracotomy for aortic or double valve replacement and aortoplasty

Aortic valve replacement (AVR)	49
AVR and Aortoplasty	61
AVR and CABGX1(SV-RCA)	2
AVR and Mitral Ring Annuloplasty (MRA)	1
AVR and Mitral valve replacement (MVR)	*20
AVR and MVR and Aortoplasty	*23
AVR and MVR and TRA	2
Triple valve replacement	3
...	Total:161
Mitral and Tricuspid valve replacements: 14	*14 *DVR:57
MVR and Tricuspid Ring Annuloplasty (TRA): 6	

Figure - 1: Infra-axillary mini-thoracotomy





Figure - 2: Infra-axillary mini-thoracotomy / front-view

ID: **422**

Topic: **Cardiovascular Surgery » Pregnancy and Hearth Valve Disease**

Presentation Type: **Oral**

SHOULD UPPER MINI-STERNOTOMY APPROACH BE THE STANDARD FOR OPEN AORTIC VALVE PROCEDURES? THE BELFAST EXPERIENCE

Nader Moawad[1], Firas Aljanadi[1], Alsir Ahmed[1], Onyekwelu Nzewi[2]

[1]*Royal Victoria Hospital, Belfast, United Kingdom*

[2]*Royal Victoria Hospital, Belfast, United States*

[*]*Corresponding Author (dr.nadernabil@hotmail.com)*

Background: Upper mini sternotomy has been established as an alternative to full sternotomy. Mini-sternotomy offers improved cosmetic appearance and comparable outcomes. With current drive to pursue minimally invasive procedures driven by patients' choice Upper mini sternotomy approach is of increasing popularity. We document single-centre experience showing short and medium term surgical outcomes of upper mini-sternotomy approach for aortic surgery.

Methods: Retrospective analysis of patients who undergone upper mini sternotomy Aortic valve procedures over the last five years. Analysis of patients' demographics, intra-op findings and evaluation of early / medium term outcomes. Data presented as median (interquartile range) or percentages.

Results: 231 patients had upper mini-sternotomy Aortic valve surgery at Royal Victoria Hospital in Belfast over the last 5 years between Sep 2014 and Sep 2019. Aged between 37and 86 (Average 67) years, Female 45%: Male 55%, and 120 patients with BMI >30 (52%). Majority were done in J shape hemi-sternotomy (87%) and through Right fourth ICS (94.4%). Central cannulation for both arterial and venous was the most favoured approach (99.2%). The aortic valve was replaced in 230 patients, with mechanical valve in 37(16%), bio-prosthetic valve in 193(84%). Suturless valve used in 20 cases (8.6%). Combined aortic surgery was performed in 7 patients (3%) (1 excision of Aortic Fibroelastoma, 4 Ascending Aorta replacement and 2 Aortic root replacement) ,mean cross clamp time 60 (33-170)min and CPB time 108(51-190)min .30-day Mortality 1(0.4%), conversion to full sternotomy in 11 patients (4.7%), reoperation for bleeding in 8 patients (3.4%), ICU stay 1 (1-20) day and hospital stay 8 (3 -32) Days, new onset AF in 8 (3.4%) ,CVA/TIA in 0.86%, 30-day readmission 7(3%). Early follow up echo (within 6-9 weeks) showed mean gradient of 9.7 (3-34) mmhg. Follow up 2.8±2 years.

Conclusion: Aortic valve, aortic root and ascending aorta surgery is amenable by mini sternotomy incision with good outcomes taking into consideration careful patient selection. It is essential to respect the learning curve and accepting low threshold for conversion to conventional full sternotomy when required.

ID: **77**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

EFFICACY OF POSTERIOR PERICARDIOTOMY IN PREVENTION OF ATRIAL FIBRILLATION AND PERICARDIAL EFFUSION AFTER AORTIC VALVE REPLACEMENT: A RANDOMIZED CONTROLLED TRIAL

Vasily Kaleda[1], Sergey Boldyrev[2], Sergei Belash[2], Stepan Babeshko[3], Kirill Barbuhatti[3]

[1]*Central Clinical Hospital, Moscow, Russia*

[2]*Kuban State Medical University, Krasnodar, Russia*

[3]*Ochapowski Regional Hospital, Krasnodar, Russia*

[*]*Corresponding Author (vasily.kaleda@gmail.com)*

BACKGROUND

Postoperative AFib is one of the most frequent complications in cardiac surgery. Previously posterior pericardiotomy was shown to be an effective method for prevention of postoperative AFib in patients undergoing isolated CABG. The aim of this trial was to evaluate the effectiveness of posterior pericardiotomy in the prevention of postoperative AFib and pericardial effusion in patients undergoing isolated primary aortic valve replacement.

METHODS

The trial was approved by the local ethics committee. It included adult patients under 70 y.o. who had signed the informed consent for participation in the study and who were planned to undergo isolated primary aortic valve replacement. Exclusion criteria were a history of AFib, hyperthyroidism, amiodarone intake, severe chronic obstructive pulmonary disease, left ventricle ejection fraction less than 30%, the size of the left atrium exceeding 50 mm, active infective endocarditis, the presence of adhesions in the pericardium and/or left pleural cavity and mini-sternotomy. From October 2013 to April 2015 607 patients in our clinic underwent different aortic valve procedures. 507 patients were excluded from the study because of the inclusion and exclusion criteria. The remaining 100 patients were randomized into two groups: 49 patients underwent posterior pericardiotomy and 51 patients made up the control group. In both groups the frequency of postoperative AFib, pericardial effusion greater than 5 mm, surgery-discharge time, as well as posterior-pericardiotomy-related complications were studied.

RESULTS

There were no deaths, stroke or cardiac tamponade during the postoperative stay. Neither were there any complications associated with the performance of posterior pericardiotomy. The incidence of AFib, pericardial effusion and average duration of the postoperative stay were similar in both groups: 16% in posterior pericardiotomy group vs. 14% in the control group ($p = 0.71$), 10% in posterior pericardiotomy group vs. 12% in the control group ($p = 0.80$) and 12.4±4.3 days in posterior pericardiotomy group vs. 11.9±4.1 days in the control group ($p = 0.27$), respectively.

CONCLUSIONS

The trial did not confirm the effectiveness of posterior pericardiotomy in preventing postoperative AFib and pericardial effusion during the in-hospital period after isolated primary aortic valve replacement in low risk patients. However, further investigations are needed.

ID: **36**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

PRECISE MOULDED AUTOLOGOUS PERICARDIAL CONFIGURATION FOR AORTIC CUSP RECONSTRUCTION

Farouk Almohammad, Mohammad Bashar Izzat

Damascus University Cardiac Surgery Hospital, Damascus, Syria

**Corresponding Author (dr.farok85@hotmail.com)*

Abstract

BACKGROUND: In order to facilitate surgical repair of complex aortic cusp deformities and restoration of aortic valve competence, new moulds were developed to shape the glutaraldehyde-treated autologous pericardium into precise cusp-like configurations that can be used in aortic cusp reconstruction

METHODS: The new moulds embodied the natural geometry of single aortic cusps, and a series of moulds were made available to correspond with all potential aortic cusp sizes. Aortic valve reconstruction using moulded autologous pericardial cusps was performed in 2 patients (both males, aged 14 and 19 years) with large outlet-type ventricular septal defects, extensive deformation of prolapsed right coronary cusps and severe aortic valve insufficiency. In each patient, the diseased right aortic cusp was excised and was replaced by a moulded autologous pericardial cusp that equaled the size of adjacent undiseased native cusps.

RESULTS: Excellent coaptation with adjoining native aortic cusps could be readily observed and intraoperative transoesophageal echocardiography confirmed satisfactory aortic valve repair (aortic insufficiency <1+ and low transvalvular gradients). Follow-up transthoracic echocardiography confirmed that aortic valve function remained stable in both patients 2 years postoperatively.

CONCLUSIONS: Initial clinical experience indicated that constructing geometrically perfect cusp-like configurations was uncomplicated and implantation of the moulded autologous pericardial cusps restored adequate aortic valve competence. We believe that the simplicity and reproducibility of this approach may assist in the dissemination of aortic cusp reconstruction procedures.



Figure 2: Anterior view of a cusp mould in the open position.

Table 1: Dimensions of the aortic root and aortic valve in the computational 3D model (mm)

d	h	m	c	f	i
Aortic root diameter	Aortic root height	Commissural height	Coaptation height	Cusp free-edge length	Cusp insertion line length
19	13.3	6.65	3.49	22.44	38
21	14.7	7.35	3.85	24.80	42
23	16.1	8.05	4.23	27.16	46
25	17.5	8.95	4.60	29.52	50
27	18.9	9.45	4.96	31.90	54
29	20.3	10.15	5.33	34.26	58
31	21.7	10.85	5.69	36.62	62

ID: **417**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

REVERSED L-TYPE UPPER PARTIAL STERNOTOMY IN AORTIC VALVE REPLACEMENT: AN INITIAL SERIES OF FIVE PATIENTS

Alen Karić

University Clinical Center Sarajevo, Sarajevo, Bosnia and Herzegovina

**Corresponding Author (alen_karic@bih.net.ba)*

BACKGROUND: Mini Sternotomy Aortic Valve Replacement is a replacement of Aortic Valve through reversed L-type upper partial sternotomy. The aim is to improve postoperative convalescence without compromising respiratory function, to decrease bleeding and reduce post-op ventilation time and ICU stay. These advantages decrease cost during the hospital stay by reducing ICU stay, respiration time, bleeding and using blood products, pain killers and shortening hospital stay. The esthetic effect is also a considerable result of this method

METHODS: Short skin incision was done (7cm long) and partial sternotomy starting from jugular notch down to 4th intercostal forming upper partial reversed L-shape sternotomy. Inverted T-shaped pericardiotomy followed. Cannulation was performed by flexible Medtronic EOPA Aortic canula No 24, and Right atrium and Superior Vena Cava with Medtronic venous vire-reinforced cannulas No 22, and CPB were instituted. The cardioplegic arrest was introduced via antegrade cardioplegia. LV venting was obtained by vent cannula placed in through the right upper superior pulmonary vein.

Aortic Valve excision and AVR were followed with Blalock Aortotomy two line-sewing in standard fashion with Prolen 4.0 stitch. The retrosternal drain was placed through the subxiphoid incision and retrosternal plain, made by blunt digital dissection. The sternotomy was closed in standard fashion. Patients were transferred to the ICU for early convalescence and awaking by standard anesthesiology procedure.

RESULTS: Initially 5 patients were operated on, three male and two female patients. All of them had angina as leading and 4 of them had dyspnea as accompanying symptoms. The average time of surgery was 306 minutes, CPB time 198.2 minutes, and cross-clamp time 180.4 minutes. The most implanted valve was 23 in size. Most patients stay one day in the ICU. The average hospital stay was 16 days. One out of five patients died in ICU second day after surgery due to diastolic dysfunction of the hypertrophied LV.

CONCLUSIONS: Given that the incidence of postoperative complications, the duration of the ICU and hospital stays, and early survival it can be concluded that the minimally invasive advanced cardiac surgery procedures can be performed safely in small centers, by paying meticulous attention to the surgical techniques and patient selection.

Keywords: Partial, Sternotomy, Reversed, L-Type, Aortic, Valve, Replacement

ID: **354**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

AORTIC VALVE REPAIR WITH ITS AGE BASED STRATEGY FOR CONGENITAL DISEASE IN THE VARIOUS AGE SPECTRUM: A 15-YEAR SINGLE-CENTRE EXPERIENCE

Zufar Abdurakhmanov, Sergey Varbanets, Olga Gurjeva, Illya Yemets

Ukrainian Children's Cardiac Center, Kyiv, Ukraine

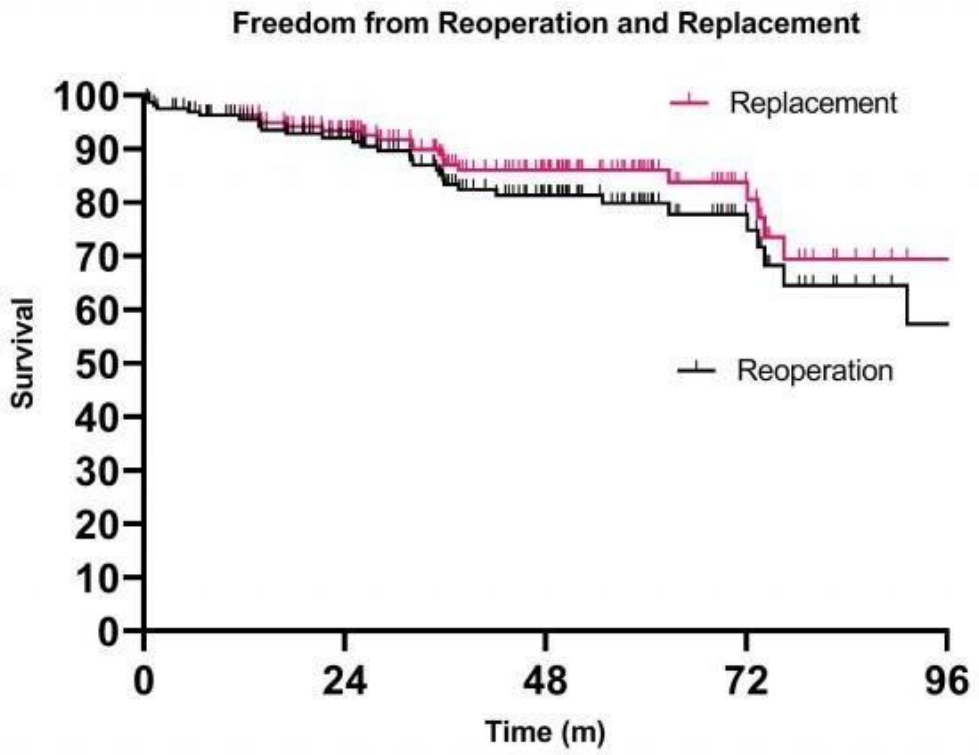
**Corresponding Author (z_abdurakhmanov@yahoo.com)*

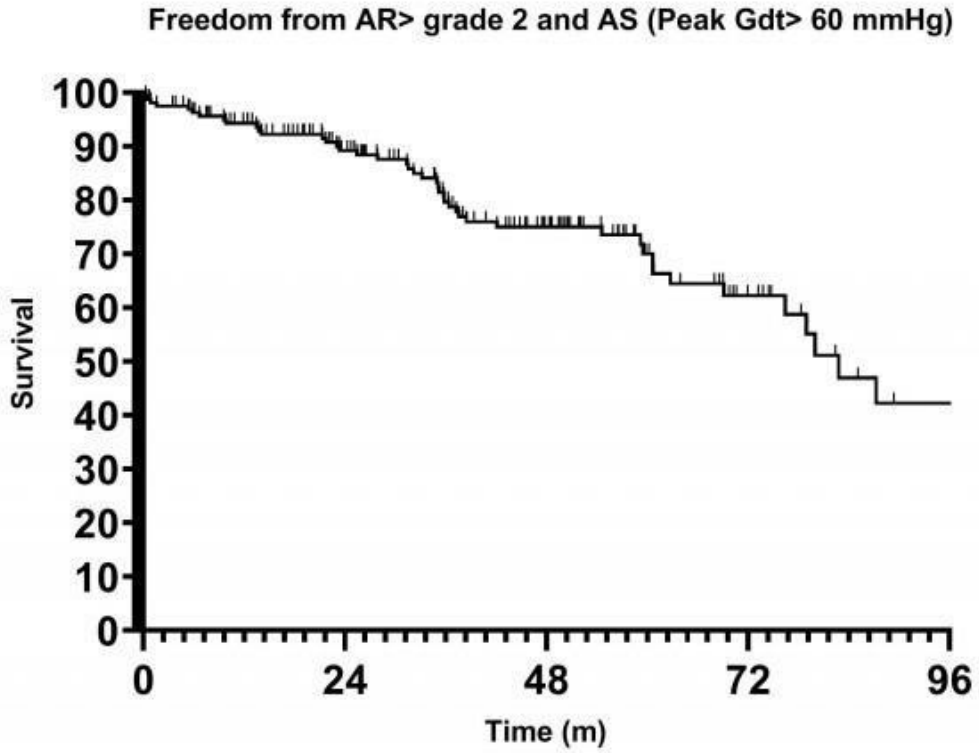
BACKGROUND: To retrospectively analyse aortic valve (AV) repair effectiveness across the whole age spectrum of patients, ruling out neonates and AV disease secondary to congenital heart disease. Primary end-points were overall survival, freedom from AV reoperation, replacement and recurrent moderate and greater aortic regurgitation, stenosis.

METHODS: 163 consecutive patients, operated on from 2004 to 2019 in our institution, were included. The mean age was 9,58±9,3 years (38,7% <1 year); 31 (19%) had a preceding balloon valvuloplasty. The indications for the procedure were stenotic, regurgitant or mixed in 80 (49,1%), 38 (23,3%), and 45 (27,6%), respectively. The procedures performed were commissurotomy (n=83; 51%), decalcification (n=79; 48,5%), raphe resection (n=41; 25,1%), Trusler technique (n=26; 16%), raphe shaving (n=28; 17,1%), free margin plication (n=22; 13,5%), leaflet replacement (n=11; 6,7%), leaflet extension (n=15; 9,2%), subcommissural annuloplasty (n=9; 5,5%) and neocuspidization (n=10; 6,1%). Post-repair geometry was tricuspid in 61 (37,4%) patients. 41 simultaneous procedures were carried out, subaortic stenosis resection, reduction aortoplasty, VSD closure, mitral valve repair being the most frequent (13, 8, 7 and 5 patients). All data were obtained from patients' medical, out-patient follow-up records, operative reports.

RESULTS: In terms of El Khoury's functional classification, among 62 patients with some degree of regurgitation there were type 1c 39 (62,9%), 39 (62,9%) type II and 36 (58,1%) type III. The 10-year survival rate was 99,4%. Freedom from reoperation, replacement and recurrent moderate aortic regurgitation, stenosis and greater at 7 years was, respectively, 65% (95% confidence interval, 55-74) and 70% (95% confidence interval, 61-78), 42% (95% confidence interval, 34-51). In multivariate analysis (95% confidence interval; p=,014), Trusler technique (HR=5,83 (1,61-21,03); p=,007), leaflet extension (HR= 6,09 (1,64-22,57); p=,007), use of patch (HR= 7,47 (1,00-55,70); p=,013), leaflet retraction of the stenotic aortic valve (HR= 0,324 (0,10-1,04); p=,05), moderate and greater LV dilatation (HR= 6,31 (1,41-28,28); p=,016) were predictors for reoperation. After a mean follow-up period of 43,2±21,6 months (range, 1 to 150 months) 116 (71%) patients had a preserved native valve, with undisturbed valve function (peak gradient <40 mmHg, regurgitation < mild) in 67 (41%).

CONCLUSIONS: Aortic valve repair in different age groups is safe and reasonable in delaying the timing for more definitive complex surgery with precluding its several drawbacks. In this setting, an age based individualized surgical strategy should be undertaken. Avoidance of the abovementioned predictors may benefit protective effect.


Freedom from Reoperation and Replacement
Replacement
Reoperation
Survival
100
90
80
70
60
50
40
30
20
10
0
0
24
48
72
96
Time (m)


Freedom from AR> grade 2 and AS (Peak Gdt> 60 mmHg)
Survival
100
90
80
70
60
50
40
30
20
10
0
0
24
48
72
96
Time (m)

ID: **119**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

A NOVEL TECHNIQUE FOR REDUCING THE COMPLETE HEART BLOCK AND PERMANENT PACEMAKER IMPLANTATION AFTER AORTIC VALVE REPLACEMENT

Rezayat Parvizi, Neda Roshanravan, Abbas Afrasiabi, Naser Safaie

Cardiovascular Research Center, Tabriz University of Medical Sciences, Tabriz, Iran, Tabriz, Iran

**Corresponding Author (rezayatp@gmail.com)*

Objective:

Aortic valve replacement (AVR) may complicate further conduction abnormalities and necessitate for permanent pacemaker (PPM) implantation. Currently, the development of new techniques that reduce this challenge can reveal new approaches. Here we want to introduce a new technique for AVR with focus on its advantages over the standard AVR (SAVR) method. We aimed to investigate the contemporary incidence for early postoperative PPM in patients undergoing isolated AVR with SAVR or the "classic" surgical technique versus novel suture AVR technique.

Methods:

Clinical data were analyzed from 354 patients operated due to isolated AVR disease during a 4-year period from various referral cardiac units in Tabriz, Iran. Patients with preoperative significant conduction abnormalities were excluded from the study. In-hospital mortality, post-operative PPM implantation and stays in the intensive care unit (ICU) after surgery were evaluated in study patients.

Results:

The mean age of the patients was 52.46± 16.13 years. 183 (51.7%) of patients were operated with novel suture AVR technique. In-hospital mortality was lower in this group compared with those patients undergone the "classic" surgical technique (3.8% vs. 5.9%). PPM implantation was required in 3 (0.8%) patients after novel suture AVR technique compared with 12 (3.4%) patients in other group (p=0.024).

Conclusions:

Permanent complete AV block is a serious complication after AVR surgery. Introducing new techniques with reduced PPM requirement may be amenable for applying to cardiac surgery procedures.
Key words: Aortic valve replacement, permanent pacemaker implantation

Oral Presentation Session

New Techniques in Coronary Surgery

Date: 13.03.2020 Time: 14:45 – 16:00 Hall: 6

ID: **410**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

THE IMPROVEMENT OF CARDIAC FUNCTION AFTER CORONARY ARTERY BYPASS GRAFT IN LOW PREOPERATIVE EJECTION FRACTION

Tri Soetisna, Amin Tjubandi, Bagus Herlambang, Dicky Aligheri, Sugisman Sugisman, Fitri Rokim, Marıa Felinsianita, Dudy Hanafy

Harapan Kita National Heart Center, Jakarta, Indonesia

**Corresponding Author (tricts2000@yahoo.com)*

Background

Preoperative left ventricle function is an important factor to predict the outcome of coronary artery bypass surgery. Dysfunction of left ventricle increase the risk factor of postoperative complication and mortality. This study aimed to analyze the effect of preoperative left ventricle ejection fraction (LVEF) after on-pump coronary artery bypass graft.

Method

A retrospective study was conducted in single institution using clinical data of patients undergoing elective on-pump CABG in 2018-2019. Exclusion criteria was patients underwent combined surgery, history of cardiovascular surgery and percutaneous coronary intervention (PCI), and re-operation procedure. Total sample was 660 patients were classified into two group, based on preoperative left ventricle ejection fraction (< 35% and > 35%). The primary endpoints were postoperative ejection fraction, postoperative ventilatory support, length of stay in intensive care unit (ICU), complications and mortality.

Results

In this study, 72 patients had preoperative left ventricle ejection fraction $\leq$ 35% (group A) while 588 patients ejection fraction ware > 35% (group B). The mean of age in group A was significantly lower than group B ($p<0.001$. Among both group, duration of cardiopulmonary bypass (CPB) and aortic clamp (AxC) were not significantly difference. There was significantly difference of duration in ICU (74.48 ± 113.28 vs 34.11 ± 64.82, $p<0.001$) and postoperative ventilatory support in group A and group B (25.82 ± 44.27 vs 16.42 ± 46.26, $p<0.008$). In group A, the change of preoperative into post-operative LVEF was significantly difference (27.85+5.48 to 30.76+10.39, $p<0.001$). In contrast, postoperative LVEF change in group B pointed no significantly difference. Postoperative complications were significantly higher in group A than group B including transient neurologic deficit (2.8% vs 0.5%, respectively, $p=0.036$), prolonged ventilation (5.6% vs 1%, $p=0.003$), pulmonary embolism (1.4% vs 0%, $p=0.004$), anticoagulant complications (4.2% vs 0.2%, $p=0.002$). Postoperative mortality rate was significantly higher in group A than group B (11.2% vs 2.8%, $p=0.013$]. No significant data difference was found in both groups regarding other post-operative complication including perioperative myocardial infarction, stroke, renal failure and cardiac arrest.

Conclusion

Preoperative LVEF is the important determinant to predict the change LV function following coronary artery bypass surgery. Low preoperative LVEF had an improvement in LV systolic function after surgery. This study was widening the existing knowledge on LVEF changes in patient undergoing on-pump CABG surgery.

ID: **334**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

INTRA-AORTIC BALLON PUMP IN LEFT MAIN DISEASE WITH LOW LEFT VENTRICLE EJECTION FRACTION: THE CONTRIBUTING FACTOR OF THE POSTOPERATIVE OUTCOMES AND MORTALITY IN CORONARY ARTERY BYPASS GRAFT SURGERY

Tri Soetisna[1], Amin Tjubandi[2], Bagus Herlambang[2], Dicky Aligheri[2], Dudy Hanafy[2], Fitri Rokim[2], Maria Felinsianita[2]

[1]*Harapan Kita National Heart Center, Jakarta, Indonesia*

[2]*Harapan Kita National Heart Surgery, Jakarta, Indonesia*

[*]*Corresponding Author (tricts2000@yahoo.com)*

Background

Intra-aortic balloon pump (IABP) have generally been used for patients undergoing high-risk mechanical coronary revascularization This study aimed to evaluate the difference between revascularization with and without intraoperative IABP in patients with low left ventricle ejection fraction (LVEF) and left main disease > 50% on early outcomes and mortality after elective on-pump coronary artery bypass surgery.

Method

A retrospective study was conducted in single institution using clinical data of patients undergoing elective on-pump CABG in 2018-2019. Exclusion criteria was patients underwent combined surgery, history of percutaneous coronary intervention (PCI), re-operation procedure and preoperative LVEF >40%. Total sample was 46 patients with left main disease > 50% and low preoperative LVEF were classified into two group, based on with and without intraoperative IABP. The primary endpoints were postoperative ventilatory support, length of stay in intensive care unit (ICU), complications and mortality.

Results

In this study, 12 patients with intraoperative IABP and 34 patients without intraoperative IABP. Among group of patients with intraoperative IABP than without intraoperative IABP, duration of cardiopulmonary bypass (CPB) (108 vs 83 minutes, IQR=49–164, p>0.05) and aortic cross clamp (AxC) time (52 vs 45 minutes, IQR=49–142, p>0.05) were not significantly difference. Preoperative ejection fraction in patients with intraoperative IABP was significantly lower than in group without intraoperative IABP (33% vs 36%, IQR=7.4–16, p=0.01). Notably, there was significantly difference of length of stay in ICU in patients with intraoperative IABP (96 vs 23 hours, IQR=20–116, p=0.017). Meanwhile, duration of postoperative ventilatory support in both groups was not significantly difference (18 vs 11 hours, IQR=8–48 hours, p>0.05). Postoperative re-operative bleeding rate were significantly higher in patients with intraoperative IABP [16.7% vs 0%, p<0.014]. Postoperative mortality rate was not significantly difference in both group [25% vs 5.7%, p=0.072]. No significant data difference was found in both groups regarding other post-operative complication including perioperative myocardial infarction, stroke, renal failure and cardiac arrest.

Conclusion

Intraoperative IABP in patients with left main disease >50% and low preoperative LVEF did not decrease mortality or improve the outcome of the surgery. Rigorous criteria and additional sample for further study should be applied to the use of IABP.

ID: **88**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

EMERGENCY SURGICAL CORONARY REVASCULARIZATION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Alexander Bıtsadze[1], Borys Todurov[2], Todurov BM[2], Bitsadze AG[2], Kharenko Yu.O. [2]

[1]SE "Heart Institute of MOH of Ukraine", Kiev, Ukraine

[2]SE "Heart Insitute of MOF of Ukraine", Kiev, Ukraine

[*]Corresponding Author (leksobitsadze@yahoo.com)

Abstract

Coronary heart disease (CHD) is the most common cause of death worldwide. Acute myocardial infarction (AMI) - the most serious complication of ischemic heart disease, resulting in an acute or progressive heart failure or serious arrhythmias. The most common and direct cause of death in patients with AMI is a ventricular fibrillation [1].

Undoubtedly, invasive treatment of AMI is more effective than non-invasive. As a consequence, coronary angiography is performed in an increasing number of patients with AMI , and thus increases the proportion of patients on whom , for whatever reason, cannot be performed stenting.

Keywords: coronary heart disease , acute myocardial infarction , emergency coronary artery bypass grafting

Methods and results

In the period from January 2015 to January 2018 in the "Institute of the Heart" of ministry of Health of Ukraine were urgently operated 129 patients with acute myocardial infarction (29 (22.5%) - without ST-segment elevation (NSTEMI), 100 (77.5 %) - with ST-segment elevation (STEMI). In all cases the values of troponin I were positive. On all patients were performed emergency coronary artery bypass surgery within 6 hours after coronary angiography. Ratio of men to women was 87 (67.4%) and 42 (32.6%), respectively. Mean patient age - 62 ± 12,5 years. In the analyzed group of patients 3- vessel disease of the coronary vessels were detected in 114 (88.3 %) cases , obstruction of the main trunk of the left coronary artery - in 89 (69 %) patients , isolated lesion of left main in 5 (7 %) , cardiogenic shock was in 13 (12.1%) patients , pre-and postoperative intraaortic balloon contrapulsation was used in 35 (27.2%) patients. Average ejection fraction (EF) of the left ventricle was 35 % or higher in 84 (65 %) patients,below 35 % in 36 (28 %) and below 25 % in 9 (7%).

In most cases, CABG , we used venous grafts .In 20 patients with stable hemodynamics Left anterior descending artery(LAD) was shunted using the left internal thoracic artery(LITA) .In 31 (24.1%) patients for distal anastomoses were used intracoronary shunts . Complete revascularization (shunted at least 3 of the arteries) is achieved in 105 (81.4 %) patients. In 15 (11.7 %) patients, preoperative stents implanted in the infarct - related artery, but because of the inefficiency of this procedure, patients were operated. Total number of grafts on per patient was 2,7 ± 0,4. The average duration of cardiopulmonary bypass was 61 ± 2,6 min. Hospital mortality in patients was 12.4% (16 patients died, all with ST-segment elevation).

Conclusions:

1. Our own experience has demonstrated the feasibility and effectiveness of emergency revascularization in AMI patients with unstable cardiac hemodynamics or cardiogenic shock, when thrombolysis or interventional procedures are unsuccessful.

2. CABG technique of using an artificial heart fibrillation with periodical clamping of the aorta and hypothermia is safe in patients with AMI and allows to reach a satisfactory level of mortality, comparable with the results of leading cardiac clinics.

ID: **138**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

EARLY TERM RESULTS OF EARLY CORONARY ARTERY BYPASS GRAFT OPERATION IN PATIENTS INITIALLY TREATED BY PRIMARY PERCUTANEOUS CORONARY INTERVENTION DUE TO ACUTE CORONARY SYNDROME

Burak Erdolu

Bursa Yuksek İhtisas Education and Training Hospital, Bursa, Turkey

**Corresponding Author (kalpcerrahi@gmail.com)*

Objective: Primary Percutaneous Coronary Intervention (PCI) is being more frequently performed after ACS. Most of the patients who were scheduled for CABG operation had underwent several PCIs. The aim of this study is to investigate the early results of the CABG operation after the recent previous PCI targeting the responsible coronary lesion of the ACS.

Methods: Patients who underwent CABG between January 2011 and December 2014 were divided into two groups. Patients who hospitalized for ACS and underwent early CABG after a recent previous PCI was named as Group 1. The control group, Group 2, is consisted of the patients who underwent elective CABG after an elective coronary angiography. There were 102 patients in group 1 and 105 in group 2 with a total number of 207. The demographic features, preoperative risk factors and postoperative early outcomes were compared between the two groups.

Results: There were no statistically significant difference between the groups in terms of demographic features and preoperative risk factors. Preoperative usage of ACEI drugs and Levosimendan were significantly higher in group 1 when compared with group 2. (ACEI usage Group 1 vs. Group 2: 95 (%93.1) vs 89 (%84.7) p=0.026; Levosimendan usage Group1 vs. Group 2: 21 (%20.5) vs 11 (10.4) p=.039) The operative variables were similar between two groups whereas the postoperative mean drainage amounts were significantly higher in group 1 (546.3±172 cc vs 424.2±183cc p<0.001). Postoperative blood and blood product demand were significantly higher in group 1 than group 2 (3.3 ± 1.8 units) and (1.7 ± 0.9 units); p<0.001). The in-hospital mortality rates were similar between the two groups (5 (%4.9) vs 4 (%3.7); p=0.470).

Conclusion: Early CABG operation after ACS is a safely applicable process with acceptable early mortality and morbidity rates.

ID: **530**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

ULTRASTRUCTURAL EXAMINATION OF LEFT INTERNAL MAMMARY ARTERY UNDER ELECTRON MICROSCOPY IN PATIENTS WITH CHRONIC KIDNEY DISEASE WHO UNDERWENT CORONARY BYPASS SURGERY

Erhan Renan Uçaroğlu[1], Ufuk Turan Kürşat Korkmaz[1], Ahmet Yüksel[1], Yusuf Velioğlu[1], Mustafa Aldemir[2], Ayşegül Kunt[3], Kemalettin Erdem[1]

[1]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[2]*Bursa Yüksek İhtisas Training and Research Hospital, Bursa, Turkey*

[3]*Ankara Atatürk Training and Research Hospital, Ankara, Turkey*

[*]*Corresponding Author (erhan.renan@yandex.com)*

Background: The aim of this study was to investigate the vascular damage of internal mammary artery graft with electron microscope secondary to chronic renal failure transmission in who patients underwent coronary artery bypass grafting surgery.

Methods: A total of 30 patients (10 patients with chronic renal failure and 20 patients without chronic renal failure) who underwent coronary artery bypass graft surgery were included in this prospective study. Left internal mammary artery graft was harvested as conventional fashion with no touch technique. Samples were prepared and then examined with the transmission electron microscope. Every arterial sample was individually examined ultrastructurally, and the changes were recorded. Then the samples of the control group and chronic renal failure group were compared.

Results: There were no significant differences between chronic renal failure group and the control group in terms of demographics, comorbidities, intraoperative data and postoperative outcomes, and the groups were statistically similar ($p<0.05$). Moreover, no statistically significance was detected in terms of structure and ultrastructure between the groups.

Conclusion: The results of our study revealed that no ultrastructural changes were observed in the structure of IMA, suggesting that this graft would provide a good graft patency.

Key words: Coronary artery bypass grafting; chronic renal failure; internal mammary artery; electron microscope.

ID: **478**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

BILATERAL VERSUS UNILATERAL INTERNAL THORACIC ARTERY REVASCULARIZATION IN PATIENTS WITH MULTIVESSEL CORONARY ARTERY DISEASE

Abdusalom Abdurakhmanov[1], Ilkhom Abdukhalimov[2], Mustafo Obeyd[2]

[1]*Republican Research Center for Emergency Medicine, Tashkent , Uzbekistan*

[2]*Republican Research Center for Emergency Medicine, Tashkent, Uzbekistan*

[*]*Corresponding Author (ababdurakhman@gmail.com)*

Abstract

Objective: The bilateral internal thoracic artery (BITA) use for revascularization in patients with multivessel coronary artery disease showed advantages over single left internal thoracic artery (LITA) with saphenous vein grafts (SVG) use for coronary artery bypass grafting in such a complicated group of patients. However harvesting BITA can be associated with higher incidence of blood-loss, wound complications and major cardiac events (such as perioperative myocardial infarction, stroke and all cause death) in early postoperative period. We aimed to compare incidence of bleeding, wound complications and major cardiac events among patients underwent coronary artery bypass grafting procedure using BITA vs LITA harvesting.

Materials and methods: The study included 43 patients who underwent surgery in the department of cardiac surgery from October 2016 to December 2019 at the Republican Research Center for Emergency Medicine. All patients were divided into 2 groups: the first group consisted of 25 patients who underwent coronary bypass with the use of the left internal thoracic artery and venous grafts (LITA+SVG), the second group – 18 patients underwent CABG using both internal thoracic arteries for myocardial revascularization (BITA+SVG). The age of the patients ranged from 47 to 66 years (the average - 55 years). In both groups, all patients were male.

Results: In the first group, 14 patients had stable angina, the remaining 11 patients had unstable angina. In the BITA+SVG group, all patients had unstable angina. All patients had also history of previous myocardial infarction. On coronary angio –18 patients had - 3x vascular lesion, and 7 had - stenosis of the left main and the right coronary artery (LITA+SVG). Among BITA+SVG patients 15 patients had - 3 vessel disease and 3 patients had a left and right main stem stenosis. The revascularization index was 3.1 for the patients of LITA+SVG group and 3.1 for the BITA+SVG group. In the early postoperative period, acute myocardial infarction, stroke and mortality were not observed in any case. The average blood-loss in drainage tube during first postoperative day was 280 ± 15 ml and 305 ± 23 ml for the LITA+SVG and BITA+SVG groups, respectively. It should be noted that in the first and second groups, were not observed any wound related complications.

Conclusion: this comparative study showed that BITA and LITA harvesting doesn't influence early postoperative period. Both methods accompanied by satisfactory results regarding to bleeding, wound healing and major cardio-cerebral events in patients with multivessel coronary artery disease.

ID: **172**

Topic: **Cardiovascular Surgery » Hybrid Cardiovascular Surgery**

Presentation Type: **Oral**

HYBRID CORONARY REVASCULARIZATION WITH ENDO-CABG

Maxim Peeters, Abdullah Kaya, Pascal Starinieri, Silke Van Genechten, Alaaddin Yilmaz

Jessa Hospital, Hasselt, Belgium

**Corresponding Author (maxim.peeters@jessazh.be)*

BACKGROUND
Coronary revascularization is becoming more and more minimal invasive. The hybrid approach, combining PCI with endoscopic CABG (endo-CABG), might be a valuable option for treatment of multivessel coronary disease. Hybrid coronary revascularization (HCR), combining endo-CABG to the anterior and/or lateral wall with PCI of the right coronary artery or a marginal branch, offers the potential advantages of both worlds. Hereby we describe our series of patients undergoing hybrid coronary revascularization with endo-CABG.

METHODS
From March 2013 till August 2019, 219 patients (181 males, mean age: 66.8 ± 10.8 years) underwent hybrid coronary revascularization. Patients with multivessel disease suitable for hybrid approach were accepted at the heart team. The PCI was prior or after endo-CABG. There was no discontinuation of dual platelet therapy. Endo-CABG consisted of using uni- or bilateral internal mammary artery (IMA) harvesting through three 5mm endoscopic ports. Cardiopulmonary bypass was instituted by femoral cannulation using a minimal invasive extracorporeal circulation (MiECC). Transthoracic aortic cross-clamping was followed by antegrade administration of a single shot of cold mixed blood cardioplegia. Anastomosis were made under direct vision through an utility port of three centimeter.

RESULTS
Endo-CABG was successful in all patients, requiring no conversion. There were 58 patients (26,5%) who received PCI before surgery. Mean cross-clamping and cardiopulmonary bypass times were 42.8 ± 26.5 and 86.5 ± 34.9 minutes respectively, with a mean of 2.04 ± 0.9 bypasses for each patient. The median ICU and hospital stay were 63.4± 41.4 hours and 9.2± 4.7 days. Average postoperative blood loss over 24 hours was 501.24 ± 768.5 ml. There were 3 re-interventions on the target vessels (1.37 %) and 2 patients suffered from a stroke (0.91%). The 30-day mortality was 0.91%.

CONCLUSIONS
Hybrid coronary revascularization with endo-CABG is a good minimal invasive alternative in patients with multivessel coronary artery disease. This technique is safe and provides good postoperative results without compromising operative morbidity.

ID: **397**

Topic: **Cardiovascular Surgery » Hybrid Cardiovascular Surgery**

Presentation Type: **Oral**

ADVANTAGES OF HYBRID CORONARY REVASCULARIZATION IN CORONARY ARTERY DISEASE WITH INTERMEDIATE-HIGH SYNTAX SCORE

Aliaksandr Charniak, **Oleg Kozak**, Kiryl Rubakhov, Elina Shkrebneva, Inna Adashkevich, Alexey Ostrovsky, Vladislav Podpalov

Minsk Scientific and Practical Center of Surgery, Transplantology and Hematology, Minsk, Belarus

**Corresponding Author (simply_vpv@yahoo.com)*

Background: Hybrid coronary revascularization (HCR), combining minimally invasive off-pump coronary artery bypass grafting (OPCAB) and percutaneous coronary intervention (PCI), attracts a rising interest in modern coronary surgery, especially in patients with intermediate-high SYNTAX Score as minimizing operative trauma. The objective of the study: to assess early outcomes after HCR in comparison with conventional OPCAB in patients with multi-vessel coronary artery disease (CAD).

Materials and methods: 75 patients with intermediate-high SYNTAX Score were included to our prospective Study from consecutive patients with CAD admitted to cardiac surgery department of our Center during period of 2018-2019. Patients were divided into 2 groups: 1st group - 50 patients underwent OPCAB resulting in 2-3 grafts through a full sternotomy; 2nd group - 25 patients with performed HCR. HCR consisted of 2 stages: minimally invasive direct coronary artery bypass grafting and PCI stage on the 3d day postoperatively was performed. Outcomes in postoperative hospital period were analyzed using statistical package SPSS.

Results: Two groups had no significant differences in age, sex, BMI, diabetus mellitus prevalence, LVEF, Euroscore, Syntax Score, high-sensitive troponin I level. There were no hospital deaths in both groups. In HCR group there was no need in conversion to cardiac-pulmonary bypass because of hemodynamic instability, early postoperative reoperation due to graft failure, no cerebrovascular accident was seen. The dose of cardiotonic support in intra and early postoperative period was significantly lower in HCR group in comparison with OPCAB group. There were significant lower values in the doses of cardiotonic support in intra and early postoperative period ($p<0,01$), intraoperative ($p<0,001$) and post-operative blood loss ($p<0,01$), intubation time ($p<0,001$) in HCR group in comparison with OPCAB group. The level of post-operative high-sensitive troponin I was significantly lower in 12 ($p<0,001$) and 24 hours ($p<0,01$). Treatment in ICU after operation was significantly longer in OPCAB group ($p<0,05$) as well as hospital stay before discharge ($p<0,05$).

Conclusions: Hybrid coronary revascularization in group of patients with intermediate-high SYNTAX Score can offer better outcome in early post-operative period minimizing surgical trauma and myocardial damage as compared with conventional coronary surgery. Long-term outcomes should be analyzed to determine cut-off points for surgical strategy.

Oral Presentation Session

Advanced Techniques in Vascular Surgery

Date: 13.03.2020 Time: 16:30 – 18:00 Hall: 6

ID: **53**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

ARE ENDOVASCULAR INTERVENTIONS IN ABDOMINAL AORTIC PATHOLOGIES AS SAFE AS WE HOPED?

Salih Salihi, Hakan Saçlı

Sakarya University Training and Research Hospital, SAKARYA, Turkey

**Corresponding Author (drssalihi@yahoo.com)*

Aim: With the widespread use of aortic endovascular therapy for the treatment of abdominal aortic pathologies, complications due to aortic endografts are increasingly being reported. In this study, we investigated the complications of aortic endografts in patients who underwent abdominal endovascular aortic repair in our clinic.

Materials and Methods: A total of 130 patients who underwent elective or emergency endovascular aortic repair for abdominal aortic pathologies between September 2014 and June 2019 in Sakarya University Training and Research Hospital, Cardiovascular Surgery Department were retrospectively analyzed. Demographic information, repair data, mortality and complication status were analyzed.

Results: 93% of the patients were male (n = 121) and 7% (n = 9) were female. The mean age was 69.3 ± 7.9 years. Twenty-nine (22.3%) patients underwent emergency surgery for aneurysm rupture, and 101 (77.7%) patients underwent elective surgery. A total of 12 mortality rates were observed in the early period (first 30 days) of the patients, two of whom were elective. The overall mortality rate was 5.1% (n = 6). In the early postoperative period two (1.5%) patients developed acute renal failure requiring dialysis, while 11 (8.5%) patients developed respiratory complications. Endoleak was observed in five patients, graft migration in two patients, and thrombosis of the graft leg in five patients. Two patients underwent cross-femoral bypass, one patient underwent proximal extension and two patients underwent distal extension.

Conclusion: Endovascular aortic repair may be an alternative treatment with satisfactory outcomes in elderly and high-risk patients. Complications and secondary intervention rates in enovascular treatment can be reduced by the development of stent graft technology, experience of the center and selection of patients with appropriate anatomy.

ID: **432**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

NOVEL SHELLAC CONTAINING PACLITAXEL-COATED BALLOON ANGIOPLASTY CATHETER FOR LOWER EXTREMITY PERIPHERAL ARTERY DISEASE: A PILOT STUDY

Ahmet Çora, Ersin Çelik

Isparta Şehir Hastanesi, Isparta, Turkey

**Corresponding Author (drahmetcora@gmail.com)*

BACKGROUND: To report our preliminary results and real-world experiences regarding the use of a novel paclitaxel-coated balloon catheter in a cohort of patients with lower extremity peripheral artery disease at different stages.

METHODS: A prospective cohort pilot study was conducted and the study group was made up of a total of 20 patients with peripheral artery disease who underwent endovascular balloon angioplasty with BioPath™ 014 or 035 which is a novel paclitaxel-coated and shellac containing balloon catheter. Eleven patients had a total of 13 TASC II-A lesions, 6 patients had a total of 7 TASC II-B lesions, 2 patients had TASC II-C lesions and 2 patients had TASC II-D lesions.

RESULTS: In 13 patients, a single attempt with BioPathTM catheter was adequate to treat a total of 20 target lesions whereas in 7 patients more than one attempt with a different sized BioPath™ catheter was necessary. In 5 patients, total or near-total occlusion in the target vessel was initially treated with an appropriately sized chronic total occlusion catheter. Thirteen patients (65%) had at least one categorical improvement in Fontaine classification and none had symptomatic worsening.

CONCLUSIONS: BioPathTM paclitaxel-coated balloon catheter seems to offer a useful alternative to the similar devices for treatment of femoral-popliteal artery disease. These preliminary results warrant confirmation with further research to reveal the safety and efficacy of the device.

ID: **37**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

CHRONIC, TOTALLY OCCLUDED LOWER LIMP PERIPHERAL ARTERIAL DISEASE TREATMENT WITH ATERECTOMY AND PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY APPROACH, 6 MONTH RESULTS

Hakan Güven

Kalp ve Aritmi Hastanesi, Bursa, Turkey

**Corresponding Author (hakanguven@hotmail.com)*

Aim:

To report our experience with a new rotational atherectomy system used with percutaneous transluminal angioplasty chronic totally occluded peripheral arterial disease patients using temren atherectomy and Extender drug eluting balloon. (RD Global/Invamed Ankara Turkey)

Methods:

A single center, retrospective review of chronic totally occluded lower limp peripheral arterial disease patients operated with TemREN atherectomy and placed Extender drug eluting balloon between January 2019 and October 2019 was conducted. All the procedures were performed by the same cardiovascular surgeon. 36 patients with 42 plaque burden from atherosclerotic lesions were operated. Mean age of patients was 67.4 years %78 male. Mean lession length 176 mm. 5 of the patients (13.8%) had at least one previous balloon angioplasty, the rest of the patients' occlusions were de-novo lessions. Rutherford classification ratios; stage 3,4,5 and 6 was 14.1%, 57.3%, 22.4% and 6.2% respectively.

Results:

Percutaneous atherectomy TemREN and drug eluting balloon Extender was performed in all lessions. Technical success rate among lesions was %96.1. Among all patients Rutherford classification was changed during follow ups. Improvement of Rutherford category for the first month was % 94.2, % 92.6 after 3 months, final follow up at sixth month has no significant change from third month results. Mean final residue stenosis diameter was %11.9.

Conclusions:

Chronic totally occluded lower limp peripheral arterial disease treatment can be compulsive sometimes. Temren is easy to use and safe with atraumatic rotational distal tip and internal helix aspirates disintegrated atherosclerotic media. In our center we used with Extender and achieved high techinical success rates. With Temren and Extender majority of chronic totally occluded lower limp peripheral arterial diseases can be treated.

ID: **264**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

EARLY AND MIDTERM SUCCESSFUL OUTCOMES OF KISSING STENTING IN INFRARENAL AORTIC STENOSIS

Deniz Şerefli, Onur Saydam, Ayşen Yaprak Engin

Tepecik Research and Training Hospital, İzmir, Turkey

**Corresponding Author (dseref@gmail.com)*

The prevalence of peripheral artery disease (PAD) of the lower extremities is 4,3 and has been increasing gradually in all countries. The prevalence of Aorta Iliac Occlusive Disease (AIOD) is not clear due to frequently asymptomatic. Aortoiliac diseases are classified in the Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASCII). TASC C and D lesions include longer and more complex lesions in terms of extension, stenosis and occlusion, while TASC A and B lesions are short stenosis and occlusion. Although open surgery of AIOD appears to have better patency than the currently available endovascular strategies, with growing experience and improvements in device technologies experts are becoming more encouraged on Endovascular Treatments (ET) of AIOD, even in more complicated lesions. In this study, we aim to report the outcomes of the kissing stent (KS) technique in infrarenal AIOD.

Patient characteristics and risk factors are summarized in Table 1. Pre-Procedural and procedural details are summarized in Table 2. Technical success was achieved in 100% of the cases treated. One procedural complication was reported among the cohort. That was a significant groin hematoma and was managed conservatively. There were no vessel wall ruptures or dissections. Also, there were no surgical conversion, transient renal insufficiency, distal embolization and perioperative death.

Table 1 Patient characteristics (N:28)

Age, years	60.54±7.6
Female gender	6(21)
Risk factors	
Hypertension	25(89)
Hyperlipidemia	21(75)
Diabetes	14
İnsulin depended	10(35)
OAD	4(15)
Smoking	21(75)
CAD	
PCI	8(29)
CABG	6(21)
Medical or No	14(50)
Heart Failure	5(18)
LV dysfunction	3(11)
COPD	12(43)
CRI	4(14)
Dialysis	2(7)
Previous stroke	1(4)
Rutherford Criteria	
3	22(78)
4	4(14)
5	1(4)
6	1(4)

Table 2 Lesion characteristics and procedural stent type(N:28)

Lesion type	
Stenosis	14(50)
Occlusion	14(50)
TASC II	
B	18(64)
C	7(25)
D	3(11)
Severe Calcified lesion	19(68)
Stent type	
Balloon expandable Bare	16(57)
Balloon expandable covered	12(43)

The ET in the management of complex AIOD is still controversial. By nature, surgical revascularization of AIOD is difficult and complication rate is high. Over 3 decades, although the specialists have studied to show that ET had many benefits over surgical treatment in TASC II C and D lesions, aorta-bifemoral/iliac by-pass or infrarenal aortic endarterectomy as a surgical reconstruction are still gold standard treatment options due to having up to 90% patency rates at 5 year. KS technique has previously been shown to be advantageous in terms of hospital stay, mortality - morbidity ratio and comparable short - term outcomes.

We have found that The KS technique has favorable short-term and mid-term results, especially when performed with covered stents. Furthermore, KS technique can be applied in complex AIODs in experienced centers with low complication rates. However, in order to produce comparable results with long-term surgical outcomes; multicenter, randomized controlled and large sample size studies are needed.

ID: **302**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

HYBRID ENDOVASCULAR ILIAC ANGIOPLASTY AND FEMORODISATL BYPASS FOR PATIENTS WITH CRITICAL LOWER LIMB ISCHEMIA

Ahmed Mousa[1], Mai A. Elkalla[2], Mohamed Neinaa[1], Ossama M. Zakaria[1]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

Background: We reported our local experience of the hybrid ipsilateral endovascular iliac balloon angioplasty and /or intra-arterial stenting in addition to femorodistal surgical revascularization for the management of patients with critical lower limb ischemia (CLI) presented with iliac and infrapopliteal arterial occlusive lesions.

Methods: Between January 2013 and December 2018, 154 lower extremity hybrid procedures were performed in 154 limbs. Of these hybrid procedures, 103 (66%) were performed for patients presented with rest pain. However, the remaining 51 patients (34%) were presented with non-healing ulcers and gangrene in 23 (15%) and 28 (19%) patients respectively. Balloon angioplasty of the iliac artery was performed in 69% of patients (n = 107). While balloon angioplasty and intra-arterial iliac stenting was performed for the remaining 31% (n = 47). This was followed in the same setting by infrapopliteal bypass surgery using reversed saphenous vein graft in 83% of patients (n = 128). While the remaining 17% (n = 26) were revascularized using in-situ saphenous vein graft.

Results: Complete revascularization (CR) was defined as achieving inline flow to the pedal arches through at least one patent infrapopliteal artery. Clinical success was achieved in 95.5% of patients (n = 147) after 6 months of follow up. Hemodynamic results were observed in 74.9% of patients. As the mean postoperative Ankle/Brachial Pressure Index (ABI) remains elevated to (1.03 ± 0.1) and (1.07 ± 0.12) after three and six months respectively.

Conclusions: Combined vascular therapy may be used effectively in patients with chronic extremity ischemia due to multiple levels of arterial occlusion and should be performed with good results. Technical success and early patency rates are excellent. The patient's symptoms are improved and resistant ischemic ulcers healed within a short period of time.

ID: **315**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

MID TERM OUTCOMES OF ENDOVASCULAR TREATMENT FOR TASC C AND D AORTA- ILIAC LESIONS

Eren Karpuzoğlu

Dr. Siyami Ersek Hastanesi, Istanbul, Turkey

**Corresponding Author (erenkarpuzoglu@yahoo.com)*

BACKGROUND: Endovascular treatment modalities are widely used for high-grade aorta-iliac lesions (Trans-Atlantic Inter-Society Consensus- TASC C and D) by cardiovascular surgeons. Our aim was to evaluate the procedural success, mortality, morbidity, complications and mid-term patency rates of these interventions.

METHODS: Between June 2016 and September 2019, 22 patients, 34 limbs were treated with endovascular interventions for aorto-iliac occlusions or severe stenosis. Data of these patients were retrospectively reviewed and included to our study.

RESULTS: The same surgical team treated 22 patients, consisting of 16 males and 6 females. Fourteen patients were with total occlusions and 13 of them have bilateral disease. Balloon-expandable covered stents were used in 6 patients, balloon expandable bare metal stents in 2, self-expandable covered stents in 3 and self-expandable bare metal stents were used in 12 patients alone or in combinations. Bilateral lesions were treated with kissing stent technique in 10 patients and CERAB in 3 patients. Four patients required additional surgical operations including; 2 femoro-femoral bypasses because only unilateral endovascular intervention was possible, 1 aorta-femoral bypass, 1 embolectomy for SFA graft and iliac stent in the early postoperative period. There were no mortalities were reported. Mean follow-up time is 15,64 (SD±12,37) months. All patients were evaluated clinically with pulse examination and claudication distance. None of the patients have symptoms of ischemia.

CONCLUSIONS: Our results reveal that using endovascular procedures for TASC C and D (severe) aorta-iliac lesions are safe and effective with lower mortality and morbidity, which were consistent with clinical guidelines.

ID: **427**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

PERCUTANEOUS REVASCULARIZATION AS A FEASIBLE OPTION FOR COMPLEX AORTOILIAC OCCLUSIVE DISEASE WITH FAIR 1-YEAR OUTCOME

Ahmed Allam

Benha University, Benha, Egypt

**Corresponding Author (ahmed.allam01@fmed.bu.edu.eg)*

Background
Aortoiliac arterial occlusive disease (AIOD) is one of the commonest patterns of systemic atherosclerosis with a spectrum of chronic symptoms from intermittent claudication to critical limb ischemia, which is a common therapeutic challenge. A meaningful shift has evolved in treating symptomatic AIOD from open to endovascular repair, which are becoming an attractive treatment option even in complex lesions, especially in patients with considerable risk.

Aim
The aim of this study was to assess the feasibility, that is, technical success rates, primary patency, and safety outcome for Trans-Atlantic Inter-Society Consensus (TASC) D lesions treated endovascularly with analysis of outcome of stent graft versus bare metal stent in patients with advanced Leriche syndrome.

Patients and methods
A prospective case series study: over 30 months, our case study was conducted on 22 patients with TASC D lesion morphology undergoing treatment for symptomatic chronic AIOD. The patients were enrolled from April 2015 until October 2016 with a 12-month follow-up period from the last patient enrolled.

Results
Our study had a technical success rate of 95.5% in crossing TASC D lesion with immediate angiographic success (91%). The 12-month primary patency rate was 85% for TASC D lesions with a target lesion revascularization of 15%. Stent grafts had a higher 1-year patency rate (91.7%) versus bare metal stent (75%). The total procedure-related complications rate was 18.1 % and 30 days procedure-related mortality was 4.7%.

Conclusion
Our study shows that technical success of endovascular therapy for TASC D lesions was 95.5% with a 1-year primary patency of 85% and a complication rate of 22.7% in TASC D lesions. Utilizing more than one access with antegrade crossing the lesion through brachial access was paramount for technical success. Long-term follow-up is mandatory to support the durability of the procedure.

ID: **484**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

MULTICENTER TRIAL FOR ELECTIVE ENDOVASCULARLY TREATED IFU COMPATIBLE INFRARENAL ABDOMINAL AORTIC ANEURYSMS VIA LIFETECH ANKURA ENDOGREFT

Naim Boran Tümer[1], Bekir Boğaçhan Akkaya[1], Eyup Serhat Calik[2], Murat Kurtoglu[3], Alper Sami Kunt[4], Mehmet Karahan[1], Ertekin Utku Unal[1], Hakki Zafer Iscan[1]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Atatürk University Medical Faculty, Erzurum, Turkey*

[3]*Ankara Güven Hospital, ANKARA, Turkey*

[4]*Kayseri Education and Research Hospital, Kayseri, Turkey*

[*]*Corresponding Author (naimborantumer@hotmail.com)*

ABSTRACT

Aim: There has been many endografts commercially available around the world, all having their own speciliaties and CE or FDA trademarks. We organised a multicenter study via Lifetech Ankura™ endogreft among the centers, performing over 10 endovascular patients annually. All the patients were suitable for the instructions for use. Early and postoperative first year results were evaluated for the efficacy and durability of the endograft.

Methods: Lifetech Ankura™ endograft is in Turkish market since 2018, and 100 consecutive patients with elective infrarenal abdominal aortic aneurysms from four centers were retrospectively evaluated. Lifetech Ankura™ endograft material is E-PTFE film supported by a nitinol stent. E-PTFE dual membrane provides low permeability and high biocompatibility. Self expanding nitinol stent offers stable radial force and smaller waves on the main body improving the flexibility. All the patients were compatible to instructions for use, all having the completion angiography, first month computerized tomography and postoperative one year follow up. The average age of the patients were 71,5±9,3 years. The average diameter of the infrarenal abdominal aortic aneurysms were 62,3±8,8 cm (52-71 cm).

Results: There was no early mortality or conversion to open surgery. Technical success was 100%. Procedure time was 126 minutes (including anesthesia), and fluoroscopy time was 12,4 minutes in average. Type of anesthesia was 70% general anesthesia, only 30 patient with ASA III-IV was performed under locoregional anesthesia. Average amount of opaque solution was 45 cc. Length of stay was 3,2±1,9 days and intensive care unit period was 2,3 hours. There was one type Ib endoleak for native iliac artery dilatation and 3 type II endoleaks. Sac regression for a mean follow up of 8,4±4,5 months was 61,5±7,8 mm from the preprocedural 62,3±8,8 cm (52-71 cm).

Conclusion: For IFU compatible patients, Lifetech Ankura™ Endograft has successful results, effective for early period and durable for the first postoperative year. Nevertheless, longer term results are mandatory for further comment.

ID: **386**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

RETROGRADE TRANSPEDAL ACCESS FOR REVASCULARIZATION OF INFRAINGUINAL ARTERIAL OCCLUSIVE DISEASE IN PATIENTS WITH CRITICAL LIMB ISCHEMIA

Celal Selçuk Ünal

Karabük University, karabük, Turkey

**Corresponding Author (drselcukunal@yahoo.com)*

Objective: Retrograde arterial access (RA) of the popliteal, tibial, or pedal arteries is an alternative treatment strategy for patients who have failed to respond to antegrade endovascular intervention in patients with critical limb ischemia (CLI). We assess the safety and efficacy of this technique.

Materials and Methods: This was a retrospective single-center review of retrograde endovascular intervention (REI) from 2017 to 2018. We identified 22 patients with endovascular infrainguinal revascularization in whom a transfemoral approach had failed and transpedal access had been attempted. The dorsal pedal (n = 3) or posterior tibial (n = 19) artery was accessed using a dedicated access set and ultrasound guidance. Demographics, comorbidities, procedural characteristics, and outcomes were analyzed. Technical failure was defined as the inability to complete the procedure because of failed access or unsuccessful recanalization.
Patency rates were calculated for technically successful interventions.

Results: Diabetes, coronary artery disease and hypertension were present in 17 patients (77.2 %), The mean diameter was 1.84 +/- 0.23mm.
The success rate for achieving retrograde access was 100 %. Retrograde crossing was successful in 20/22 patients (90.9 %). There were no instances of distal embolization, perforation, or loss of distal target with retrograde access. Minor complications occurred in 3/22 patients (13.6 %). The primary patency rates at 1 year (77.2%). Major amputations after revascularization occurred in 4/22 patients (18.1 %).

Conclusion: Retrograde transpedal access represents a viable and safe option for revascularization when standard antegrade access (SA)fails. Although outcomes are poorer than SA this approach appears to be safe and offers high technical and acceptable clinical success rates.

ID: **152**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Oral**

RADIAL ARTERY PSEUDOANEURISMA DUE TO UNINTENTIONAL ARTERIAL PUNCTURE DURING CEPHALIC VEIN CANNULATION: A RARE CASE REPORT

Abdinafic Hussein, Abdijalil Ali, Nazan Bitir

Mogadişu Somali Türkiye Recep Tayyip Erdoğan Eğitim ve Araştırma Hastanesi, Mogadishu, Somalia

**Corresponding Author (dr.abdinafic07@gmail.com)*

Background: radial artery pseudoaneurysm is considered as an extremely rare and serious complication that usually follows after cardiac catherizations with incidence of less than 0.05%, but in lesser frequency with arterial cannulation, trauma, and inflammation or hemodialysis therapy. On the other hand venous access is clinically important, as it allows for blood sampling, administration of medications, fluids, nutrition, and chemotherapy. But its usage was associated with complications like catheter-associated infections, injuries to peripheral nerves, along with thrombosis and phlebitis of the vessel involved as well as arterial injury

Clinical presentation: In this report, we present a 67 years old healthy non-smoking male patient of proximal radial artery pseudoaneurysm following several attempts of cephalic vein cannulation for intravenous access.

Conclusion: radial artery pseudoaneurysm can occur after attempts of cephalic vein cannulation and patients can be successfully managed with surgical removal of the false aneurism and radial arteriography.

CASE REPORT

A 67 years old healthy non smoking male patient presented to our vascular clinic with complaint of pulsitile mass at the volar aspect of his right forearm just below the anticubital fossa for three months.

The swelling was associated with pain for one month, each of the symptoms were increasing gradually over time. Patient had history of hypertension for 6 year and was hospitalized 4months prior to his visit due to transient ischemic attack where he undergone several venous cannulation same site of the effected arm and was taking aspirin afterwards. He denied any history of surgery or trauma at the site.

On physical examination, a pulsitile mass of 5.0m by 5.0cm was present at the volar aspect of his right forearm just below the anticubital fossa. Arterial bruit was easily detectible over the mass on auscultation. There were no any scars or skin changes and other arterial examination revealed negative. Allen's test result was bilaterally negative. Performed CT angiography showed the presence of 5 by 5 radial artery pseudoaneurysm just below its origin. Examination of other arteries with Doppler ultrasound showed the absence of un-noticed arterial aneurisms.

After discussion with the patient for the pain and possibility of rupture, decision was made for surgical treatment. Under axillary nerve block, an 8 cm longitudinal incision above the aneurysm was done; the pseudoaneurysm was dissected out circumferentially as well as the proximal and distal segments of the radial artery. Each of the proximal and distal segments of the radial artery was controlled using vessel loops. Clamping the proximal aspect of the radial artery, Doppler examination showed positive signals over the thumb and digital arteries, then a ligation of proximal and distal aspects of the radial artery was followed with aneurism resection. Patient was discharge after 2 days of hospital stay without complication and 3 weeks later had resumed normal daily activities.

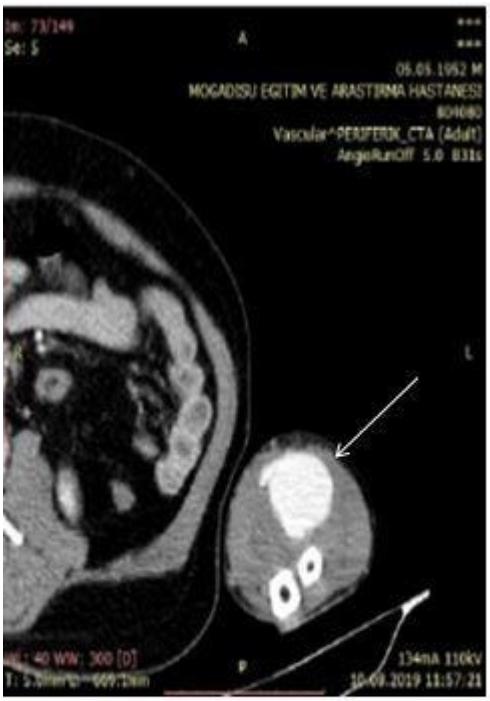


FIGURE 1. Combuted tomography angiography on transverse view Showing Proximal Radial artery pseudoaneurism.

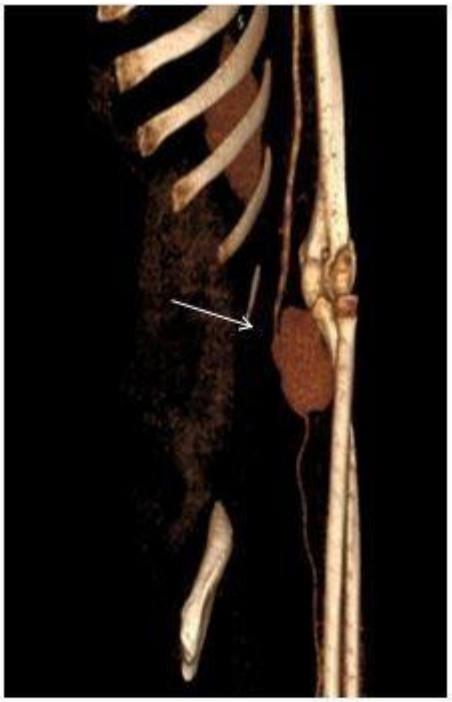


FIGURE 2. CT-angiography with 3D-reconstruction demonstrating Radial artery pseudoaneurism.

ID: **446**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

ENDOVASCULAR OR SURGICAL TREATMENT OF POPLITEAL ARTERY P1 ZONE LESIONS? WHICH IS MORE ACCURATE?

Ilker Mercan

Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drilkermercan@hotmail.com)*

Objective: The role of endovascular treatment in peripheral arterial disease is indisputable. However, long-term patency rates are still superior to surgical treatment. When the endovascular procedure is performed in young patients, we believe that the anastomosis areas that will be needed during the future surgical treatment should be protected without stenting.

Case: A 54-year-old male patient with a known hyperlipidemia and 70 pack / year smoking history presented to our outpatient clinic with complaints of coldness, numbness and claudication (Rutherford category 3) in his left leg. Popliteal and pedal pulses of the left lower extremity could not be obtained. MR angiography showed thrombosis of the left superficial femoral artery (SFA) along the 11 cm segment and there was collateral filling in the popliteal artery. Endovascular treatment was planned and hospitalized. The patient underwent mechanical atherectomy (RotarexS) and paclitaxel-releasing balloon angioplasty (PRBA). When the dissection area was seen distal to the SFA, 5.0 × 60-mm self-opening Nitinol (Supera) stent was applied to the dissected area. The critical lesion at the level of the popliteal artery was preserved only with PRBA to preserve the possible anastamosis line. 80% clearance was achieved. After the procedure, the patient completely recovered. The patient was admitted to our outpatient clinic with the same complaints after 14 days and was re-hospitalized. Intra-stent thrombus was observed. Thereupon, the patient underwent surgery and underwent embolectomy with a fogarthy catheter guided over the hydrophilic wire with DSA. A 70% residual lesion was seen proximal to the popliteal artery. The popliteal artery was reached by supragenicular-medial incision. The stent was excised through the vessel. Endarterectomy was performed to the popliteal artery. A saphenous vein graft was removed from the contralateral leg and femoro-popliteal bypass was performed. The patient was discharged on the postoperative 2nd day with ASA, clopidogrel and statin treatment.

Conclusion: The popliteal artery is divided into three segments: P1 (upper adductor channel-patella), P2 (upper patella-joint midline) and P3 (joint midline-anterior tibial artery onset). We believe that avoiding stenting in the P1 segment, especially in young patients, is important for the surgeon to reach a solid anastomosis line in the future when surgical treatment is needed and for the success of surgical intervention.

Oral Presentation Session

Transcatheter vs Minimal Invasive Surgical Aortic Valve Replacement: Outcomes and Controversies

Date: 14.03.2020 Time: 08:00 - 09:15 Hall: 5

ID: **498**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

ASSESSMENT OF THE FACTORS AFFECTING OUT-OF-HOSPITAL MORTALITY IN PATIENTS WHO UNDERWENT TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) PROCEDURE AND WERE SUCCESSFULLY DISCHARGED

Sıddık Erdoğan, Cem Barçın, Uygar Çağdaş Yüksel, Murat Çelik, Erkan Yıldırım, Hasan Kutsi Kabul, Yalçın Gökoğlan, Suat Görmel, Salim Yaşar

Gulhane education and research hospital, ANKARA, Turkey

**Corresponding Author (serdoganizmir@hotmail.com)*

Purpose: To determine the factors affecting out-of-hospital mortality in patients who underwent transcatheter aortic valve implantation (TAVI) procedure and were successfully discharged.

Materials and Methods: In this research, patients who underwent transcatheter aortic valve implantation (TAVI) procedure and were successfully discharged in 2015 to 2019 were evaluated. Before the operation, demographic data, comorbidities, symptoms, laboratory parameters, electrocardiography (ECG), transthoracic echocardiography (TTE), multislice computed tomography findings (MSCT), medications, surgical risk scores (STS and Logistic EuroSCORE), valve type and dimensions used in the operation, pre-dilatation and post-dilatation and simultaneous percutaneous coronary or peripheral interventions were determined along with hospitalization period, blood transfusion needs, postoperative ECG, TTE, laboratory parameters and complications. Survival situations of the patients were determined according to up-to-date information in death notification system of the ministry of health.

Findings: Mean age of patients was 77,6±8,5. Of the patients, 67 (46,2%) were male, 78 (53,8%) were female. Were calculated STS mean value of patients was 9,3±3,6 and mean Logistic EuroSCORE was 31,8±10,1. Before the operation, mean left ventricular ejection fraction (LVEF) was 54,1%±14,2, mean pressure gradient in aortic valve (MGR) was 48,3±10,8 mmHg, peak gradient mean was 78,3±16,3. In 10 (6,9%) of patients femoral cut-down and in 135 (93,1%) of patients closure device were used. As an access point, the transfemoral approach in 139 (95,9%) patients, subclavian approach in 5 (3,4%) patients, and transapical approach in 1 (0,7%) patients were selected. While 102 (70,3%) patients were operated under sedoanalgesia, 43 (29,7%) patients were operated under general anesthesia. Self-expendable valves were used in 43 (29,7%) patients and balloon-expandable valve was used in 102 (70,3%) patients. The second valve was used in 2 (1,4%) patients, because of improper placement of the valve. In 11 (7,6%) of the patients percutaneous peripheral intervention (PCI) were performed. The most frequent complication was bleeding, which had been reported in 27 (18,6%) patients. In the first 48 hours after procedure, 2nd or 3rd degree atrioventricular (AV) block were seen in 7 (4,8%) patients. Two (1,4%) of these patients underwent permanent pacmaker implantation in the first 48 hours whereas the other 2 (1,4%) underwent the same procedure in late period (7th to 10th month). Additionally, transient ischemic attack was seen in 2 (%1,4) patients and both of them were fully recovered. Our average follow-up time was 28,8 months (6,5-55 months). Out-of-hospital mortality, which is primer endpoint of this study, was seen in 27 (18,6%) patients. Of these 9 (6,2%) were related to cardiac causes whereas 17 (11,7%) were related to non-cardiac causes. In multivariate logistic regression analysis, COPD and high MPV levels were determined as independent risk factors related to out-of-hospital mortality.

Conclusion: In undergoing TAVI patients, low LVEF; high pulmonary artery pressure, pre-procedure neutrophil/lymphocyte ratio, MPV, RDW-CV, urea, uric acid, low hematocrit at discharge, QTc interval shortness on ECG and COPD were related with out-of-hospital mortality. COPD and high MPV levels were independent risk factors related to out-of-hospital mortality.

ID: **238**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

TRANSCATHETER AORTIC VALVE REPLACEMENT EARLY-MID TERM FOLLOW-UP AT A SINGLE CENTER IN TURKEY

Deniz Dilan Naki Tekin[1], Hacı Murat Güneş[1], Bilal Boztosun[1], Aydın Yıldırım[2], Ekrem Güler[3], Onur Omaygenç [2], Tuğba Aktemur[2]

[1]*MEDIPOL MEGA UNIVERSITY HOSPITAL, ISTANBUL, Turkey*

[2]*MEDIPOL MEGA UNIVERSITY HOSPITAL, Istanbul, Turkey*

[3]*MEDIPOL MEGA UNIVERSITY HOSPITAL, Istanbul, Turkey*

[*]*Corresponding Author (dilan_naki@hotmail.com)*

OBJECTIVE:

The aim of this study was to assess the clinical outcomes of high-risk patients with severe aortic stenosis (AS) allocated to transcatheter aortic valve replacement (TAVR) ,including death, major cardiovascular events, major bleeding, paravalvular valve regurgitation and pacemaker requirement, through early-mid term follow-up at a single centre in Turkey.

METHODS AND RESULTS:

Consecutive patients with severe symptomatic AS who underwent TAVR procedure were enrolled in a retrospective single centre registry. Patients were included to the study who underwent TAVR procedure from January 2015 to June 2019. A total of 168 high risk (EURO score:26,21±4,05) patients (age 79,35± 7,2 years; 48% female) were followed up. 3 patiens died during procedure and at 1 patient was performed in emergent conditions because of valve embolisation. 2 strokes (%1,2), 6 major vascular complications (%3,6) were observed during procedure. Pacemaker requirement rate right after TAVR was %6.5 and paravalvular aortic regurgitation rate was %17. Survival after a median duration of follow-up of two years was 91%. %19,6 of patients were diagnosed as type 2 diabetes before the procedure and they were receiving antidiabetic treatment. Even though other co-morbidities, such as hypertension, chronic obstructive lung disease, previous coronary artery disease, did not correlated with increased risk of death; Diabetes melitus was associated with increased mortality (p:0.04). On the other hand , other major cardiovascular and valvular complication were not increased in diabetic patient group. There was statistically difference between outcomes at balloon expandable or self expandable TAVR valves.

CONCLUSION:

Both balloon expandable or self expandable TAVR valves are safety in high risk patients at a median duration of follow-up of two years. According to current studies, mortality rate one year after TAVR procedure is between %11,15-%30,25. In addition stroke rate during TAVR procedure were reported between %2-4 in different trials. Thus, our results show TAVR is an effective solution to treat aortic stenosis in selected patient groups.

ID: **537**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

OUR EARLY OUTCOMES OF AORTIC VALVE REPLACEMENT VIA RIGHT ANTERIOR MINI THORACOTOMY

Irem Iris Kan, Mustafa Yalçın, Orhan Güvenç, Murat Biçer

Uludag University Faculty of Medicine, Bursa, Turkey

**Corresponding Author (iriskan64@hotmail.com)*

OBJECTIVE: Aortic valve replacement through right anterior mini thoracotomy has become the predominant approaches for minimally invasive aortic valve replacement. Here, we present the early experience of aortic valve replacement via right anterior mini thoracotomy in our patients.

METHODS: This technique was used in 9 patients from September 2017 to November 2019. The mean age was 61.8 years and 2 (22.2%) were female. Surgical procedure was performed through an anterior right thoracotomy with a 5-to-6 cm skin incision placed in the third intercostal space. Cardiopulmonary bypass (CPB) was performed by femoral artery and vein cannulation. Myocardial protection was achieved with antegrade cardioplegia. After cardiac arrest, the aortic valve was exposed through an oblique aortotomy. The native valve removed and the valve implantation was performed.

RESULTS: The mean CPB and aortic cross-clamp (XCL) times were 131.4 minutes and 100.3 minutes respectively. Mechanical ventilation time was 7.2 hours. The mean intensive care unit (ICU) stay was 1.1 day and postoperative hospital stay was 7.3 days. One patient required an urgent reoperation due to bleeding. Bleeding was from a branch of the pericardial artery. No hospital mortality was seen in any patient.

CONCLUSION: Aortic valve replacement with right anterior mini thoracotomy increases the patient's comfort compared to the conventional sternotomy method and enables faster mobilization, less postoperative pain and shorter intensive care/hospital stay. In order to achieve better results, a coordinated team of surgeons, anesthesiologists, perfusionist, and nurses is required.



ID: **149**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

THE MODIFIED 5-ITEM FRAILTY INDEX PREDICTS POSTOPERATIVE OUTCOMES AFTER MINIMALLY INVASIVE AORTIC VALVE SURGERY

Atike Tekeli Kunt[1], Naim Boran Tumer[2], Serdar Gunaydin[2], Kanat Ozisik[2]

[1]*Kirikkale University Medical School, Kirikkale, Turkey*

[2]*University of Health Sciences Ankara City Hospital, Ankara, Turkey*

[*]*Corresponding Author (atikemd@gmail.com)*

Background: Frailty is a geriatric condition that is associated with adverse outcomes and it is suggested that it is an important determinant of surgical outcomes. Although there is no consensus regarding the definition of frailty, it is mainly defined as an inability to maintain physiological homeostasis when faced with stressors and it is prevalent in 20% to 60% of older adults with cardiovascular disease. The aim of this study is to evaluate the 5-factor modified frailty index (mFI-5) as a predictor of postoperative outcomes after minimally invasive aortic valve surgery.

Methods: We retrospectively evaluated the prospectively collected data of 50 adult patients, 65 years old and older, who underwent elective isolated minimally invasive aortic valve replacement surgery between the years 2017-2019. The comorbid factors included in the mFI-5 were congestive heart failure, diabetes mellitus, chronic obstructive pulmonary disease, functional status and hypertension. Each patient's mFI-5 was calculated and the patients were divided into three groups as Group I: mFI-5=0, Group II: mFI-5=1, Group III: mFI-5≥2. The effect of frailty was determined using logistic regression analysis and the results were expressed as odds ratio (OR) with a 95% confidence interval (CI). A P value <.05 was considered statistically significant.

Results: A total of 50 patients (42% Females, 58% Males) underwent elective isolated minimally invasive aortic valve replacement surgery. The mean age was 71.8 ± 5.1 years. Distribution of patients based on mFI-5 was as follows; Group 1: 13%, Group 2: 35% and Group 3: 52%. Increase in mFI-5 was a strong predictor for serious medical complications as prolonged ventilator requirement, atrial fibrillation, acute kidney injury, prolonged intensive care unit and hospital stay times and also mortality. ($p < 0.05$).

Conclusion: The present study demonstrates that the mFI-5 can predict patients at a higher risk for developing postoperative complications after minimally invasive aortic valve replacement surgery. For patients with mFI-5 score of ≥ 2, the risk of complications and mortality increases significantly.

ID: **255**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

MINIMALLY INVASIVE AORTIC VALVE REPLACEMENT VIA THORACOTOMY AND CENTRAL CANNULATION IN A MORBIDLY OBESE PATIENT

Burcin Abud, Ayse Gül Kunt

University of Health Sciences İzmir Tepecik Research and Education Hospital, Izmir, Turkey

**Corresponding Author (burcinabud@hotmail.com)*

Introduction

Conventional aortic valve surgery with sternotomy carries a high morbidity and mortality in morbidly obese patients. The implantation of the aortic valve prosthesis minimally invasive via thoracotomy have a lot of advantages and is comfortable for these patients especially in the early postoperative period. The disadvantages are peripheral vessel complications and groin infections. The use of central cannulation (direct aortic cannulation plus only superior vena cannulation) in this method can eliminate these disadvantages. In this report, we evaluate the results of a morbidly obese patient, which was treated with this method in our institution.

Method

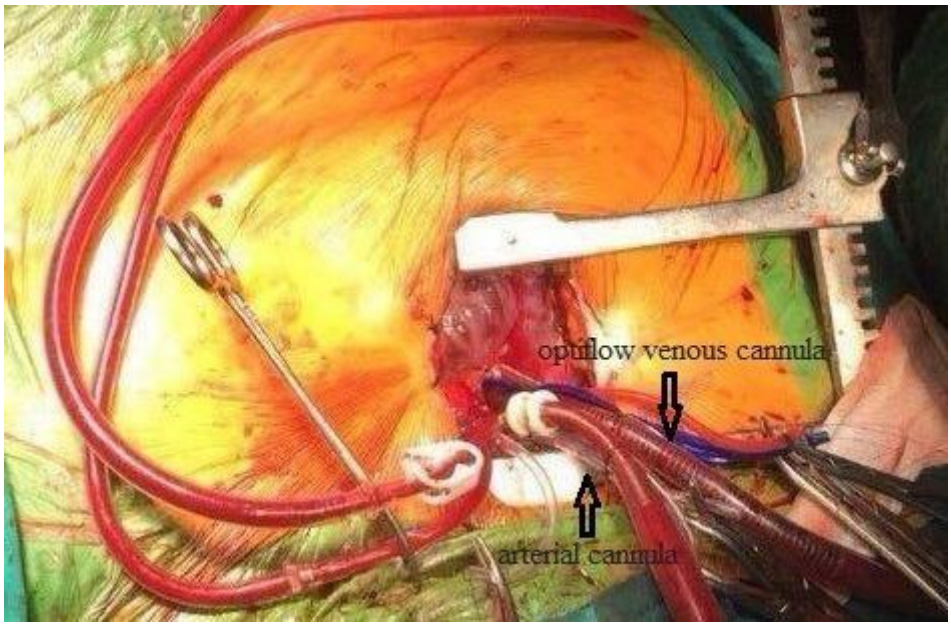
Our case was a 67 years old woman with the diagnosis of severe aortic stenosis. Coronary angiogram was normal. Her body mass index was 48 kg/m2 (height 149 cm, weight 107 kg). EuroSCORE II was 2,99. She underwent minimally invasive aortic valve replacement through the right 2nd intercostal space. Aortic cannulation was made direct on the ascending aorta with a straight arterial cannula. Venous cannulation was made only on superior vena cava with an optiflow venous return cannula (29 Fr, Liva Nova, Italy). After cross-clamping and cardioplegia the aortic valve was implanted on venous vacuum assisted extracorporeal circulation and pulmonary vein venting. Aortic valve implantation was made with a sutureless bovine pericardial aortic prosthesis (Perceval S, Sorin Biomedica, Saluggia, Italy). The implanted valve size was large-L (24-25 mm). Postoperative regional pain was measured by visual analog pain scale (0-10 rating, 0 = no pain, 10 = worst pain ever) and satisfaction about the postoperative period was assessed.

Results

The mean cross clamp time and cardiopulmonary bypass time were 61 and 77 min, respectively. Intraoperative transesophageal echocardiography showed successfully positioning of the prosthesis. No complications occurred postoperatively. The patients had a comfortable early postoperative period with a mean Visual analogue pain scale of 0 (no pain). When the patient satisfaction with the postoperative period was assessed, she was extremely satisfied.

Conclusion

Minimally invasive aortic valve implantation via thoracotomy and central cannulation, seems to be a safe and effective solution for morbidly obese patients. Avoiding of sternotomy lead to a comfortable early postoperative period, with no or mild pain. Avoiding of peripheral vessel cannulation prevent peripheral vessel complications and groin infections, which is occurred especially in morbidly obese patients.



Key Words: Morbidly obese patients, Minimally invasive aortic replacement via thoracotomy, Central cannulation

ID: **129**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

DIRECT COMPARISON BETWEEN SUTURELESS SORIN PERCEVAL VERSUS RAPIDLY DEPLOYED EDWARDS INTUITY ELITE: A SINGLE CENTRE EXPERIENCE

Nader Moawad, Fıras Aljanadı, Gwyn Beattıe, Reuben Jeganathan, Alsir Ahmed, MarkJones

Royal Victoria hospital, Belfast, United Kingdom

**Corresponding Author (dr.nadernabil@hotmail.com)*

Introduction:

Rapid deployment aortic valve replacement (RDAVR) are more increasingly regarded as an attractive alternative to conventional aortic valve replacement. This single-centre study compares surgical outcomes, valve-related complications, and hemodynamic performance between the only two commercially available rapid deployment valves.

Methods:

A total of 120 consecutive patients receiving either a Sorin Perceval S (N=61) or an Edwards INTUITY valve (N=59) between January 2016 and September 2019 were included. Retrospective analyse of prospectively collected database of all patients undergoing isolated Aortic valve replacement or with any concomitant procedure were included. This study compared Preoperative characteristics, valve-related adverse events, post-operative complications, trans-valvular gradients and survival rates.

Results:

Preoperative variables, including mean age (77.5 +/- 10), European System for Cardiac Operative Risk Evaluation (8+/-5), and body mass index (30+/-15), were not statistically different between the two groups. More females (75% versus 63%) and Octogenarians (31 versus 9) were in the Perceval group compared with the Intuity group, respectively.

More Perceval valves were deployed through mini-sternotomy (17 versus 2 P=0.004) but Intuity valves were more used in concomitant double valve procedures (12 versus 2 P=0.003). Implanted RDAVR size (mean 23 mm versus 21 mm), concomitant coronary artery bypass graft surgery (48% versus 33%), number of grafts, cardiopulmonary bypass, and aortic clamp time were comparable between the Perceval group and the Intuity group.

Thirty-day mortality (Intuity 1.7% versus Perceval 1.6%) and valve-related complications (Intuity 12.0% versus Perceval 20.5%) were insignificant. However, post-operative pacemaker implantation (Intuity 5% versus Perceval 11.5%) (P<0.05) differed significantly between groups. At follow up echocardiography, peak or mean pressure gradients were comparable between groups. However, statistically significant higher peak gradient were recorded when Perceval S is compared to Intuity 21 (P=0.039) and higher mean pressure gradient with Perceval L when compared to Intuity 25 (P=0.015).

Conclusion:

Both Perceval and Intuity rapid deployment valves are comparable with good early and medium-term surgical outcomes and valve hemodynamics, with relatively low valve-related complication rates. However, Perceval valves carry a higher risk of a need for Permanent pace maker and Intuity valves are associated with lower pressure gradients when compared with size matched Perceval valves.

ID: **43**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

AN IN-DEPTH ECHOCARDIOGRAPHIC ANALYSIS OF PERFORMANCE OF PERCEVAL VALVES

Kristo Papa

Royal Brompton Hospital, London, United Kingdom

**Corresponding Author (k.papa@rbht.nhs.uk)*

Objective

Since their inception, sutureless prostheses have demonstrated the ability to improve both valve haemodynamics and operative ergonomics. Finding novel measurements to benchmark performance are important as well as identifying predictors of improved valve performance.

Here we describe the use of the stroke volume index (SVI) as a marker of

Methods

Patients undergoing aortic valve replacement (AVR) for severe aortic stenosis at a single institution between 2014 and 2018 were involved in the study. Pre-and post-operative echocardiography were analysed.

Results

In total, 97 patients were included with ages 71.0 ± 7.9 (mean ± standard deviation), 37% of which were females. Pre-operative characteristics: Euroscore (2.52 ± 2.96), hypertension (77.3%), atrial fibrillation (24.7%), diabetes (25.8%). Pre-operative echocardiography revealed a mean aortic valve area of 0.82 (± 0.31), peak gradient (PG) 76.1mmHg (± 29.2), left ventricular ejection fraction of 59.1 (± 10.5) and SVI of 43.4 (± 13.2).

Operative characteristics: valves were sized according to standardised intra-operative annular sizers (S 11%, M 35%, L 36%, X3 18%), 39% of patients received concomitant coronary artery bypass graft surgery, with 1 patient receiving additional mitral intervention, and 2 patients receiving tricuspid valve repair. Mini-sternotomy and isolated AVR was performed in 28% of patients. Operative survival was 99%, of which echocardiographic follow up at 12 months was achieved in 97%.

Post-operatively, mean SVI was 35.3 (±12.4) and PG was 24.9mmHg (±8.3). Multivariate regression modelling found advancing age to be consistently associated with a higher SVI (coefficient 0.413, 95% CI 0.044 – 0.781, p=0.029) and a lower PG (coef -0.332, 95% CI -0.577 - -0.086, p=0.009) irrespective of pre-operative echocardiography. A higher body surface area (BSA) was also found to predict a lower SVI (coef -14.7, 95% CI -26.110 - -3.265, p=0.012) irrespective of prosthesis size. Prosthesis size and BMI were both found to have no influence over post-operative SVI or PG (p>0.05).

Conclusions

This study highlights the utility of SVI in assessing post-operative outcome with the Perceval valve and the relationship between SVI and age as well as BSA.

ID: **39**

Topic: **Cardiovascular Surgery » Transcatheter Aortic Valve Replacement**

Presentation Type: **Oral**

OUR INITIAL EXPERIENCE WITH A NOVEL TRANSAPICAL TRANSCATHETER AORTIC VALVE PROSTHESIS

Vasily Kaleda, Ivan Alekseev, Pavel Karavaikin, Vladimir Murylev, Karen Arakelyan, Anatoly Molochkov

Central Clinical Hospital, Moscow, Russia

**Corresponding Author (vasily.kaleda@gmail.com)*

BACKGROUND

Transcatheter aortic valve replacement (TAVR) is a great latest option for patients with aortic stenosis, especially in those who are in high risk for surgery. However, in developing countries transcatheter valve procedures are limited due to the high cost of currently available prostheses. Here we present our first five cases of transapical TAVR with a novel lower cost prosthesis MedLab-CT (MedEng CJSC, Penza, Russia), which is a balloon expandable stented valve with leaflets made of PTFE (Fig. 1).

METHODS

In September 2019 we performed transapical TAVR with MedLab-CT prosthesis in five patients with severe aortic valve stenosis. Mean age was 80 years (range, 70-92). Three of the patients were males. One patient had a porcelain aorta and another one had a history of CABG with patent coronary grafts. Bicuspid aortic valve was noted in one patient. All the procedures were performed under general anesthesia through a left sided mini-thoracotomy under fluoroscopic and TEE guidance.

RESULTS

There were no 30-day mortality, stroke, no need for permanent pacemaker implantation or chest re-exploration for bleeding. Paravalvular leaks causing severe aortic regurgitation did not developed in any patient. Postoperatively one patient suffered from severe pneumonia requiring antibiotics.

CONCLUSIONS

Our initial experience confirmed safety and showed excellent early results of a novel transcatheter prosthetic valve. Further study is needed to investigate long-term durability of the prosthesis.

ID: **634**

Topic: **Cardiovascular Surgery » TAVI**

Presentation Type: **Oral**

RESULTS OF TAVI WITH THE USE OF A VALVE WITH PTFE LEAFLETS

Andrey Voevodin, V. Bazylev, D. Tungusov, A. Allenov

Federal center of cardiovascular surgery, Penza, Russia

**Corresponding Author (voevodin.ab@gmail.com)*

Objective: To evaluate the clinical and hemodynamic results of transcatheter replacement of the aortic valve with the "MedLab-KT" prosthesis.

Methods: MedLab-KT is the first model of a transcatheter prosthetic with PTFE leaflets. It is a balloon-expandable stent, the cusps of which are made of 0.1 mm thick polytetrafluoroethylene plates. The reason of choice of synthetic material was the hypothesis of the absence of biodegradation of polytetrafluoroethylene in the organism. The valve has passed the preclinical phases of the in vitro and in vivo tests. The study included 69 patients who had undergone implantation of the MedLab-CT prosthesis. The survival rate and the frequency of a clinically significant stroke, as well as hemodynamic parameters according to echocardiography for up to 3 years, were evaluated. 39 patients were examined in person, the rest went through a telephone survey.

Results: The average follow-up was 12.4 months, the maximum - 4 years. The majority of patients belonged to the elderly group (mean age 73.3 years). For 51 patients (74%) according to the EuroSCORE scale and for 37 (54%), according to the STS scale, a high risk of surgical intervention was determined: ≥ 8%.

Mortality was 13%, 6 deaths were noted at the hospital stage, 3 patients died in the long-term period. Strokes not recorded. In the internal examination group, the average gradient on the aortic valve prosthesis is defined at 8.41 ± 4.21 mm Hg; failure due to paraprosthetic fistulas not higher than I degree was noted in 7 patients (18%), not higher than II degree in 1 case; transvalvular aortic insufficiency was not detected.

Conclusion: The results of the studied parameters are comparable with the data provided by foreign randomized clinical studies of famous models of transcatheter aortic valve prostheses.

Oral Presentation Session

Cardiac Implantable Devices: Complications and Challenging Applications

Date: 14.03.2020 Time: 09:15 - 10:15 Hall: 5

ID: **163**

Topic: **Cardiology » Cardiac pacing for bradyarrhythmias**

Presentation Type: **Oral**

A NEW TECHNIQUE IN COMPLEX LEAD EXTRACTION: WRAP-AROUND THE LEAD

Hakan Aksoy, Sercan Okutucu, Begüm Yetiş Sayın, Ali Oto

Memorial Ankara Hospital, Ankara, Turkey

**Corresponding Author (haksoy63@yahoo.com)*

Abstract

Objective: In recent years, cardiac implantable electronic devices complications including infection, dysfunction or venous stenosis increase the need lead extraction procedures of implanted cardiac devices. A new approach has been developed to extract the leads that broken or impossible to move otherwise. We aimed to present our experience about transvenous lead extraction in complex clinical situations.
Methods and results

Thirty two patients (mean age 62±15.7; male 25, female 7) underwent complex transvenous lead extraction procedures. Indications for extraction were based on the recommendations of the Heart Rhythm Society. Indications for lead removal included cardiac device infection in 13 (40.6%) cases, lead malfunction in the 14 (43.7%) cases, upgrade to cardiac resynchronization therapy-defibrillator (CRT-D) in the 3 cases (9.3 %), venous stenosis in one patient (3.1%) and penetration of right ventricular lead to pericardium in the remaining 1 case. Implanted device was a pacemaker in 12 (37.5 %), ICD in 13 (40.6 %) and CRT-D in 7 (21.8) of patients. Total 57 leads were extracted from the patients, 22 (38.5%) were atrial, 12 (21.0 %) were ventricular, 18 (31.5 %) were dual coil defibrillator and 5 (8.7%) was coronary sinus lead. In 3 cases Evolution® mechanical lead extraction system was used. The remaining procedures were performed with TightRailTM lead extraction system. Complete procedural success was achieved in all patients (56/57 leads) and overall clinical success was 100%. Snare with femoral approach was used to remove retained lead components in 8 (25.0 %) of patients. In 7 of these patients, Wrap-around with ablation catheter technique was used.

Conclusion

Our data show that mechanical lead extraction systems are highly effective for successful extraction of all types of implanted cardiac electronic device leads in complex clinical situations. In case of broken leads and leads that impossible to move otherwise, Wrap-around technique can be considered.

ID: **411**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

INFECTIVE ENDOCARDITIS ON IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) LEADS: 03 PATIENTS CASES REPORTS

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction: Cardiac pacemakers Infections severely compromises the prognosis of patients with these foreign materials. It most often affects intracardiac leads, but also the cardiac valves, in almost half of the cases. It would affect 1% of patients. The average age is over 60; prolonged or intermittent fever present in 90% of patients; signs of ICD pocket infection reported in 45% of cases; pulmonary manifestations are noted in 20-40% of cases. Vegetations are detected in 90% of cases in echocardiography. Staphylococci are responsible for 80% of infections. Antibiotic treatment including a bactericidal dual therapy, after the bacteriological samples within a period which takes into account the infection presentation modalities, the patient and the diagnosis certainty. All materials should be removed systematically whenever possible. Antibiotic prophylaxis is recommended when placing the endovascular material, and probably also during each manipulation.

Methods: We report 03 cases of infectious endocarditis on implantable cardioverter defibrillator. operated between August 2011 and August 2017. This study covered a period of 1 month postoperatively. This series, admittedly limited in number, illustrates the clinical diversity, as well as the diagnostic and therapeutic difficulties encountered in daily practice.

Results: The average age is 26 years old, predominantly male. Fever was present in all cases. Association with other localizations: pulmonary in the tow patients. angiography scan presence of a massive pulmonary embolisation. Negative blood culture in 3 cases. The function and volume of the Left ventricul were correct in all cases with the presence of vegetation on the ventricular and atrial stimulation leads. One patient had pocket infection, the two other patients hadn't cutaneous infarction. we used double probabilistic antibiotic therapy. They are all operated under circulatory assist. The technique was ablation of vegetations, leads sent to bacteriology, verification of the pulmonary route and temporary epicardial stimulation with continuation of triple antibiotic therapy for 40 days. Post-operative echocardiograms were normal. Intra-hospital mortality was zero.

Conclusion: Serious affection. The diagnosis and treatment of ICD infections are insured with a multidisciplinary team. Strict adherence to antibiotic prophylaxis in ICD implantation should reduce the incidence of this infection, which has high morbidity and mortality

ID: **341**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN INAPPROPRIATE ICD DISCHARGE AND VITAMIN D LEVEL

Şıho Hidayet, Erkam Cengil

İnönü University Turgut Özal Medical Center, malatya, Turkey

**Corresponding Author (shhidayet@hotmail.com)*

Objective:

Inappropriate shocks are important in patients with an implantable cardioverter-defibrillator (ICD) and are associated with increased long-term mortality. It is known that vitamin D deficiency is associated with arrhythmia. The aim of this study was to investigate the relationship between inappropriate high-energy discharges of implantable cardioverter-defibrillators and vit d level.

Methods:

A total of 28 patients who were admitted to our clinic with at least one cardioverter-defibrillator discharge and who were found to have inappropriate shock were included in the study. 28 patients with no history of shock were included in the study as control group. In this study, vitamin D level, laboratory parameters and demographic characteristics of the groups were compared.

Results:

There was no significant difference between the groups in terms of age, gender, diabetes mellitus, smoking history, hypertension, body mass index and ejection fraction. Vitamin d levels were found to be lower in patients with inappropriate discharges than control group (17.4 ± 9.4 vs 22.6 ± 8.6 respectively p = 0.043).

Conclusion:

The level of vitamin D is considered a determinant for inappropriate ICD discharges. In our study, it was shown that inappropriate discharges were associated with vitamin D levels in ICD patients.

ID: **324**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

TP-TE INTERVAL AND TP-TE/QT RATIO MAY BE PREDICTIVE OF IDIOPATHIC VENTRICULAR TACHYCARDIA IN PATIENTS WITH FREQUENT OUTFLOW TRACT PREMATURE VENTRICULAR COMPLEXES

Ayhan Kup [1], Abdulkadir Uslu [1], Serdar Demir[1], Kamil Gulsen[1], Mehmet Celik [1], Emrah Bayam [2], **Alper Kepez** [3], Taylan Akgun [4]

[1]*Kartal Kosuyolu Training and Research Hospital, Istanbul, Turkey*

[2]*Umraniye Training and Research Hospital, Istanbul, Turkey*

[3]*Marmara University School of Medicine, Istanbul, Turkey*

[4]*Kartal Kosuyolu Training and Research Hospital, Kartal Kosuyolu Training and Research Hospital, Turkey*

[*]*Corresponding Author (ayhankup@gmail.com)*

Background: Premature ventricular complexes (PVC) in structurally normal hearts commonly arise from right ventricular outflow tract (RVOT) and left ventricular outflow tract (LVOT) including aortic valve cusps, aortomitral continuity and epicardial summit area. Outflow tract ectopy can manifest itself as nonsustained and sustained monomorphic ventricular tachycardia (VT). The aim of present study is to evaluate the predictive value of QTc dispersion, Tp-Te interval and Tp-Te/QT ratio for idiopathic monomorphic outflow tract VT occurrence in patients with frequent idiopathic outflow tract PVCs.

Methods: A total of 180 patients (49.2 ± 13.6 years, 74 male) who had undergone outflow tract PVC ablation between 01.01.2015 and 01.11.2018 constituted our study population. Patients with isolated outflow tract PVC without any VT recording on Holter recordings and without any inducible VT at EPS were classified as isolated PVC group. Patients with any episode of VT that has the same morphology with outflow tract PVC were classified as nonsustained or sustained VT groups based on the duration of VT episode. QTc dispersion, Tp-Te and Tp-Te/QT ratio values were calculated and compared between groups.

Results: There were 116 patients with isolated PVC, 35 patients with nonsustained VT and 29 patients with sustained VT. QTc dispersion, Tp-Te and Tp-Te/QT ratio values were significantly lower in patients with isolated PVC compared to patients with nonsustained or sustained VT episodes (Table-1). Tpeak to Tend interval greater than 110.5 msec on derivation V6 predicted VT occurrence with 93.8% sensitivity and 82.8% specificity. Tpeak to Tend/QT interval greater than 0.27 on derivation V6 predicted VT occurrence with 93.8% sensitivity and 0.81% specificity (Figure 1)

Table 1: Comparison of QTc dispersion, Tp-Te and Tp-Te/QT ratio between isolated PVC, sustained VT and nonsustained VT groups

Parameter	Isolated PVC (n:116)	Nonsustained VT (n: 35)	Sustained VT (n: 29)	p value
QTcmax (msec) *	458.5 ± 33.2	470.9 ± 24.1	478.5 ± 28.0	0.003
QTcmin (msec)	427.4 ± 29.4	428.4 ± 25.5	427.8 ± 37.7	0.98
QTcdisp (msec)**	31.2 ± 15.8	42.6 ± 20.6	50.7 ± 29.3	< 0.001
V4 Tp-Te***	93.1 ± 17.4	123.4 ± 12.9	122.2±13.6	< 0.001
V5 Tp-Te***	93.2 ± 17.8	122.5 ± 13.3	124.6 ± 10.7	< 0.001
V6 Tp-Te***	93.4 ± 17.6	124.5 ± 12.2	124.4 ± 10.4	< 0.001
V4 Tp-Te/QT***	0.23 ± 0.04	0.30 ± 0.03	0.31 ± 0.04	< 0.001

V5 Tp-Te/QT***	0.24 ± 0.04	0.30 ± 0.03	0.31 ± 0.04	< 0.001
V6 Tp-Te/QT***	0.24 ± 0.04	0.31 ± 0.03	0.31 ± 0.03	< 0.001

QTC: Corrected QT interval, QTcdisp: Corrected QT interval dispersion, PVC: Premature ventricular complex, VT: Ventricular tachycardia

* p = 0.02, isolated PVC group vs nonsustained VT group; p = 0.002, isolated PVC group vs sustained VT group; p: NS, nonsustained VT group vs sustained VT group

** p = 0.04 , isolated PVC group vs nonsustained VT group; p = 0.002 isolated PVC group vs sustained VT group; p: NS, nonsustained VT group vs sustained VT group

***p: <0.001 isolated PVC group vs nonsustained VT group and sustained VT group; p: NS, nonsustained VT group vs sustained VT group

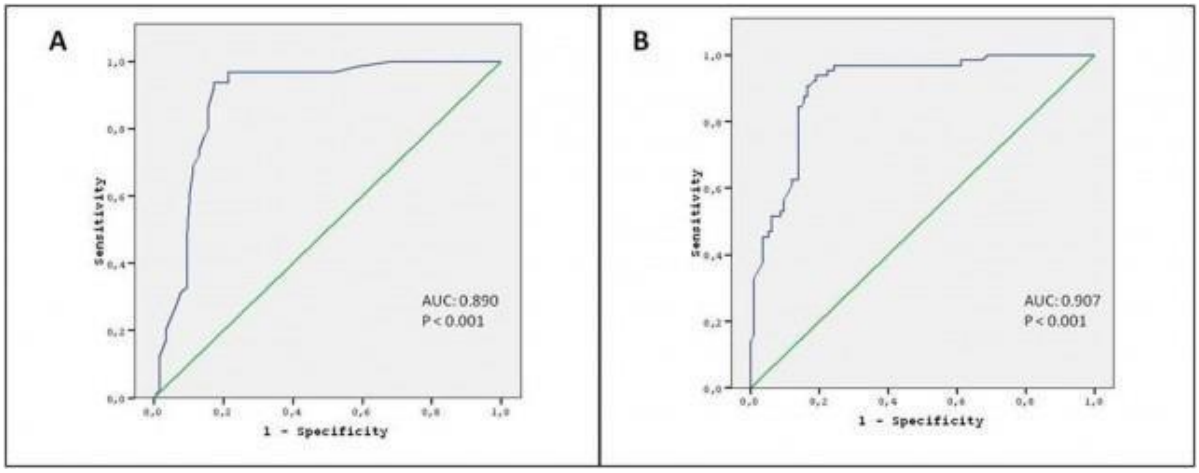


Figure 1: Receiver operating characteristic (ROC) curve for Tpeak to Tend interval on derivation V6 (A) and Tpeak to Tend interval/QT ratio on derivation V6 (B) in predicting the ventricular tachycardia occurrence in the study population

Conclusion: Tp-Te interval and Tp-Te/Qt ratio on derivation V6 may aid in prediction of presence of outflow tract VT in clinical practice.

ID: **253**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

CAN TP-TE INTERVAL AND QRS-T ANGLE PREDICT FREQUENCY OF VENTRICULAR PREMATURE CONTRACTIONS?

Belma Yaman

Near East University Faculty of Medicine, Nicosia, Cyprus

**Corresponding Author (belmayaman@yahoo.com)*

Objective: PVC is generally known as benign in the absence of structural heart disease however, PVC induces deterioration of the left ventricular systolic functions in some cases. Also, frequent PVC might worsen the existing cardiomyopathy connected with other cardiac diseases. There is no consensus in the literature about the cut off amount of PVC have a high risk for cardiomyopathy or ventricular arrhythmias. In our study we aimed to evaluate the association of Tp-Te interval, Tp-Te/QT ratio and QRS-T angle with PVC frequency in patients with PVC burden.

Methods: Eighty subjects admitted to our cardiology department and underwent to 24 hour ECG Holter monitoring were included. Patients with low ejection fraction, structural heart disease, moderate to severe degree heart valve disease, coronary artery disease with the sign of ischemia, thyroid disorders, anemia were excluded from the study Patients were divided into two groups; group 1 defined as frequent PVC≥1% in 24 hour Holter monitoring, group 2 defined as rare PVC<1% in 24 hour Holter monitoring.

Results: Tp-Te interval and Tp-Te/QT interval are statistically significantly prolonged in patients with frequent PVC than control group (85.3 ± 13.9 vs 65.7 ± 11.9, p<0.001; 0.19 ± 0.03 vs 0.15 ± 0.02, p<0.001; respectively). QRS-T angle was statistically significantly abnormal in the group with PVC burden (p=0.024). Multivariate analysis of ECG paramaeters showed that Tp-Te interval and QRS-T angle is the independent predictors of excessive amount of PVC in 24 hour ECG Holter monitoring (p<0.001, p=0.04; respectively).
Conclusion: Increased Tp-Te interval and widened QRS-T angle are associated with ventricular arrhytmias and might be used for the prediction of PVC burden in patients with PVC in ECG in the absence of 24 hour Holter monitoring.

Table 1. Comparison of the ECG parameters between two groups

Parameters	Group 1 (PVC>1%) (n=37)	Group 2 (PVC≤1%) (n=43)	P value
HR (beat/min)	75.5 ± 15.3	79.9 ± 15.8	0.213
Tp-Te interval	86.6 ± 13.3	65.4 ± 12.8	<0.001
QT interval	387 ± 29.3	375.4 ± 32.8	0.098
QTc interval	428.5 ± 29.2	429.1 ± 23.5	0.928
Tp-Te/QT	0.22 ± 0.04	0.15 ± 0.03	<0.001
Tp-Te/QTc	0.2 ± 0.03	0.15 ± 0.03	<0.001
Abnormal QRS T angle (%)	11 (29.7)	4 (9.3)	0.024

ECG, electrocardiography; PVC, premature ventricular contraction; HR, heart rate

ID: **464**

Topic: **Cardiology » Cardiac Resynchronization Therapy**

Presentation Type: **Oral**

SUCCESSFULL RE-IMPLANTATION OF LEFT VENTRICULAR LEAD BY CORONARY VENOUS STENTING

Emre Arugaslan[1], **Mustafa Karanfil**[2], Mustafa Çetin[2], Ender Örnek[2]

[1]*Ankara City Hospital, ankara, Turkey*

[2]*ankara city hospital, ankara, Turkey*

[*]*Corresponding Author (dremrearugaslan@gmail.com)*

Cardiac resynchronization therapy (CRT) has beneficial effects on mortality and morbidity in certain heart failure patients however nearly half of patients with CRT are non-responders. We present a case of percutaneous coronary sinus (CS) intervention to facilitate left ventricular lead implantation in a patient with previous CRT.
Case Report

A 51- year -old woman with non-ischemic cardiomyopathy was referred to heart failure clinic. She had heart failure symptoms refractory to optimal medical treatment. CRT-D was implanted in 2015 but left ventricular lead has been nonfunctional due to high pacing thresholds and diaphragm stimulation. The electrocardiogram showed left bundle branch block and QRS duration of 160 ms. Transthoracic echocardiography revealed ejection fraction of 20 % compatible with severe systolic dysfunction. Patient was taken to catheterization laboratory with aim of lead revision. Simple traction did not help to extract nonfunctional lead which was located in anterolateral branch, so it was planned to implant a new CS lead in the posterolateral branch. A CS angiography demonstrated a stenosis in posterolateral branch. New left ventricular lead was not able to pass through the lesion. It was decided to perform CS angioplasty to facilitate delivery of lead. 2.0 X 20 low profile coronary balloon catheter was inflated to 8 atmospheres but repeated balloon inflations did not ease delivery of lead. CS stenting was needed ultimately. 2.75 x 28 mm drug eluting stent was implanted at 10 atmospheres. Left ventricular lead was passed through the stent into target branch. Postprocedural ECG showed narrowing of QRS complexes. Patient was discharged with dual antiplatelet therapy. Improved functional status was noted at first month follow up.

Discussion

Ischemic heart failure, non LBBB morphology and apical lead position are predictors of non-response to CRT. Non-responders have increased morbidity and mortality compared to responders .. Failure to cannulate CS, absence of suitable coronary sinus branch and acceptable threshold, lead instability and phrenic nerve stimulation are main factors for unsuccessful CRT implantation. LV lead implantation failure rate in the literature is about 5 % in lead revisions. CS intervention is a safe and effective technique which can be performed in case of venous stenosis, coronary sinus valves, and acute lead instability. CS rupture and dissection are rare complications of intervention. Although it was shown that implanting an additional CS lead has no additional beneficial effect on non-responders and has a 20% complication rate, our patient had clinical and electrocardiographic improvement.

Oral Presentation Session

Updated Arrhythmia Perspectives: From ECG to Transcatheter Ablation

Date: 14.03.2020 Time: 10:45 - 12:00 Hall: 5

ID: **62**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

PRESENTING AN INVENTED GAMIFIED METHOD FOR INTERPRETING THE ELECTROCARDIOGRAM

Homayoon Bana Derakhshan[1], Marzieh Sadat Hoseini[2]

[1]*School of Nursing & Midwifery.Shahid Beheshti University of Medical Sciences., Tehran, Iran*

[2]*School of Nursing & Midwifery.Shahid Beheshti University of Medical Sciences., Tehran, Iran*

[*]*Corresponding Author (h_bderakhshan@yahoo.com)*

Background:

An EKG translates the heart's electrical activity into line tracings on a paper and is one of the most important tools for detecting and evaluating many heart problems, such as: heart attack, arrhythmias and heart failure and many other disorders. Rapid and complete interpretation of EKG is extremely vital for managing critical patients.
This research introduces an invented gamified method for interpreting EKG incredibly easy by memorizing a sentence.

Methods:

This research is a descriptive-analytical research that 60 medical students in randomized way were selected and divided into two groups. Then the researcher after giving pretests to all students, performed educational program in traditional and systematic ways into two groups, and at last after giving post tests and comparison of pretests & posttests of each group about interpreting of ECG, the level of learning of two groups is measured.
The gathering data tool of this research was one questionnaire. This questionnaire includes of 40 questions in different domains of interpreting the ECG. (10 questions for the rules of interpreting ECG,4 questions for sinus rhythms,5 questions for atrial rhythms,4 questions for junctional rhythms,5 questions for ventricular rhythms,7 questions for the heart blocks and 5 questions for dysrhythmias).The whole of questions were selected among the questions of final examinations in the level of must know.

Results:
The level of knowledge in the systematic educational group was significant and higher than the traditional group ($p<0.005$). The mean marks of systematic group were 80.68 and for the traditional group were 45.32.

Conclusions:
The findings show that the learning level of interpreting ECG by the systematic way (gamified method) was more effective than traditional way.

Key words:
Interpreting ECG, Invented way, New method, Gamification
In the systematic way of education of ECG, memorizing of below sentence is recommended.

[All Beautiful Red Roses in Iran Have Thorn]
The first letter of each word is abbreviated for one characteristic that must be read in ECG. Just only by remembering of this sentence, we

can read and interpret the ECG systematically, rapidly, completely and simply. The details of each section will present in an algorithm in lecture.

All ---------- Axis
Beautiful ---------- Block
Red ---------- Rate
Roses ---------- Rhythm
In ---------- Ischemia
Iran ---------- Infarction
Have ---------- Hypertrophy
Thorn ---------- Toxicity

ID: **436**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

PATTERN OF CARDIAC ARRHYTHMIAS WITH IN-HOSPITAL OUTCOME IN PATIENTS WITH ACUTE ST ELEVATED MYOCARDIAL INFARCTION

Mohammad Shaiful Islam Tipu Chowdhury [1], Sadia Sultana[2], Zahidul Mostafa [3], Rahat Noor[4]

[1]*Cox's Bazar Medical College Hospital , Cox's Bazar , Bangladesh*

[2]*Chittagong Medical College , Chittagong , Bangladesh*

[3]*Cox's Bazar Medical College , Cox's Bazar , Bangladesh*

[4]*Cox's Bazar Medical College Hospital , Cox's Bazar , Bangladesh*

[*]*Corresponding Author (dr.tipuchowhury@gmail.com)*

ABSTRACT

Background: Acute myocardial infarction (AMI) is a major cause of death worldwide with arrhythmia being the most common determinant in the post-infarction period. Identification and management of arrhythmias at an early period of acute MI has both short term and long-term significance. Objective: To evaluate the pattern of arrhythmias in acute STEMI in the first 48 hours of hospitalization and their in-hospital outcome.

Methods: In this prospective study, total of 50 patients with acute STEMI were included after considering the inclusion and exclusion criteria. The patients were observed for the first 48 hours of hospitalization for detection of arrhythmia with baseline ECG at admission and continuous cardiac monitoring in the CCU. The pattern of the arrhythmias during this period & their in-hospital outcome were recorded in predesigned structured data collection sheet.

Results: The mean age was 53.38 ± 10.22 years ranging from 29 to 70 years. Most of the patients were male 42(84%). Majority of the patients had anterior wall (anterior, antero-septal & extensive anterior) myocardial infarction (54%). Sinus tachycardia in isolation was the most common arrhythmia observed in 36.8% of patients followed by sinus bradycardia (22.8%), ventricular tachycardia (19.3%), ventricular ectopic (12.3%), first degree AV block (5.3%), complete heart block and atrial ectopic 1.7% each. Tachyarrhythmias were more common in anterior wall myocardial infarction, whereas bradyarrhythmias were more common in inferior wall myocardial infarction. Among studied patients, 72% had favorable outcome, followed by acute left ventricular failure 10%, cardiogenic shock & lengthening of hospital stay 8% each and death 2%.

Conclusion: The commonest arrhythmias encountered were sinus tachycardia followed by sinus bradycardia, ventricular tachycardia, ventricular ectopic, AV block and atrial ectopic. The incidence of mortality was 2%.

ID: **141**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

INTERMEDIATE TERM OUTCOME AFTER ELECTROGRAM GUIDED SEGMENTAL OSTIALPULMONARY VEIN ISOLATION USING A 8 MM TIP CATHETER FOR PAROXYSMAL ATRIAL FIBRILLATION

Prashant Pawar

Holy family hospital, Mumbai, India

**Corresponding Author (2prashantpawar@gmail.com)*

INTRODUCTION: There is no Indian data on the outcome following conventional Radiofrequency catheter ablation (RFA) for patients with paroxysmal Atrial fibrillation (PAF). Inspite of recent advancements in this field including sophisticated three dimensional (3D) based imaging and advanced ablation catheters with contact force technology, many Indian patients will not afford such an expensive therapeutic procedure. Here in this article we have summarized the immediate and long-term outcome following RFA of Indian patients with PAF using Pulmonary vein (PV) electrogram based mapping and using 8 mm tip ablation catheter.

METHODS: 42 consecutive patients who underwent RFA for symptomatic PAF not controlled with at least one antiarrhythmic drugs were studied in a tertiary care institute from March 2015 to December 2018.

Inclusion criteria- All patients eighteen years or older who had symptomatic non-rheumatic PAF not controlled with at least one antiarrhythmic drug were included for the study.

Exclusion criteria-Patients with rheumatic atrial fibrillation were excluded. Persistent AF or long standing persistent AF, left atrial thrombus, LA antero-posterior diameter exceeding 50 mm, unstable angina in the previous 3 months, bleeding disorders, pregnancy, patients with contraindications for anticoagulation, decompensated heart failure and unwillingness to give consent.

PVI was performed solely by conventional electrophysiology procedure using 8 mm tip RF catheter and PV potential electrogram based mapping. 3D mapping was not used. Only PVI was performed. Substrate modification was not performed. Elimination of all ostial pulmonary vein potentials and complete entrance block into the pulmonary vein were considered indicative of complete electrical isolation. Follow-up visits were scheduled at 4 weeks, and 3, 6, months post procedure, and every 6 months thereafter.

RESULTS: After the procedure 34 were arrhythmia free, 8 continued to have atrial fibrillation. The mean age of the study population was 51.5 ± 11.7yrs.The mean follow up duration was 44 ± 21 months (range 6 months to 84 months).The number of pulmonary veins isolated included 1 (5 patients, 11.9%), 2 (20 patients, 47.6%), 3 (12 patients, 28.6%) and 4 (5 patients, 11.9%).In 42 patients, a total of 101pulmonary veins were isolated. The right superior pulmonary vein (RSPV) was isolated in 37 patients, the left superior PV (LSPV) was isolated in 39 patients, the left inferior PV (LIPV) was isolated in 14 patients and the right inferior PV (RIPV) was isolated in 6 patients. The procedure duration was 125 ±29 minutes and the fluoroscopy time was 47±13 minutes. The number of patients who remained in sinus rhythm at 1,6,12 and 24 months were 34 (81%),32(76%),30(71%) and 26 (62%). Two patients of these underwent repeat PVI which was successful and they had no further recurrences. Complications were rare. One patient had a minor pericardial effusion and one patient had transient sinus pauses which were conservatively managed.

CONCLUSION: Conventional RFA using PV potential electrogram based mapping and ablation with 8 mm tip catheter is safe and effective for patients with PAF with satisfactory immediate and long-term outcome and negligible complications and very cost effective in our setting with limited resources.

ID: **291**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

GENDER AND AGE DIFFERENCES IN CIRCADIAN VARIATION OF HEART RATE VARIABILITY PATTERN S OF VAGAL ACTIVITY IN ADOLESCENTS AND YOUNG ADULTS: RESULTS OF THE BEMIND STUDY

Lars Pieper, John Venz, Katja Beesdo-baum

TU Dresden, Dresden, Germany

**Corresponding Author (lars.pieper@tu-dresden.de)*

Background

The autonomic nervous system (ANS), particularly the vagus nerve, plays an important role in regulation of metabolic homeostasis. From heart rate recordings, heart rate variability (HRV) indices can be calculated, representing a valid and reliable measure of autonomic function and provide insight to the ANS. Previous research showed that low vagal tone is associated with a variety of poor health outcomes (e.g. cardiovascular risk, morbidity, mortality, emotion regulation). Altogether, measures of HRV seem to represent an integrative marker for mental and somatic health. Clinicians need reference values of HRV parameters to use them as screening tools to identify individuals at risk. This contribution aims to describe circadian variation pattern of HRV parameter by age and gender in adolescents and young adults from Germany.

Methods

Data from the Behavior and Mind Health Study (BeMIND) were used. A total of 1102 predominantly healthy participants (age 14-21 years) underwent, among other measures, ambulatory 24 hour heart rate recordings (Firstbeat bodyguard 2) on multiple days (3404 days with at least 16 hours of recordings). The root mean sum of successive differences between R-R intervals (RMSSD) was used as an indicator of vagally mediated HRV. In a first step, the 24 h recordings were segmented into 5-minute intervals. For each 5-minute interval, the mean RMSSD was calculated. Three individual-level cosine function parameters (mesor, amplitude, acrophase) were calculated to quantify circadian variation pattern. Multivariate linear regression models were used to estimate the association of circadian variation pattern of RMSSD with gender and age.

Results

In our study sample mean RMSSD mesor was 44.9 (CI95%: 44.3, 45.6) and mean amplitude was 17.9 (CI95%: 17.5, 18.4). The mean acrophase (time of the highest RMSSD oscillation) was 21:50 hrs (CI95%: 21:41 hrs, 21:59 hrs). Controlled for age, females had a significantly reduced RMSSD mesor (-2.3 (CI95%: -4.2, -0.4)), a reduced RMSSD amplitude (-1.5 (CI95%: -2.0, -.1)) and a reduced RMSSD acrophase (-31.3 minutes (CI95%: -50.8, -11.7 minutes)) compared to males. Controlled for gender, no significant differences in RMSSD mesor and amplitude by age could be observed. RMSSD acrophase increased by age (14.1 min per year (CI95%: 10.1, 18.2)).

Conclusion

A significant circadian variation in HRV parameter was present, characterized by a maximum during nighttime and rather small but significant gender and age differences. With help of further research, circadian variation of HRV may become a screening tool of overall physical and mental health.

ID: **203**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

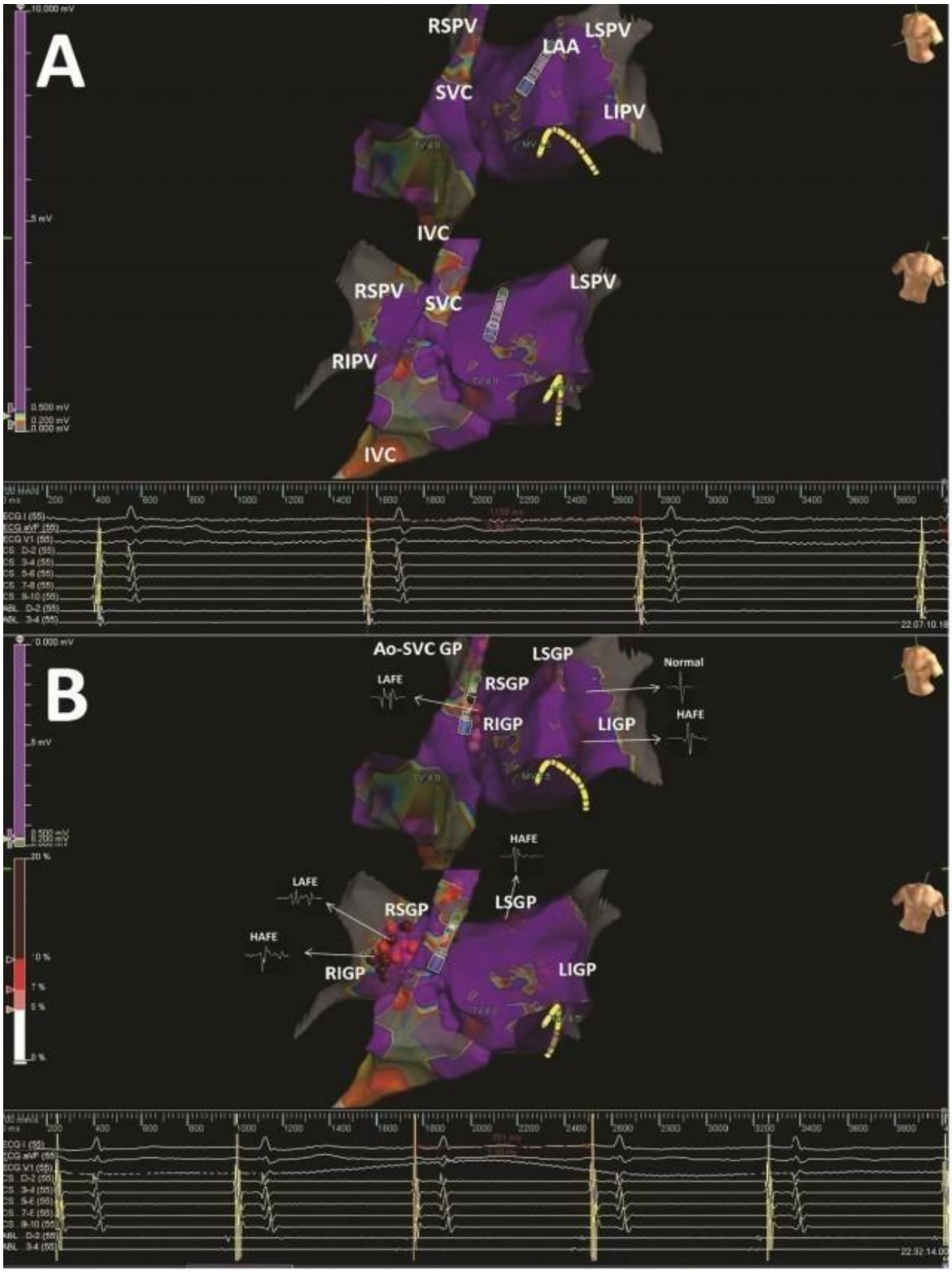
WHY IS PULMONARY VEIN ISOLATION NOT ENOUGH FOR VAGAL DENERVATION IN ALL CASES?

Tolga Aksu, Tumer Guler

Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey

**Corresponding Author (aksutolga@gmail.com)*

A 37-year-old female was referred to us symptomatic sinus bradycardia and pauses. The patient had undergone isolation of pulmonary vein (PV) for paroxysmal atrial fibrillation 2 years ago. We decided to perform cardioneuroablation because the patient refused pacemaker implantation. During baseline electrophysiological study, AA interval was calculated as 1159 ms. Isolation of PVs were verified by using a circular catheter. Ganglionated plexus (GP) sites were detected and ablated by using our previously defined fractionated electrograms based technique. The left inferior, the left superior, the right superior and the right inferior GPs were ablated, respectively. The right superior GP were detected far from the ostium of the right superior PV (Figure 1A). After completion of ablation on GPs with bi-atrial approach, final AA interval decreased to 751 ms (Figure 1B). Complete vagal denervation was confirmed by no atropine response. GPs are concentrated within distinct epicardial fat pads between right and left atrial structures and more antral relationship between the superior vena cava and the right superior PV might be used to as a marker to define in which patient PV isolation cannot cause vagal denervation.


A
RSPV
LSPV
LAA
SVC
LIPV
IVC
RSPV
SVC
LSPV
RIPV
IVC
B
Ao-SVC GP
LSGP
Normal
LAFE
RSGP
RIGP
LIGP
HAFE
HAFE
LAFE
RSGP
LSGP
HAFE
RIGP
LIGP

ID: **177**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

IMPACT OF CARDIONEUROABLATION ON HEAD UP TILT TABLE TESTING DURING FOLLOW-UP

Tumer Guler [1], **Tolga Aksu** [1], Kivanc Yalin[2], Rakesh Gopinathannair[3]

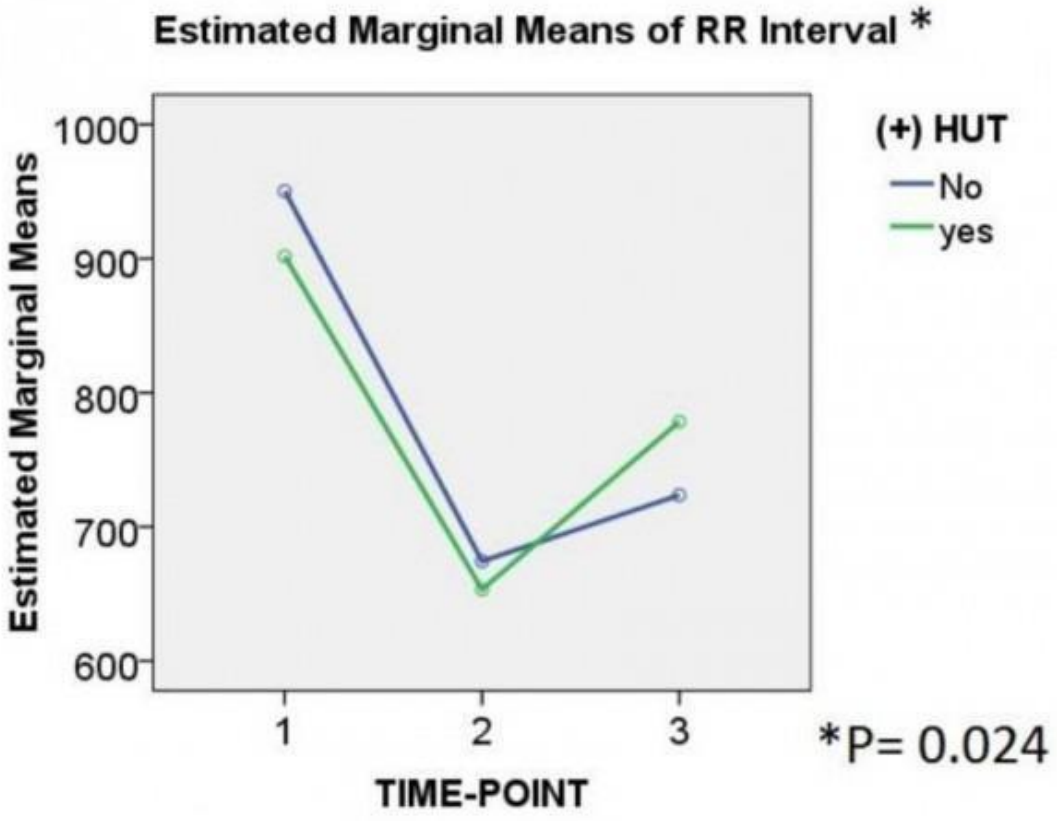
[1]*Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey*

[2]*İstanbul University -Cerrahpasa, Faculty of Medicine, Istanbul, Turkey*

[3]*Kansas City Heart Rhythm Institute and Research Foundation, Overland Park, KS, United States*

[*]*Corresponding Author (aksutolga@gmail.com)*

Aims Previous reports have suggested that cardioneuro ablation (CNA) can be effective in reducing syncopal recurrences in patients with vasovagal syncope (VVS). This study assessed the efficacy of CNA in preventing a positive response to head-up tilt testing (HUT). Methods This is a single-center retrospective study reviewing prospectively collected data. Fifty-one nine consecutive patients with VVS were included in the study. After confirmation of significant asystole on HUT, all patients underwent CNA. HUT was repeated 1 month after CNA. The main outcome measures were recurrence of syncope episode and positive response on HUT. Results During a median follow-up period of 11 months (IQR, 3–27 months), all but 3 (5.8%) of 51 patients were free of syncope. Repeated HUTs were negative in 44 (86.2%) patients. When patients with recurrent syncope were excluded, vasodepressor response was seen in 3 cases and cardioinhibitory response in 1 case, respectively. CNA caused significant and durable shortening on RR interval in all cases. This effect was significantly higher in patients without positive HUT responses (Figure 1). Conclusion This pilot study shows that CNA can effectively prevent recurrent syncopal episodes in patients with refractory VVS. HUT seems as a valuable diagnostic tool not only to select suitable candidates and but also to evaluate success of CNA.


Estimated Marginal Means of RR Interval *
Estimated Marginal Means
1000
900
800
700
600
1
2
3
TIME-POINT
(+) HUT
No
yes
*P= 0.024

ID: **581**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **Oral**

SURGICAL TREATMENT OF ATRIAL TACHYCARDIA ARISING FROM LEFT ATRIAL APPENDAGE

Taylan Adademir, Taylan Akgün, Ahmet Zengin, Kaan Kırali

Kartal Koşuyolu High Speciality Educational Research Hospital, Istanbul, Turkey

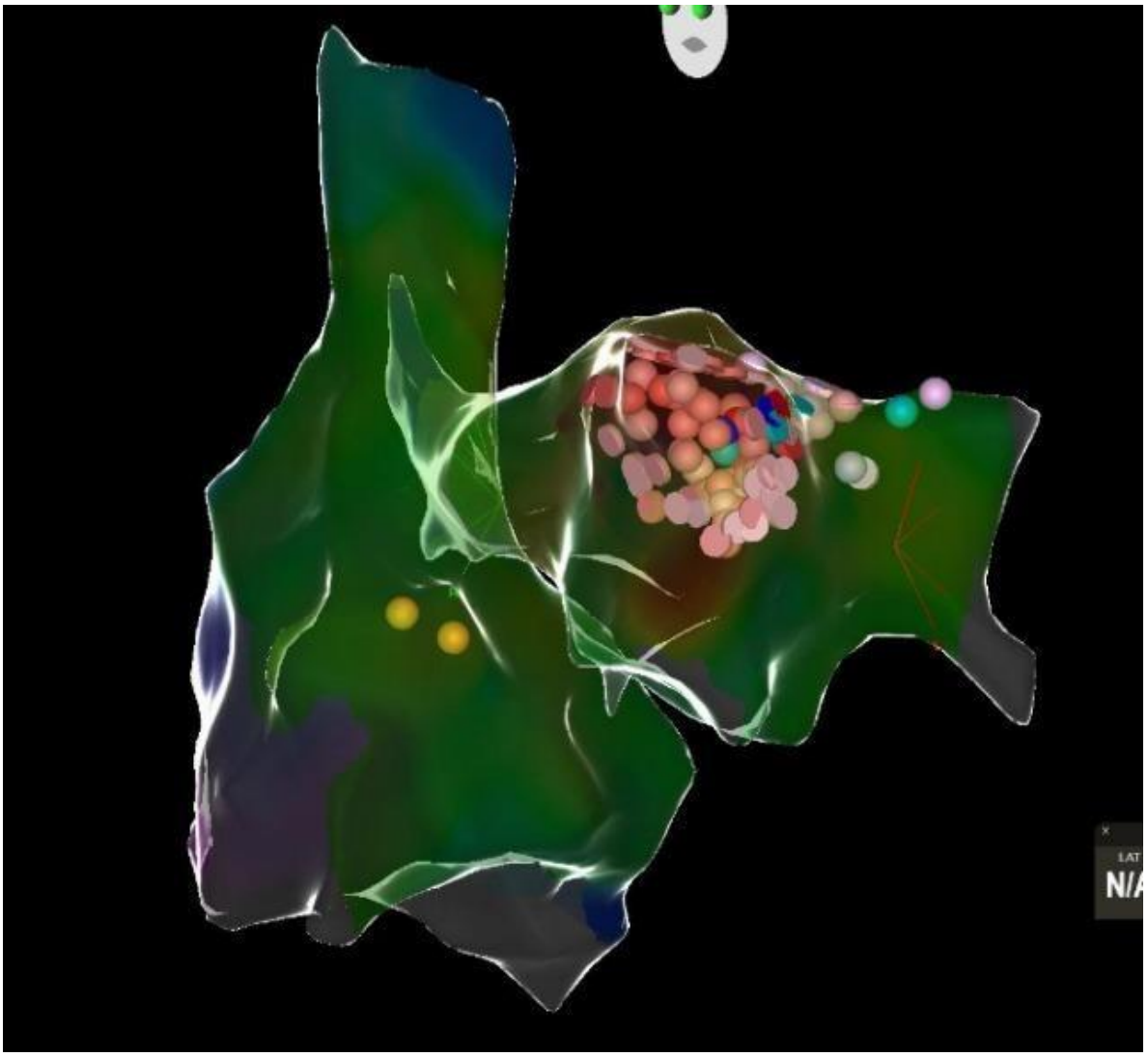
**Corresponding Author (adademir@gmail.com)*

Objective: Focal atrial tachycardia arising from the left atrial appendage is less frequently encountered in clinical practice. Catheter ablation of this focal tachycardia is the main treatment and has a high success rate. Surgical radiofrequency isolation plus external closure of the appendage is an option in patients' refractory to catheter methods.

Methods: An 18 year old male patient was admitted to our hospital with a diagnosis of tachycardia induced cardiomyopathy (Ejection Fraction %35). His electrophysiological study revealed a centrifugal activation pattern in the left atrial appendage where local atrial activation was 105ms earlier than distal coronary sinus. Sinus rhythm was not achieved despite multiple attempts (Figure 1). Surgery was planned to isolate the source of refractory arrhythmia.

Results: Left atrial appendage of the patient was electrically isolated by using AtriCure® Synergy Ablation Clamp through left anterior mini-thoracotomy. Sinus rhythm was restored right after successful isolation. AtriClip® PRO Device was used to externally exclude the left atrial appendage in order to eliminate possible thrombus formation in isolated appendage.

Conclusions: Surgical ablation methods are valid and successful options in patients who are refractory to medical and catheter methods. Dedicated arrhythmia teams (Cardiologists, electrophysiologists and cardiac surgeons) have the potential to increase patients' outcomes.



ID: **633**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **Oral**

INAPPROPRIATE SINUS TACHYCARDIA IN A CHILD WITH WOLF PARKINSON WHITE SYNDROME AFTER SUCCESSFUL RADIOFREQUENCY ABLATION TREATMENT

Nuh Yilmaz, Onur Kaypaklı, Haşim Acartürk, Servet Kartal

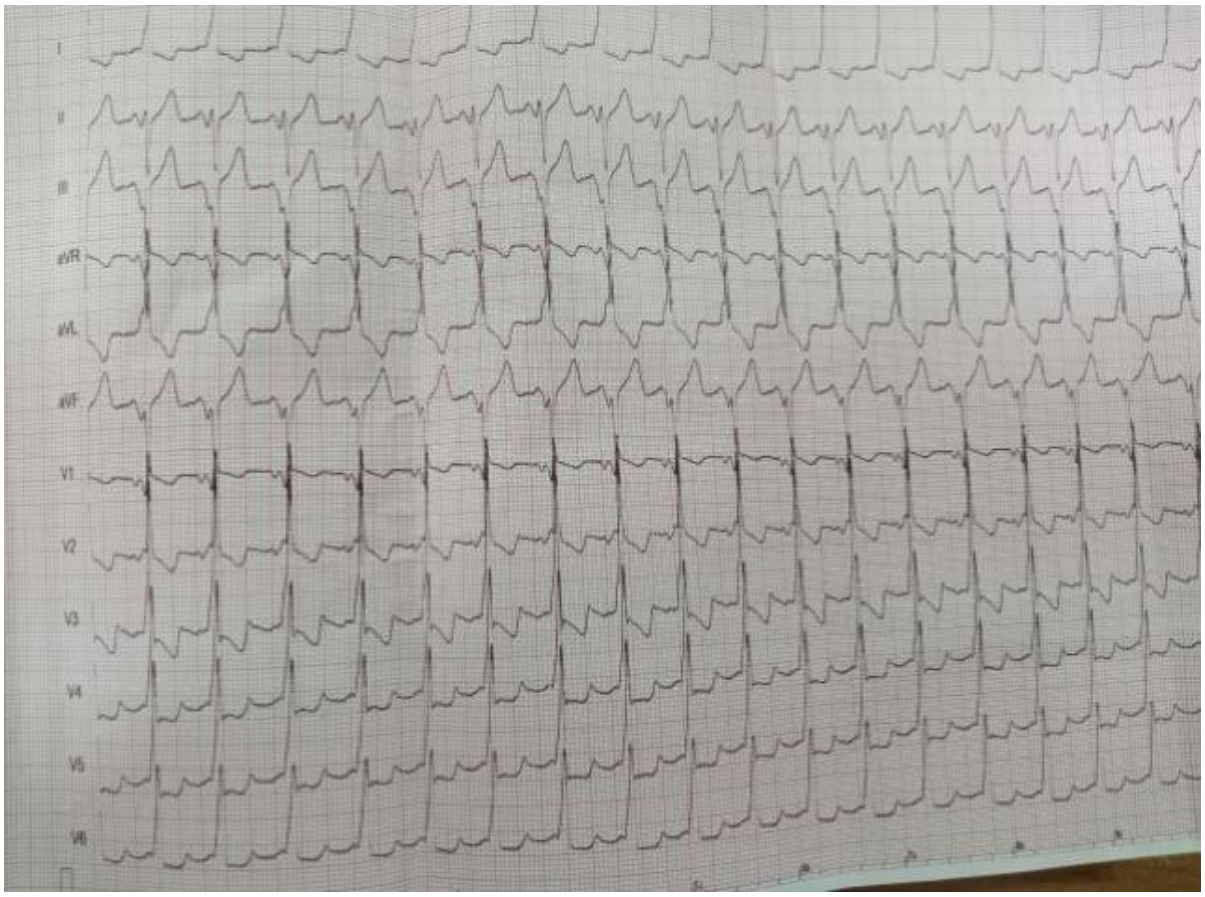
Hatay Mustafa Kemal University, Hatay, Turkey

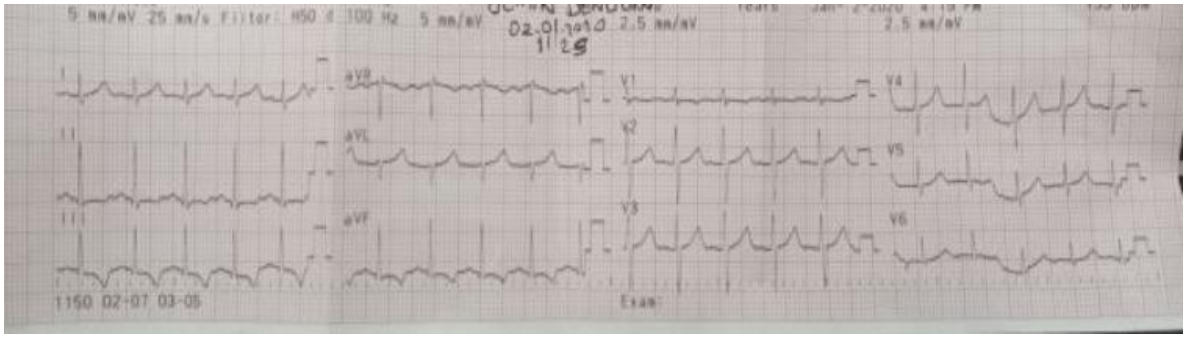
**Corresponding Author(nuhyilmas@gmail.com)*

Background
Inappropriate sinus tachycardia is a sinus tachycardia that develops without any other underlying cause. It can rarely develop in patients with arrhythmia who have been performed radiofrequency catheter ablation. In this article, we present a pediatric patient with Wolf Parkinson White syndrome who developed inappropriate sinus tachycardia after radiofrequency catheter ablation for two separate accessory pathways, right posterolateral and aortic annulus.

Case
A seven years male patient was admitted to pediatric cardiology unit for complaint of intermittent chest pain and palpitation that has been continuing for the last three months. Complaints of the patient was gradually increasing last ten days. Laboratory test and electrocardiography showed a high levels of Troponin-I (0,21) and elevation of ST segment on these derivation of DII-DIII-AVF, and depression of ST on V2-6. Additionally, delta waves were detected according to Wolf-Parkinson-White syndrome. His echocardiographic examination was found normal. Coronary angiography that performed due to high level of Troponin-I, approximately ten times higher of upper normal limit, revealed that there was no coronary obstruction. On his electrophysiologic study two accessory pathway, right posterolateral and aortic annulus, was found and ablated successfully. After a day, delta wave disappeared but a sinus tachycardia with the heart rate reaching 134 beats/min at rest was realized. A single dose 1mg/kg metilprednizolon administered via intravenous route. Investigations applied to underlying cause such as fever, respiratory distress, complete blood count, comprehensive biochemistry tests, chest x-ray, thyroid tests, medication used, pain, anxiety, were found as negative. Therefore, inappropriate sinus tachycardia diagnosed and B Bloker treatment, propranolol 1-2 mg/kg/d, was started to the patient. After one week follow-up, he had normal heart rate and he was asymptomatic. The treatment duration was planned as 6 months.

Conclusion
Inappropriate sinus tachycardia developing after radiofrequency catheter ablation is a rare condition. The causes of this situation have not yet been clearly defined. This is thought to be related to damage due to RF ablation on intracardiac parasympathetic system, and hence the increase of the sympathetic tonus of the local heart. Spontaneous recovery could be achieved in 6 months in some patients with no symptoms, and B Blocker agents have been recommended in symptomatic patients. Additionally, ivabradine therapy is also recommended for medical treatment in symptomatic patient with inappropriate sinus tachycardia t but in interventional therapy, the treatment of choice may be sinus node ablation or modification.


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ID: **630**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

ASSESMENT OF TOTAL ATRIAL CONDUCTION TIME IN PATIENTS WITH ATRIOVENTRICULAR NODAL REENTRANT TACHYCARDIA AND CONTROL SUBJECTS

Umut Kocabaş[1], Can Hasdemir[2]

[1]*Başkent University Istanbul Hospital, Istanbul, Turkey*

[2]*Ege University, School of Medicine, Izmir, Turkey*

[*]*Corresponding Author (umutkocabas@hotmail.com)*

Background: Most forms of atrioventricular nodal reentrant tachycardia (AVNRT) are created by reentry between 2 (or more) atrial connections to the AV node. Atrial vulnerability and structural remodeling that leads to reentrant circuits in AVNRT is largely unknown. PA-TDI interval assessed by tissue Doppler imaging is a useful technique to determine total atrial conduction time (TACT) which reflects atrial remodeling and arrhythmic substrate.

Purpose: In this prospective study, we aimed to assess TACT in patients with AVNRT and control subjects.

Methods: Study population consisted of 62 consecutive patients (age 44 ± 12 years; 74% women) undergoing electrophysiological study and ablation for symptomatic, drug-resistant AVNRT and 42 age and sex matched control subjects. All patients and control subjects underwent tissue Doppler imaging for assessment of TACT.

Results: PA-TDI interval was longer in patients with AVNRT compared to control subjects (121 ± 13 ms vs 105 ± 11 ms; P <0.001). PA-TDI interval was significantly correlated with P-wave duration on the surface ECG (r = 0.23; P = 0.02). Left atrial volume index and left atrial phasic functions were similar in patients with AVNRT and control subjects.

Conclusion: TACT is prolonged in patients with AVNRT. Further studies are needed to determine the underlying factor(s) such as AVNRT that leads to prolonged atrial conduction time.

ID: **624**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

A COMPARISON N-BUTYL CYANOACRYLATE AND RADIOFREQUENCY ABLATION IN TREATING VARICOSE VEINS IN THE SAME PATIENT

Orhan Bozoglan

Gaziantep University, Gaziantep, Turkey

**Corresponding Author (orhanbozoglan1975@hotmail.com)*

Abstract

Purpose: To compare N-butyl cyanoacrylate (NBCA) and radiofrequency venous ablation (RFA) in different legs in the same patients with venous insufficiency.

Methods: Sixty patients with bilateral saphenous vein insufficiency between January 2017 and December 2018 were included in the study. Patients with a saphenous vein diameter less than 5.5 mm at the saphenofemoral junction (SFJ) were also excluded. Patients were classified on the basis of Clinical Severity, Etiology, Anatomy and Pathophysiology (CEAP) before the procedure began. Venous clinical severity score (VCSS) values based on scoring of preprocedural clinical symptoms and findings were recorded. NBCA or RFA was applied to one of the patient's legs and the remaining procedure, RFA or NBCA, to the other leg.

Results: Minor complications in NBCA and RFA were hyperemia at 20.7% and 31.0%, ecchymosis at 31.0% and 51.7% and edema at 27.6% and 65.5%, respectively. The rate of recanalization was 6.8% in the NBCA group. No recanalization was observed in the RFA group. The level of patients satisfied with NBCA was 51.7%, compared to 31.0% for RFA, while 17.2% of patients were satisfied with both the procedures. Times to return to daily activity were 0.9 days in the NBCA group and 1.3 days in the RFA group. There was no statistically significant difference between the groups in terms of pain during the procedure or postoperatively. Less pain was reported in the NBCA during both ($P < 0.02$).

Conclusion: The NBCA procedure may be superior to RFA in certain respects.
Keywords: Varicose veins, N-butyl cyanoacrylate, Radiofrequency ablation

Oral Presentation Session

Clinical and Epidemiologic Features of Atrial Fibrillation: New Insights

Date: 14.03.2020 Time: 13:00 – 14:00 Hall: 5

ID: **339**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

THE PREDICTIVE VALUE OF PRECISE-DAPT SCORE FOR THE THROMBOGENIC MILIEU IN LEFT ATRIUM AND LEFT ATRIAL APPENDIX IN THE PATIENTS WITH ATRIAL FIBRILLATION

Hasan Can Konte[1], Elif Hande Ozcan Cetin[2], Serkan Cay[2]

[1]ankara kahramankazan hamdi eris state hospital, ankara, Turkey

[2]ankara city hospital, ankara, Turkey

[*]Corresponding Author (hcankonte@gmail.com)

Introduction and Aim: Atrial fibrillation (AF) is the most common arrhythmia in the clinical practice. In AF patients, the assessment of thromboembolic risk and the initiation of anticoagulant therapy to appropriate patients play critical role in management of these patients. Current guidelines recommend to use CHA2DS2VASC score in evaluation of thromboembolic risk. However, the effectiveness of this score has been questioned recently. This situation requires new risk indicators. Although PRECISE-DAPT score was initially constituted to determine the duration of dual antiplatelet therapy in patients with PCI, current studies have reported that this score may also predict thrombotic events. In this study, we aimed to evaluate the effectiveness of PRECISE-DAPT score to predict thrombogenic milieu by comparing with CHA2DS2VASC score in non valvular AF patients whom referred TEE before AF ablation procedure.

Method: 428 patients were included in the study. The presence of grade 2-3 SEC and thrombus in left atrium and/or left atrial appendage were accepted as thrombogenic milieu. The patients were divided into two groups according to the presence of thrombogenic milieu. In addition, we constituted three groups as grade 0-1 SEC group, grade 2-3 SEC group and thrombus group to evaluate the parameters in detail.

Results: Grade 2-3 SEC was found in 36 patients and thrombus was detected in 24 patients. 60 patients were included to the thrombogenic positive (artı) group while 368 patients were included to thrombogenic milieu (-) group. PRECISE-DAPT and CHA2DS2VASC scores were higher in thrombogenic positive (artı) group in multivariate logistic regression analysis, PRECISE-DAPT score was found to be an independent predictor of thrombogenic milieu (OR: 1.145, CI:1.083-1.211, p<0,001). The comparison of ROC curves was shown that PRECISE DAPT score was higher area under curve than CHA2DS2VASC score, 0,745 and 0,649 respectively.

Conclusion: In our study, in patients performed TEE before AF ablation, PRECISE-DAPT score was found to be an independent predictor for thrombogenic milieu presented as high grade SEC and thrombus, there by thromboembolic risk. PRECISE-DAPT score seems to be more effective than CHA2DS2VASC score. In AF patients, PRECISE-DAPT score may provide additional benefit in assessment of thromboembolic risk, thus enabling a more individual and accurate anticoagulation decision in these patients.

Key words: AF, PRECISE-DAPT, SEC ve thrombus

ID: **189**

Topic: **Cardiology » Management of Atrial Fibrillation**

Presentation Type: **Oral**

EVALUATION OF DIFFERENCES IN DEMOGRAPHIC AND CLINICAL PARAMETERS BETWEEN PATIENTS WITH PAROXYSMAL AND PERSISTENT/PERMENANT ATRIAL FIBRILLATION IN SOUTH-EASTERN REGION OF TURKEY

Fethullah Kayan [1], Faruk Ertaş[2], Alper Kepez [3]

[1]*Kızıltepe State Hospital, Mardin, Turkey*

[2]*Dicle University Faculty of Medicine, Diyarbakir, Turkey*

[3]*Marmara University Faculty of Medicine, Istanbul, Turkey*

[*]*Corresponding Author (fethullahkayan@hotmail.com)*

Objective: The aim of the present study is to investigate the differences in demographic and clinical findings of patients with paroxysmal and permenant/persistent atrial fibrillation in south-eastern region of Turkey

Methods: Two-hundred consecutive patients without exclusion criteria who had admitted to cardiology clinic of an university hospital with the diagnosis of AF between January 2012 and October 2013 constituted our study population. Patients with valvular AF were excluded from the study. Demographic and clinical data of the patients were retrospectively reviewed from patient files.

Results: Clinical and demographic findings of patients with paroxysmal and persistent/permanent AF are persented on table 1. Patients with persistent/permanent AF were older and higher prevalence of congestive heart failure, ischemic dilated cardiomyopathy, history of stroke/transient ischemic attack (TIA). There were no significant differences between groups regarding body-mass index and prevalence of hypertension, diabetes and coronary artery disease. CHA2DS2 VASc score of patients with persistent/permanent AF was significantly higher compared to patients with paroxysmal AF.

Conclusion: Patients with persistent/permanent AF displayed a higher clinical risk profile compared to patients with paroxysmal AF in our study. Persistent/permenant atrial fibrillation may be considered as a representative of the higher risk of the patient and therapy should be intensified with special emphasis on anticoagulation.

Table-1 : Clinical and demographic findings of patients with paroxysmal and persistent/permanent AF

Parameter	Paroxysmal AF	Persistent/Permanent AF	p value
Age (years)	63.9 ± 12.4	70.6 ± 10,9	<0.001
Gender (male, %)	23 (41.1%)	61 (42.4%)	NS
Body-mass index (kg/m^2)	27.9 ± 6.4	28.3 ± 5.7	NS
Congestive heart failure (n, %)	11 (19.6%)	62 (43.1%)	0.002
Hypertension (n, %)	34 (60.7%)	100 (69.4%)	NS
Diabetes mellitus (n, %)	8 (14.3%)	36 (25%)	NS
History of Stroke/TIA (n, %)	2 (3.6%)	21 (14.6)	0.028
Coronary artery disease (n, %)	22 (39.3%)	69 (47.9%)	NS
Smoking habitus (n, %)	12 (21.4%)	18 (12.5%)	NS
Ischemic dilated cardiomyopathy (n, %)	5 (8.9%)	31 (21.5%)	0.03

Nonischemic dilated cardiomyopathy (n, %)	2 (3.6%)	16 (11.2)	NS
Hypertrophic cardiomyopathy (n, %)	0 (0%)	1 (0.7%)	NS
Hyperthyroidism (n, %)	5 (8.9%)	13 (9%)	NS
CHA2DS2 VASc score	2.7 ± 1.7	3.8 ± 1.6	<0.001

ID: **316**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

ASSOCIATION OF OBSTRUCTIVE SLEEP APNEA WITH POSTOPERATIVE ATRIAL FIBRILLATION IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

Süha Çetin[1], Erik Thunström[2], Yüksel Peker[3]

[1]*Okan University Hospital, Istanbul, Turkey*

[2]*University of Gothenburg, Gothenburg, Sweden*

[3]*Koç University, Istanbul, Turkey*

[*]*Corresponding Author (ceramos3@gmail.com)*

OBJECTIVE

Postoperative Atrial Fibrilation (POAF) is known to occur up to 33% after coronary artery bypass grafting (CABG) operations. Obesity is suggested to be one of the contributing factors for POAF following CABG. Obstructive sleep apnea (OSA) is also common in patients with coronary artery disease (CAD), and may contribute to POAF, since obesity and OSA co-exist. We aimed to adress the relationship between OSA and POAF in a subcohort of revascularized CAD patients undergoing CABG.

METHODS

This was a secondary analysis of the RICCADSA (Randomized Intervention with CPAP in Coronary Artery Disease and Obstructive Sleep Apnoea) trial, conducted in Sweden between 2005 and 2013. Among 511 revascularized CAD patients, 124 underwent CABG, followed by a home sleep study, in average 73±30 days after the operation. OSA was defined as an apnea-hypopnea index (AHI) of at least 15 events per hour, and non-OSA as an AHI below 5 events per hour. Severe OSA was defined as an AHI of at least 30 events per hour. Postoperative AF was defined as a new-onset AF occurring within 30 days following the CABG. A logistic regression analysis was used to determine variables associated with POAF, in which a stepwise backward model was used (variables with P>0.20 were removed).

RESULTS

After excluding eight patients with chronic AF, 116 remained as the final study population. In all, 99 (85.3%) had OSA, and 17 (14.7%) no-OSA. POAF was observed among 42 (36.2%), of whom 40 in OSA (40.4%) vs 2 in no-OSA (11.8%) (p=0.023). The frequency of POAF was higher with increasing OSA severity (48.9% in severe OSA). There was significant association between OSA and POAF (Odds Ratio [OR] 4.8, 95% Confidence Interval [CI] 1.0-22.6; p=0.048) independent of age, gender, body-mass-index (BMI), current smoking, hypertension, diabetes, and lung disease. Severe OSA was associated POAF with an OR of 7.1 (95% CI 1.4-35.6; p=0.018) in multivariate analysis. Age and diabetes mellitus, but not BMI and other variables, were associated with POAF in this cohort.

CONCLUSIONS

Our results suggest that OSA may contribute to POAF in patients undergoing CABG. Whether or not a sleep study to screen patients who will undergo CABG for OSA, and subsequently treat with continuous positive airway pressure before the surgical intervention may decrease the risk for POAF needs to be further evaluated.

ClinicalTrialRegistration: clinicaltrials.gov NCT00519597.

Acknowledgements: The study was funded by the Swedish Research Council, Swedish Heart and Lung Foundation, and ResMed Foundation.

ID: **131**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

APPROPRIATENESS OF THE USE OF NON-VITAMIN-K ANTAGONIST ORAL ANTICOAGULANTS (NOACS) IN A TURKISH POPULATION OF PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION IN SAFRANBOLU REGION- A SINGLE CENTER REGISTRY STUDY

Ali Osman Yıldırım[1], Seyit Ali Kayış[2]

[1]*Safranbolu Public Hospital, Karabük, Turkey*

[2]*Karabük University Medical School, Karabük, Turkey*

[*]*Corresponding Author (yldrm.aliosman@yahoo.com)*

ABSTRACT

Backgraund

Aim of this study is to determine appropriateness of the use of Non-Vitamin-K Antagonist Oral Anticoagulants (NOACs) in patients with non-valvular atrial fibrillation in Safranbolu Region in Turkey.

Methodes

Electronic medical records of 425 patients with non-valvular atrial fibrillation who visited Safranbolu Public Hospital Cardiology Outpatient Clinic between November 2017 and November 2018 was examined. 234 patients who take NOACs were included to this study.

Results

Out of 155 patients who used rivaroxaban, edoxaban or apixaban; 41(26.4%) of them found to be incorrectly take lower dose while 6 (%4) of them incorrectly take high dose, 108 patients correctly take proper dose. The patients who incorrectly take lower and higher doses are older than the patients who take proper dose [median (min.-max.); 78 (53,88) years 78 (75,80) years and 73 (50,94) years, respectively, P:0.018]. No statistically significant difference found between the groups for CHA2DS2-VASc, HAS-BLED scores, body weights, and serum creatinine levels
Out of 79 patients who used dabigatran 37 (47 %) of them found to take lower dose while 42 (53 %) of them take high dose. The patients who take lower doses are older than the patients who take higher dose [median (min.-max.); 78 (59,91) years and 72 (60,85) years, respectively P: <0.001].

Out of 145 patients who used dabigatran or apixaban 29 (20%) of them found to take incorrectly one time daily. Out of 29 patients, 16 patients did not finished any school, 13 patients were graduated from primary school [P:0.011].

Conclusion

Low dose NOACs are incorrectly prescribed more than high doses. This indicates that physicians care about bleeding than stroke risk. Age of patient is an important factor to prescribe improper NOACs dose. Educational level of patients is important for their correct drug usage.

Keywords: Non-valvular atrial fibrillation, Non-vitamin K antagonist oral anticoagulants, NOACs

ID: **104**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

THE EFFECT OF RCA MORPHOLOGY ON PREDICTING ATRIAL FIBRILLATION RISK

Özge Özcan Abacıoğlu

Adana City Research and Training Hospital, Adana, Turkey

**Corresponding Author (ozgeozcan83@yahoo.com.tr)*

Background: Right coronary artery (RCA) has two anatomical variations detected on coronary angiography namely C-shaped and sigma shaped RCA. It is known that C-shaped coronary artery is associated with more atherosclerotic disease but there has not been any study showing whether there is a difference between these variations in terms of susceptibility to atrial fibrillation. The aim of this study is to determine if there is an increased risk in one of these variations or not.

Methods: A total of 124 participants with normal coronary arteries in coronary angiography were included in our study. 56 had sigma shaped (45%) and 68 had C-shaped right coronary artery. P maximum (p max), p minimum (p min), p wave dispersion and p terminal force were calculated from electrocardiography. 24 hour holter monitoring was performed for detecting any arrhythmias.

Results: We determined prolonged p max, p min, p wave dispersion (PD) in sigma shaped right coronary artery patients and also abnormal p terminal force at 62% of those. There was a statistically significant difference between all of the electrocardiographic parameters. In C-shaped coronary artery group 2 of the patients had paroxsymal atrial fibrillation in holter monitoring while in sigma shaped 8 of them had (p=0,021).

Conclusion: Right coronary artery morphology can be used to determine the risk of atrial fibrillation.

ID: **101**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

THE EFFICACY OF SWITCHING ANTIARRHYTMIC DRUGS IN LONE ATRIAL FIBRILLATION PATIENTS

Oguzhan Ekrem Turan[1], **Burcu Kodal**[2]

[1]*Karadeniz Technical University, Trabzon, Turkey*

[2]*Karadeniz Technical University, Trabzon, United States*

[*]*Corresponding Author (oguzhanekrem@gmail.com)*

OBJECTIVE: Several studies have shown amiodarone infusion is effective acute cardioversion of atrial fibrillation (AF). Due to high incidence of side effects clinicians may prefer switching antiarrhythmic drugs (AADs) on chronic therapy. It is not known whether the efficacy of switching AADs to AF recurrence.

METHODS: The study population consist of lone AF patients who underwent cardioversion (spontaneous, medical or electrical) by scanning the hospital database. 35 patients were identified. In addition, patients who were continuing AADs treatment after cardioversion were included in the study. In the follow-up, recurrent AF was defined as patient had documented AF in 12 lead electrocardiography and/or 24 hour holter monitoring. Patients were divided into two groups as recurrent AF (n=19) and non-recurrent AF (n=16).

RESULTS: Total follow up duration was 36.9±40.5 (1-125) months. Patients mean age was 32±6.5 and 28 (80%) was male. At this time interval 19 (54.3%) patients developed recurrent AF under AADs therapy. At the beginning 6 (17.1%) patients spontaneously, 4 (11.4%) patients electrically and 25 (71.4%) patients medically cardioverted. Medical cardioversions provided with amiodarone infusion (n=15, 60%, propafenone HCL infusion (n=9, 36%), intravenous beta blockers (n=1, 4%). Of the 15 patients, 3 were changed from propafenone to amiodarone, 2 from amiodarone to propafenone, 1 from amiodarone to beta blocker oral maintenance therapy. There was no statistically significant difference in AF recurrence between switch and non-switch group (p=0.4). Only male gender was associated with AF recurrence (62.5 vs 37.5 %, p=0.01)

CONCLUSIONS: AF recurrence rate is high with AADs treatment at a mean follow-up of 3 years. Switching AADs does not affect the development of AF recurrence.

ID: **546**

Topic: **Cardiology » Stroke prevention in Atrial fibrillation**

Presentation Type: **Oral**

THE ASSOCIATION OF NON-0 BLOOD GROUPS WITH SPONTANEOUS ECHO CONTRAST. IS THERE A PLACE FOR "A" BLOOD GROUP AT THROMBOEMBOLIC RISK SCORES IN ATRIAL FIBRILLATION

Elif Hande Özcan Çetin[1], **Hasan Can Könte**[2]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Kahramankazan State Hospital, Ankara, Turkey*

[*]*Corresponding Author (dr.elifhande@gmail.com)*

Introduction: Non-O blood groups have an association with a higher risk of the arterial and venous thrombosis owing to the relation of non-O blood groups with vWF and FVIII levels. Spontaneous echo contrast (SEC) as a manifestation of red cell aggregation, constitute a risk for thromboembolism and mortality. We aimed to assess the relation of ABO blood groups with SEC formation in non-valvular AF patients.

Materials and methods: 349 patients who were diagnosed as non-valvular AF and performed TEE before cardioversion or AF ablation procedure between 2010-2015, were included. The patients were categorized into two groups as non-O blood groups (228 patients) and 0 blood group (121 patients).

Results: Non-O blood groups had higher SEC prevalence than O blood group (30.6% vs 43.4% p=0.019). In the subgroup analysis, A blood group had higher SEC prevalence than other groups (49.3% p=0.013). CHA2DS2VASc score was correlated with the grade of SEC (β=0,534 p<0.001). Also, A blood group was quantified as an additional risk factor and incorporated into CHA2DS2VASc score by adding 1 point. New score was significantly correlated with SEC grade (β=0.577 P<0.001). In ROC analyses, a cut of value 1.5 score for new risk score has 61.8 % sensitivity and 71.4 % specificity for prediction of SEC with a higher area under the curve comparing with CHA2DS2VASc score (AUC=0.739 and AUC=0.697, respectively).

Conclusion: In conjunction with other risk factors, non-O blood types, especially A blood type, were demonstrated as independent predictors of SEC in non-valvular AF. Our study proposed A blood group as an additional risk factor to traditional risk scores for thromboembolism. There is a necessity of prospective, larger studies to evaluate the effect of blood groups on thromboembolic events

ID: **547**

Topic: **Cardiology » Stroke prevention in Atrial fibrillation**

Presentation Type: **Oral**

USEFULLNESS OF WHOLE BLOOD VISCOSITY IN PREDICTING SPONTANEOUS ECHO CONTRAST IN PATIENTS WITH ATRIAL FIBRILLATION

Elif Hande Özcan Çetin[1], **Hasan Can Könte**[2]

[1]*Ankara City Hospital, ANKARA, Turkey*

[2]*Kahramankazan State Hospital, ANKARA, Turkey*

Introduction: Spontaneous echo contrast (SEC), as a prognostic indicator of cardioembolism, occurs due to the interaction between erythrocytes and plasma proteins in low-velocity blood stream. The major determinant of this interaction, the blood viscosity has not been adequately investigated. We aimed to assess the relationship between WBV and SEC formation in atrial fibrillation (AF) patients.

Materials and methods: A total of 157 patients with paroxysmal and persistent AF in whom TEE were performed before the cardioversion or ablation procedure were included. Patients were divided into two groups according to the presence of SEC formation; 84 patients (26.2% male, mean age 53.7±11.2) in SEC (+) group and 73 subjects (28.8% male, mean age 50.7±12.8) in SEC (-) group. WBV was extrapolated from hematocrit and plasma protein concentration at low shear rate (LSR) (0.5 sec-1) and high shear rate (HSR) (208 sec-1) by a validated equation.

Results: SEC (+) had significantly higher WBV for both LSR (81.1±15.5 vs 65.6±18.1, p<0.001) and HSR (17.8±1.4 vs 17.2±1.1, p=0.005). Correlation analysis demonstrated a significant relationship between the grade of SEC and WBV for LSR (r=0.512, p<0.001) and HSR (r=0.354, p<0.001). At multivariate analysis, WBV at LSR (OR:1.065, 95% CI: 1.037-1.094) and WBV at HSR (OR:1.444, 95% CI: 1.110-1.880) were independent predictors of SEC (p<0.001, p=0.006 respectively).

Discussion: WBV is a simple, costless and non-invasive test for assessment of blood viscosity. In our study we showed that there was a significant and independent association of SEC formation with WBV especially at LSR. WBV may be a useful parameter in prediction of SEC in management of AF population.

Oral Presentation Session

Value Steps in Interventional Cardiology

Date: 14.03.2020 Time: 14:00 – 15:00 Hall: 5

ID: **52**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

A PROSPECTIVE COMPARISON OF LEFT DISTAL RADIAL ARTERY ACCESS SITE WITH RIGHT AND LEFT FOREARM RADIAL ARTERY ACCESS SITE ON TRANSRADIAL CORONARY ANGIOGRAPHY, WHICH IS THE MOST RELIABLE PROCEDURE?

Mehmet Kış[1], Elton Soydan[2], Mustafa Akın[1]

[1]*Ege Universyt Medicine Faculty, Izmir, Turkey*

[2]*Ege Universty Medicine Faculty, Izmir, Turkey*

[*]*Corresponding Author (drmehmet.kis@hotmail.com)*

OBJECTIVE: Transradial as a new method for coronary angiography (CAG) and interventions has recently increased its popularity. But endothelial dysfunction may occur after transradial CAG. We aimed to investigate the endothelial functions and the most reliable intervention through flow mediated vasodilatation (FMD) test in three different radial access sites: right forearm radial artery, left forearm radial artery and left distal radial artery.

METHODS: Transradial access was used in 70 patients scheduled for CAG and intervention from September 6-th 2017 and March 6-th 2018, prospectively. They were divided into 3 groups: group 1 left forearm radial (17 patients), group 2 left distal radial (27 patients) and group 3 right forearm radial artery (26 patients) access. Flow mediated endothelial functions were measured 3 times; on admission, 24 hours after and 2 months after the procedure. GE Healthcare Vivid E9 11L-D, 4.5-12 MHz linear probe was used for radial artery diameter measurement. Arm cuff inflation till 220 mmHg lasted for 5 minutes. After deflation radial artery diameter and their percentage change was recorded. All the data was evaluated by the IBM SPSS Statistics 21.0 programme. Kruskal Wallis test and Anova test was performed for comparison of variables.

RESULTS: Mean age was 58,8(±12,3) with male predominance 48(68%,5) and hypertension 54(77,1%). diabetes 28(40%) were the most common risk factors. Radial artery diameters and percent change reached the maximum level in the first minute of flow-through dilation test.
In the first 24 hours endothelial function is preserved in left distal intervention group compared to right ($p<0,001$) and left intervention group($p=0,043$).This preservation continued at 2 months after the procedure.
Radial artery thrombosis 6(8,6%),ecchymosis 4(5,7%) and radial artery occlusion 2(2,9%) were seen in patients but there was no statistical difference between the 3 groups. Only one complication(ecchymosis) was seen in the left distal radial artery access site. There was no statistically significant difference between the 3 groups at the time of fluoroscopy and stent implantation.

CONCLUSIONS: The radial artery endothelial function is impaired in the first 24 hours but endothelial function is protected by the attempts made in the distal left access compared to the attempts made by the method right-left conventional. Left distal radial access is a reliable method of angiography intervention with less risk of arterial vasospasm, occlusion, major bleeding, hematoma. Left distal radial coronary angiography is a method of CAG procedure in which patients are highly satisfied and can recommend to their relatives because the treatment comfort is high and the rate of causing pain that disturb daily activity is low.

Figure 1: Radial artery intervention



Figure 2: Study design

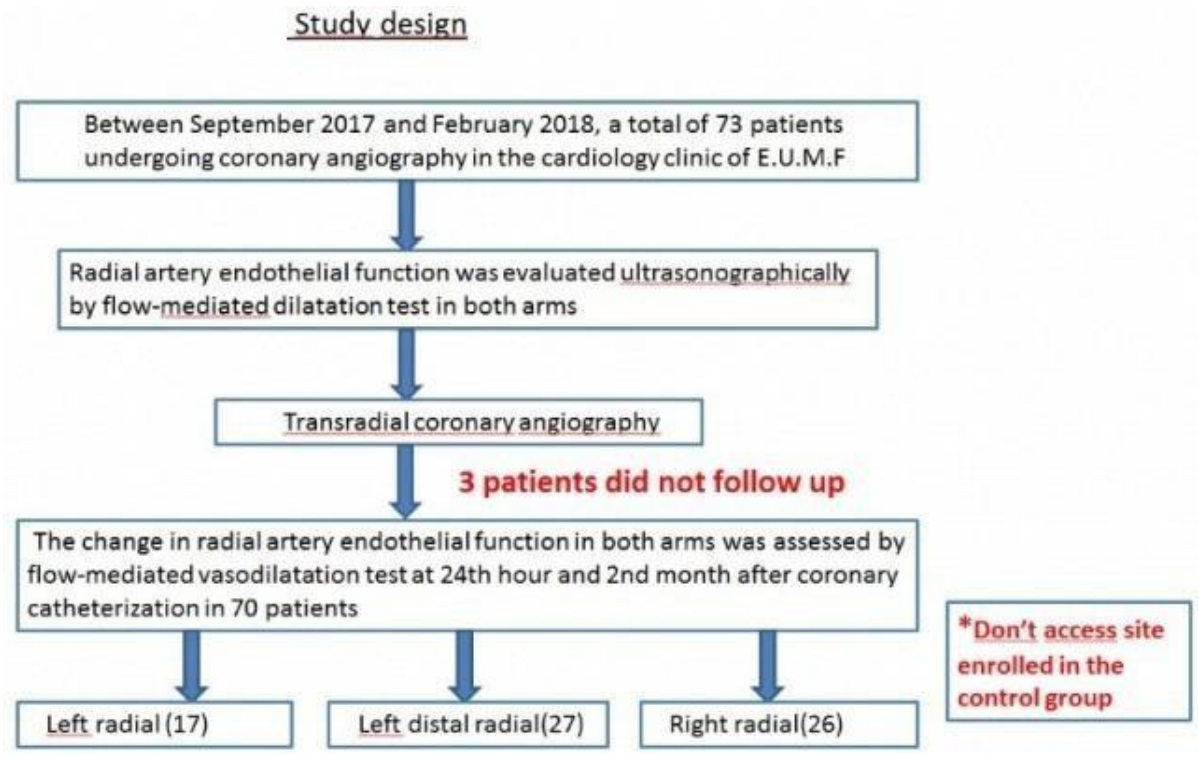


Table 1: Radial artery diameter and FMD change at the time before and after intervention

Radial USG and FMD test time	Left radial artery diameter (Percentage change)	Left distal radial artery diameter (Percentage change)	Right radial artery diameter (Percentage change)	P value

Before angiography	0,30 ±0,02 (13,2 ±2,2)	0,27 ±0,03 (13,66 ±2,16)	0,27±0,02 (12,30 ±3,53)	0,952
After 24 hours	0,32 ±0,02 (6,06 ±3,15)	0,31 ±0,02 (8,59 ±3,39)	0,30 ±0,02 (3,71 ±2,31)	Left distal-left0,043 Left distal Right0,001
After 2. month	0,30 ±0,03 (11,09 ±2,58)	0,28±0,02 (12,10 ±4,24)	0,29 ±0,02 (10,21 ±2,34)	0,079

Figure 3: Radial artery ultrasonography and FMD test



ID: **466**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

EFFECT OF LOCALLY ADMINISTERED NITROGLYCERIN-LIDOCAINE MIXTURE ON THE DEVELOPMENT OF SPASM IN THE RADIAL ARTERY

Murat Turfan[1], Ilker Duman[2], Perviz Caferov[3]

[1]*Memorial Hizmet Hospital, İstanbul, Turkey*

[2]*Kagithane State Hospital, istanbul, Turkey*

[3]*Memorial Hizmet Hospital, istanbul, Turkey*

[*]*Corresponding Author (turphan@gmail.com)*

PURPOSE:

To perform coronary angiography via the radial artery, reduces the complication rate. However, radial artery spasm reduces the success of the procedure. In this study; we aimed to investigate the effect of nitroglycerine administration with local anesthetic agent on radial artery spasm.

METHODS:

The study was designed as prospective and randomized. Patients undergoing transradial coronary angiography were randomized to two groups. The first group (n: 45) received only 2% prilocaine as local anesthesia. In the second group (n: 50), patients received prilocaine and 400 micrograms of nitroglycerine.

RESULTS:

Baseline demographic and clinical characteristics were similar between 2 groups. Nitroglycerin significantly improved the palpability of radial pulse, reduced the number of punctures and shortened the time needed for successful access of radial artery. Radial artery spasm was seen in 4 patients in the first group and in 2 patients in the nitroglycerine group. ($p < 0.001$). Headache and hypotension were similar in both groups.

CONCLUSIONS:

The addition of nitroglycerin to the local anesthetic agent significantly reduces the rate of radial spasm.

ID: **181**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

PHARMACOINVASIVE STRATEGY VERSUS PRIMARY PERCUTANEOUS CORONARY INTERVENTION IN ST-ELEVATION MYOCARDIAL INFARCTION (FROM AN EXPERIENCE OF A TERTIARY CENTER)

Tuncay Kırış, Fatma Kayaaltı Esin

Izmir Katip Celebi University, Ataturk Training and Research Hospital, IZMIR, Turkey

**Corresponding Author (drtkiris@hotmail.com)*

Introduction: It has been shown that the superiority of primary percutaneous coronary intervention (PCI) over fibrinolysis by numerous studies in patients with ST-elevation myocardial infarction (STEMI). Primary PCI is the preferred reperfusion strategy for STEMI after first medical contact. However, timely access to primary PCI remains a major problem due to logistics restrictions and system delays. Therefore, a pharmacoinvasive strategy of fibrinolysis followed by coronary angiography and PCI may be superior to delayed primary PCI in these patients. There are currently limited data regarding the long-term outcomes of pharmacoinvasive strategy compared with primary PCI in STEMI patients. In this retrospective analysis, we aimed to compare the long-term outcomes of patients treated with a pharmacoinvasive or a primary PCI strategy in an experience of a tertiary center.

Methods: 869 patients with STEMI were enrolled in this study. The patients were divided into 2 groups according to the reperfusion strategy: pharmacoinvasive or primary PCI. The primary end point of the study was the occurrence of all-cause mortality. The secondary end points included recurrent MI, target vessel revascularization, heart failure admission, major bleeding, and stroke at follow-up.

Results: Median follow-up was 7.6 (IQR 5.9 to 8.3) and 6.4 (IQR 4.3 to 7.9) years in the pharmacoinvasive and primary PCI groups, respectively. Among patients undergoing reperfusion therapy for STEMI, 71.1% (n = 618) received primary PCI and 28.9% (n = 251) received a pharmacoinvasive agent. Of these, all patients underwent subsequent coronary angiography and PCI. Among patients undergoing a pharmacoinvasive strategy, 19.1% (n = 48) required a rescue/urgent procedure and 80.9% received a scheduled procedure (n = 203). At follow-up, the incidence of all-cause mortality was 24.7% in pharmacoinvasive patients and 29.6% in patients with primary PCI (p = 0.145).

Conclusions: A pharmacoinvasive strategy in patients with STEMI can be a reasonable alternative to primary PCI when primary PCI delay is expected or PCI is not available.

Variables	Pharmacoinvasive strategy (n = 251)	Primary PCI (n = 618)	p-value
Age, years	58.5 ± 11.5	61.2 ± 12.6	0.004
Men n (%)	45(17.9)	163(26.4)	0.008
Smoking n (%)	124 (54.1)	224 (38.8)	<0.001
Hypertension n (%)	107 (46.7)	249 (42.9)	0.318
Diabetes mellitus n (%)	56 (24.6)	142(24:5)	0.991
History of CAD n (%)	38(16.6)	114 (19.8)	0.300
Dyslipidemia n (%)	54 (3.6)	142(18:4)	0.094
Stroke/TIA n (%)	2 (0.9)	26 (4.5)	0.011
Fibrinolytic agent			-
Tenecteplase n (%)	133 (53)		-
Alteplase n (%)	94 (37.5)		-
Retaplaz n (%)	2 (0.8)		-
STK n (%)	22(8.8)		-
Rescue PCI after fibrinolysis n (%)	48 (19.1)		-
Scheduled PCI after fibrinolysis n(%)	203 (80.9)		-
Death from any cause n (%)	62(24.7)	183 (29.6)	0.276
Myocardial re-infarction n (%)	32 (12.7)	72 (11.7)	0.651
Target-vessel revascularization n (%)	50 (19.9)	84 (13.6)	0.019
Heart failure admission n(%)	17 (6.8)	33 (5.3)	0.411
Stroke at follow-up n (%)	7 (2.8)	26 (4.2)	0.321
Bleeding Major n (%) Minor n(%)	 11 (4.4) 10 (4)	 26 (4.2) 18 (2.9)	0.921

ID: **469**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

SERUM AMYLOID A DOES NOT PREDICT STENT RESTENOSIS IN STABLE ANGINA PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION

Ismail Polat Canbolat[1], Alev Arat Özkan[2]

[1]*Demiroglu Bilim University, Istanbul, Turkey*

[2]*Istanbul University-Cerrahpasa, Instute of Cardiology, Istanbul, Turkey*

[*]*Corresponding Author (ismailpolat.canbolat@gmail.com)*

BACKGROUND: Atherosclerosis is the leading cause of death despite improvements in the outcomes of cardiovascular diseases. More patients are surviving their first CVD event and are at high risk of recurrence. Percutaneous coronary intervention (PCI) is the most commonly preferred approach in most patients. In-stent restenosis (ISR), defined as >50% narrowing of stent lumen or coronary artery 5 mm adjacent to stent edges, is a restricting complication of PCI leading to repeat revascularization. Serum amyloid A's (SAA) function as a cytokine-like protein has become recognized in cell-cell communication as well as feedback in inflammatory, immunologic, neoplastic and protective pathways. SAA has a striking relationship to the acute phase response with serum levels rising as much as 1000-fold in 24 hours. In this study, we retrospectively analyzed the effect of clinical, angiographic, and biochemical factors on ISR in patients who underwent PCI for stable angina.

METHODS: Patients who had undergone control angiogram six months after bare metal stent (BMS) and nine months after drug eluting stent (DES) implantation for de-novo lesions were retrospectively analyzed. Gender, age, primary indication for PCI, creatinine, diabetes mellitus (DM), history of coronary artery disease (CAD), history of heart failure, history of cerebrovascular disease, dyslipidemia, tobacco use, and hypertension. In-stent restenosis was defined as >50% narrowing of stent lumen or coronary artery 5 mm adjacent to stent edges.

RESULTS: A total of 216 patients with a median age of 57 years were included in this retrospective study. In-stent restenosis occurred in 74 patients (34.2%) of the entire group. Table 1 compares the clinical, biochemical characteristics of patients with and without ISR. Table 2 compares the stent characteristics of patients with and without ISR. Tobacco usage was significantly more frequent among patients with ISR

	In-stent restenosis (+) N:74	In-stent restenosis (-) N:142	p
Stent diameter (mm)	3.2±0.3	3.3±0,4	0,09
Stent length (mm)	21.2±5.8	19.6±5.6	**0,05**
Drug-eluting stent (1st generation) N/%	16/21.6%	46/32.9%	0,085

. Dyslipidemia was significantly more common in patients without ISR. Serum amyloid A levels were non-significant between groups (SAA: median 18,9 vs 28 mg/L; p:0.83)

CONCLUSIONS: In-stent restenosis rates determined in our study was consistent with the literature. As an inflammatory mark, SAA was not found to be a predictor of ISR in stable angina patients.

	In-stent restenosis (+) N:74	In-stent restenosis (-) N:142	p	
Age (year) mean±SD	58.7±10.6	57.6±9.3	0,437	0,437
Gender (Female) N/%	12/16%	34/23%	0,188	0,188
Hypertension N/%	39/52.7%	87/61.3%	0,226	0,226
Dyslipidemia N/%	32/43.2%	89/62.7%	0,006	**0,006**
Diabetes mellitus N/%	19/25.7%	45/31.7%	0,358	0,358
Tobacco use N/%	47/63.5%	69/48.6%	0,037	**0,037**
eGFR (ml/min) mean±SD	83.4±18.4	84.9±19.3	0,609	0,609
SAA (mg/L) median	17	26	0,724	0,724

ID: **365**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

IMPORTANCE OF MYOCARDIAL DEFORMATION PARAMETERS FOR THE PREDICTION OF THE INFARCT-RELATED ARTERY IN PATIENTS WITH ACUTE CORONARY SYNDROMES

Belma Yaman, Levent Cerit, Hatice Kemal, Hamza Duygu

Near East University Faculty of Medicine, Nicosia, Turkish Republic of Northern Cyprus

**Corresponding Author (belmayaman@yahoo.com)*

Objective: Main treatment modality is early reperfusion therapy with primary percutaneous coronary intervention (PCI) of the culprit lesion in patients with acute coronary syndromes. In our study, we aimed to evaluate the association between myocardial deformation parameters and infarct-related artery occlusion in patients with acute coronary syndromes.

Methods: We prospectively included 50 patients admitted to our hospital with the first attack of acute coronary syndrome and underwent to primary coronary angiography and PCI. In addition to conventional echocardiographic measurements, global longitudinal strain (GLS) of left ventricle (LV), GLS of right ventricle (RV), left atrial strain were analyzed.

Results: Patients were divided into two group according to culprit lesion; group 1 (culprit lesion is LAD), group 2 (culprit lesion is non-LAD). Patients who had LAD occlusion as a culprit lesion were younger than non-LAD group (53.2 ± 11.7 vs 61.5 ± 10.8, p=0.02). As compared deformation parameters, LV GLS was significantly lower in patients with LAD occlusion as aculprit lesion (-12.1 ± 3.5 vs -14.3 ± 3.4, p=0.04). RV GLS was lower in patients with non-LAD occlusion as a culprit lesion (-17.5 ± 6.6 vs -12.6 ± 5.0, p=0.01).

Conclusions: LAD occlusion as a culprit lesion is the most important factor responsible from impairment of Lv GLS and, non-LAD occlusion as a culprit lesion is the most important factor induce impairment of Rv GLS. Myocardial deformation parameters are the valuable predictors of culprit lesion. Also, there was a tight correlation between Syntax score and LV GLS in our study population.

Table 1. Comparison of deformation parameters between two groups

	Culprit lesion LAD (n=18)	Culprit lesion non-LAD (n=32)	p value
LvGLS (%)	-12.1 ± 3.5	-14.3 ± 3.4	0.04
GCS (%)	13.1 ± 5.5	13.8 ± 6.1	NS
RvGLS (%)	-17.5 ± 6.6	-12.6 ± 5.0	0.01
ε s (%)	20.6 ± 6.7	23.3 ± 5.7	NS
ε e (%)	8.5 ± 4.3	10.6 ± 4.5	NS
ε a (%)	12 ± 5.1	12.7 ± 4.1	NS

Oral Presentation Session

Catheter Ablation of Arrhythmias: Clinical Evaluation and Outcomes

Date: 14.03.2020 Time: 15:30 – 16:30 Hall: 5

ID: **21**

Topic: **Cardiology » Management of Atrial Fibrillation**

Presentation Type: **Oral**

CLINICAL EVALUATION OF PAROXYSMAL AND PERMANENT ATRIAL FIBRILLATION PATIENTS IN CARDIAC INPATIENT UNIT

Mahmut Özdemir

Özel Bayrampaşa Kolan Hastanesi, İstanbul, Turkey

**Corresponding Author (dragit56@hotmail.com)*

Aim: Atrial fibrillation (AF), a supra-ventricular arrhythmia, is characterized by a rapid and irregular heart rate, for which electrocardiography is the diagnostic tool. Hypertension is the most common cause of AF. In this study, we aimed to evaluate the paroxysmal AF and permanent AF patients' symptoms, medical history, and clinical characteristics in the inpatient unit.

Methods: 115 patients (30 patients with paroxysmal AF and 85 patients with permanent AF) were enrolled in the study. All patients' detailed histories were taken; physical examination, routine biochemical tests, electrocardiographies, and transthoracic echocardiographies were performed. CHA2DS2-VASc (Congestive heart failure/left ventricular dysfunction, Hypertension, Age ≥75 years, Diabetes Mellitus, Stroke/transient ischemic attack/systemic embolism, Vascular Disease, Age 65-74 years, Sex Category) scores were recorded.

Results: Permanent AF patients were older (70.0 (10.5) vs 61.4 (15.8); P=0.01) and had a lower ejection fraction (41.0 (11.9) vs 53.3 (11.2); P=0.01) than paroxysmal AF patients. CHA2DS2-VASc scores were similar between the two groups (3.0 (1.5) vs 2.7 (1.3); P=0.24). In hematological analysis, prothrombin time (15.3(1.3-106.4) vs 13.6(11.0-75.5); P=0.03) and international normalized ratio (1.2(0.9-16.0) vs 1.1(0.9-6.0); P=0.01) values were higher in permanent AF patients compared to those with paroxysmal AF. Rhythm regulation was performed to paroxysmal AF patients. Rate regulation was performed significantly more frequently in permanent AF patients than paroxysmal AF patients (74(87%)) vs (12(40%)); P=0.01).

Conclusion: This study demonstrated that permanent AF patients had more comorbidities compared to paroxysmal AF patients. Rhythm control was the principal treatment strategy in paroxysmal AF, whereas rate control was the treatment of choice in permanent AF.

ID: **233**

Topic: **Cardiovascular Surgery » Surgical treatment of AF**

Presentation Type: **Oral**

THORACOSCOPIC LEFT ATRIAL POSTERIOR WALL AND PULMONARY VEIN ISOLATION IN PATIENTS WITH LONG STANDING PERSISTENT ATRIAL FIBRILLATION: A SINGLE-CENTER EXPERIENCE

Aleksandr Zotov[1], Sergei Vachev[1], Daniil Borisov[2], Aleksandr Troitskiy[1], Robert Khabazov[1]

[1]*Federal Research Clinical Center, Moscow, Russia*

[2]*A.I. Burnazyan Federal Medical and Biophysical Center, Moscow, Russia*

[*]*Corresponding Author (dborisov.md@gmail.com)*

BACKGROUND: This single-center study was designed to evaluate short-term and medium-term efficacy of totally thoracoscopic left atrial (LA) posterior wall and pulmonary vein isolation combined with LA appendage resection in patients with long standing persistent atrial fibrillation (LSPAF).

METHODS: Ninety patients (male 80%) with LSPAF were included in our study. 37 (41.1%) of them had previous transcatheter ablation performed with no effect on rhythm. Some of patients' characteristics are shown in the Table. All patients underwent totally thoracoscopic LA posterior wall and pulmonary vein isolation combined with LA appendage resection (April 2017 – October 2019). Median duration of AF before the procedure was 38 months (min 14; max 186). We used bipolar clamping device Cardioblate Gemini-S (Medtronic, USA). We modified the original technique known as GALAXY procedure (by Doty et al.) and significantly increased the number of ablations to perform a total of 20 lesions on each side with frequent position changing. We change the curvature of the device after 10 lesions in order to achieve complete conduction block. LA appendage is removed with an Endo GIA stapler (Medtronic, USA).

RESULTS: The procedure was successfully completed, and conduction block was confirmed in all patients. There was no operative mortality, no myocardial infarction. There were one stroke and one transient ischemic attack. Two patients survived median sternotomy (major bleeding and heart dislocation), none of them required cardiopulmonary bypass connection. In two cases, left anterolateral thoracotomy was needed due to bleeding from pulmonary vein. One patient required prolonged ventilation for transient bilateral phrenic nerve palsy (pulmonary function restored 1 week after the procedure). Right phrenic nerve injury was diagnosed in two patients without any signs of recurrent pulmonary infections postoperatively. Median follow-up was 12 months (range, 2-30 months). At last follow-up, 85 patients (94.4%) were in sinus rhythm, as documented by 24-hour Holter monitoring. Beta-blockers and amiodarone were discontinued in sinus rhythm patients after routine examination (24-hour Holter monitoring) 3 months after the surgery. 7 days later, routine examination was repeated in order to exclude cardiac rhythm disorders. Three patients reverted to AF, two patients reverted to atrial flutter. Cardioversions, amiodarone and sotalol were not successful.

CONCLUSION: Totally thoracoscopic left atrial posterior wall and pulmonary vein isolation is a safe procedure which can be effectively used in patients with LSPAF. Frequent position changing and increased number of applications help to achieve complete conduction block, especially in patients with LSPAF.

Duration of atrial fibrillation, months (median [min; max])	38 [14; 186]
Left ventricle ejection fraction, Simpson, % (median [min; max])	50 [35; 64]
Drugs refractory tachycardia (> 90/min), Number of pts (N [%])	49 [54.4%]
Endocardial RFA of pulmonary veins in the past, Number of pts (N [%])	23 [25.5%]
Endocardial RFA of cava-tricuspid isthmus in the past, Number of pts (N [%])	14 [15.5%]

ID: **116**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

LONG-TERM OUTCOMES OF PATIENTS WITH ATRIAL FIBRILIATION UNDERGOING CRYOBALLON CATHETER ABLATION

Ümeyir Savur, Gültekin Günhan Demir M.D, Hacı Murat Güneş M.D, İbrahim Oğuz Karaca M.D, Filiz Kızılırmak M.D, Fethi Kılıçaslan M.D

Gaziosmanpaşa Education Research Hospital, Istanbul, Turkey

Medipol University Faculty of Medicine Department of Cardiology, Istanbul, Turkey

**Corresponding Author (drumeyirsavur@hotmail.com)*

Background: Atrial fibrillation (AF) is the most common arrhythmia encountered in clinical practice and it is associated with an increased risk of mortality and morbidity. Catheter ablation of AF is a favorable therapeutic option for the treatment of patients, who are symptomatic despite antiarrhythmic medication. As an alternative to the radiofrequency ablation cryoballoon method has found widespread application area. Nowadays cryoballoon therapy is being performed efficiently and safely worldwide. The aim of this study was to investigate the long-term (mean 1184 days) follow-up results of AF patients who underwent cryoballoon ablation in our clinic.

Method: In our study; 153 patients who underwent successful cryoballoon ablation for symptomatic AF between 2012 and 2016 were included. The medical records of the patients were retrospectively reviewed. Patients were also investigated for late complications related to the procedure such as stroke, pulmonary stenosis, death occurred during the follow-up period and acute complications related to ablation. Clinical success was defined as freedom from AF, atrial flutter or atrial tachycardia recurrence >30-s following the 3-month blanking period.

Result: 129 patients with paroxysmal AF and 24 patients with persistent AF underwent cryoballoon ablation. Recurrence occurred in 39 (25.4%) patients. In the univariate analysis, female gender left atrial diameter AF type and procedure time were statistically significant in terms of recurrence ($p < 0.05$). In multivariate analysis, AF type ($p = 0.014$; 95% CI: 1.023-1.057) and left atrial diameter ($p = 0.023$; 95% CI: 1.007-1.208) were found to be the most important independent predictors of recurrence. Complications developed in 9 patients (5 patients with transient phrenic nerve paralysis, 1 patient with pericardial tamponade, 1 patient with pseudoaneurysm. 2 patients with transient ischemic attack)

Conclusion: Pulmonary vein isolation (PVI) with cryoballoon is safe and effective treatment option of symptomatic AF. Left atrial width and AF type were found to be the most important independent predictors for recurrence after cryoablation.

ID: **150**

Topic: **Cardiology » Management of Atrial Fibrillation**

Presentation Type: **Oral**

THE IMPACT OF ATRIAL FIBRILLATION ABLATION ON ECHOCARDIOGRAPHIC PARAMETERS: SINGLE CENTER EXPERIENCE

Baris Akdemir[1], Enes Gul[2]

[1]*Bahcesehir University, istanbul, Turkey*

[2]*Madinah Cardiac Center, Madinah, Saudi Arabia*

[*]*Corresponding Author (barisakdemir75@hotmail.com)*

INTRODUCTION: It is known that atrial fibrillation catheter ablation provides clinical improvement in patients. Positive effects of catheter ablation in patients with impaired cardiac function have also been proven in recent studies. The aim of our study is to show the effect of catheter ablation on echocardiographic parameters.

METHODS: Ninety-seven consecutive patients diagnosed with AF were included in the study. Basal and 6th month echocardiographic data of the patients were compared. Echocardiographic data of patient groups with or without recurrence were also compared.

RESULTS: The mean age of 97 patients included in the study was 65.2 ± 8.6 years. The majority of the patients was paroxysmal AF patients (50/97, 51%). The mean LVEF of the patients was found 48.7 ± 11.4%. Left ventricular ejection fraction (LVEF) increased statistically significant compared to the basal value in the 6th month (53.1 ± 10.1 and 48.7 ± 11.6, p = 0.001). No significant difference was shown among the other values. Moreover, a statistically significant increase was observed in LVEF values of the patients without recurrence in the comparison of their basal and 6th-month values. (48.3 ± 12.2 and 54.4 ± 9.9, p = 0.008). D

CONCLUSION: AF catheter ablation was observed to have positive effects on LVEF and partly on LVESD. Large-scale randomized studies are required to detect its clinical repercussion.

ID: **148**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

ONE-YEAR OUTCOME FOLLOWING THE CATHETER ABLATION OF ATRIAL FIBRILLATION: SINGLE-CENTER EXPERIENCE

Baris Akdemir[1], Enes Gul[2]

[1]*Bahcesehir University, Istanbul, Turkey*

[2]*Madinah Cardiac Center, Madinah, Saudi Arabia*

[*]*Corresponding Author (barisakdemir75@hotmail.com)*

Background: Catheter ablation is a cornerstone treatment strategy in atrial fibrillation (AF). We sought to investigate the impact of catheter ablation on recurrence rate of AF.

Methods: Ninety-seven consecutive patients diagnosed with AF were included in the study. Demographic and echocardiographic parameters were obtained at the beginning of study. Results were straified according to presence and absence of recurrence. Predictors of AF recurrence were also assessed.

Results: The mean age of 97 patients included in the study was 65.2 ± 8.6 years. The distribution of patients with paroxysmal and persistent AF was comparable (50 vs. 47 patients, respectively). The majority of the patients was paroxysmal AF patients (50/97, 51%). The mean LVEF of the patients was found 48.7 ± 11.4%. Analysis of patients with and without recurrences revealed that baseline demographic and echocardiographic parameters were comparable among the groups. Recurrence rate of patients with paroxysmal and persistent AF were also comparable. Only LVEF was slightly lower in patients with AF recurrence compared to without AF recurrence (p=0.09). Left atrial diameter, LVEDD, and the presence of persistent AF showed a trend to predict AF recurrence, however this did not reach statistical significance.

Conclusions: Despite technological improvements recurrence rate of AF still remains high. Further improvements and new approaches should be tested in large-scale randomized studies in order to improve outcome of catheter ablation of AF.

Oral Presentation Session

STEMI in 2020

Date: 14.03.2020 Time: 16:30 – 17:30 Hall: 5

ID: **392**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

ANTIINFLAMMATORY EFFECT OF TICAGRELOR IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Sinan Saymaz, Murat Sunbul, Altuğ Çinçin, Emre Gürel, Nurten Sayar, Beste Ozben, Kürşat Tigen

Marmara University, Istanbul, Turkey

Corresponding Author (sinansaymaz@gmail.com)

BACKGROUND

Ticagrelor is an antiplatelet agent with proven pleiotropic effects. It is believed to exert these effects through adenosine and nitric oxide-related mechanisms and is known to improve endothelial function and exhibit anti-inflammatory activity. Leucocyte count is a very inexpensive and widely used method for observing systemic inflammatory response. Therefore, many studies investigating the anti-inflammatory efficacy of ticagrelor have performed white blood cell count at long-term follow-up, but no significant changes have been detected. MI is a dynamic process with acute and chronic phases. Systemic inflammatory response and white blood cell count elevation in acute phase have been shown in previous studies. In our study, in order to investigate the anti-inflammatory efficacy of ticagrelor, we examined how leucocyte count changes in the early and late stages of MI differ between prasugrel and ticagrelor users.

METHODS

109 patients who were admitted to our clinic with acute MI and confirmed coronary angiographically, without contraindications for the use of prasugrel or ticagrelor and who underwent successful percutaneous intervention within the first 24 hours were included in our study. Demographic, clinical, ECG, coronary angiographic data and detailed echocardiographic evaluations were performed and laboratory analyzes of the patients were performed. In the analysis, the first measurement was made when the patient was admitted to the emergency department, the second measurement was made before the discharge phase, which was still the acute phase of the inflammatory process, and the last measurement was performed 5.1 months after the acute period and chronic changes were completed. After a mean follow-up of 5.1 months in groups that similar on demographic, clinical, and medicine use, analysis was performed on 78 patients who were not included in the exclusion criteria such as non-control, non-compliance, or switch to clopidogrel.

RESULTS

There was no significant difference between prasugrel and ticagrelor group in the first white blood cell count performed at the time of emergency presentation. On the other hand, in the ticagrelor group, white blood cell count was found to be lower than first measurement after 5.6 days (mean discharging time), and the difference was statistically significant. In the control measurements performed after a mean of 5.1 months, the difference was re-equalized. Values are presented in the form of the table and graph.

CONCLUSION

Myocardial infarction is a dynamic process involving acute damage and healing processes, in which acute and chronic phases of inflammation are observed. Ticagrelor is an antiplatelet agent that may exhibit anti-inflammatory activity, possibly through nitric oxide-related mechanisms. In our study, it was demonstrated that the increased white blood cell count in the acute phase of MI was significantly suppressed by ticagrelor. This finding is a new observation. Severe inflammatory processes can lead to remodeling and devastating consequences that are detrimental to the healing tissues. The results of ticagrelor group in another arm of our study showing the success of myocardial tissue healing may be related with this acute inflammatory suppressed response.



	Prasugrel	Ticagrelor	*p*
Age	53.3 ±10.6	56.3 ±10.8	*0.24*
Male	25 (80.6)	35 (74.5)	*0.72*
At Admission			
WBC (10^3/µL)	11.2 ±3.2	11.2 ±3.5	*0.77*
Hemoglobin (g/dL)	14.5 ±1.7	14.3 ±1.7	*0.53*
Hematocrit %	43.6 ±4.5	42.9 ±4.5	*0.57*
Platelets (10^3/µL)	292.7 ±81.7	263.5 ±95.0	*0.90*
Discharge (Mean 5.6 Days)			
WBC (10^3/µL)	**10.1 ±2.3**	**9.2 ±2.5**	***0.04***
Hemoglobin (g/dL)	13.4 ±1.8	13.0 ±1.7	*0.24*
Hematocrit %	40.0 ±4.7	38.8 ±4.8	*0.22*
Platelets (10^3/µL)	271.9 ±74.2	236.9 ±66.6	*0.05*
Follow-up (Mean 5.1 Months)			
WBC (10^3/µL)	8.1 ±2.2	7.9 ±2.0	*0.55*
Hemoglobin (g/dL)	14.0 ±1.9	13.9 ±1.6	*0.48*
Hematocrit %	41.1 ±5.2	40.9 ±4.4	*0.42*
Platelets (10^3/µL)	269.8 ±87.3	244.8 ±81.3	*0.14*

ID: **135**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

CORRELATION OF 25-HYDROXYVITAMIN D LEVELS WITH SYNTAX AND SYNTAX2 SCORES IN ST SEGMENT ELEVATION MYOCARDIAL INFARCTION PATIENTS

Barıs Sımsek[1], **Veysel Ozan Tanık**[2]

[1]*Dr. Siyami Ersek Göğüs Kalp ve Damar Cerrahisi Eğitim Ve Araştırma Hastanesi, ISTANBUL, Turkey*

[2]*Dışkapı Yıldırım Beyazıt Eğitim Ve Araştırma Hastanesi, ANKARA, Turkey*

[*]*Corresponding Author (brs0747@hotmail.com)*

Objective:
Low vitamin D status has been shown to be associated with increased risk of developing cardiovascular disease, hypertension, diabetes mellitus (DM), metabolic syndrome, obesity and inflammation. We evaluated the relationship between 25-Hydroxyvitamin D levels and the burden of coronary artery disease as assessed by the SYNTAX and SYNTAX2 scores in patients with ST segment elevation myocardial infarction (STEMI).

Methods:
Patients with 25-Hydroxyvitamin D level measurement during the index hospitalization were retrospectively recruited. All analyses were performed considering the effect of seasonal variation on Vitamin D levels. Bivariate correlation analyses were performed and r values were reported. Initial coronary angiography findings were used to calculate SYNTAX and SYNTAX2 scores. SYNTAX scores were categorized as 0-22 (174 cases); ≥23 (58 cases) and SYNTAX2 was categorized as (<25 (115 cases) and ≥ 25 (117 cases).

Results:
232 patients were recruited for the study. Vitamin D levels were significantly lower in patients with higher SYNTAX category (16.7 ± 8.4 vs. 12.3 ± 5.8 ng/mL, $p < 0.01$) but was not different between SYNTAX2 categories (15.9 ± 7.9 vs. 15.2 ± 8.1 ng/mL, p=0.504). When seasonal variation is considered, the difference between SYNTAX categories persisted (Table 1). But Vitamin D levels were not different between SYNTAX2 categories. In univariate correlation analysis, Vitamin D level was inversely correlated with SYNTAX scores (r= -0.174, p=0.008) but was not correlated with SYNTAX2 scores (r= -0.096, p=0.146).

Conclusion:
We have found that in patients with higher SYNTAX scores, 25-Hydroxyvitamin D levels were significantly lower through the year, irrespective of seasonal variation. This correlation was not true for SYNTAX2 scores.

Keywords: 25-HYDROXYVITAMIN D, SYNTAX Score, SYNTAX2 Score, STEMI

Table 1. Distribution of 25(OH) Vit D3 levels between SYNTAX and SYNTAX2 categories considering the seasonal variation of measurements.

	25(OH) Vit D (ng /mL)*				
	Winter	**Spring**	**Summer**	**Autumn**	**Total**
SYNTAX					
0-22 (n=174)	14.2±9.5	16.5±9.3	20.4±6.5	15.8±6.9	16.7 ± 8.4
≥23 (n=58)	8.6 ± 2.3	11.2±5.3	13.6±5.9	15.6±6.4	12.3 ± 5.8
P value	0.046	0.022	< 0.01	0.924	< 0.01
SYNTAX 2					
0-25 (n=174)	14.6±11.2	14.7±7.1	19.7±7.3	16.1±6.9	15.9 ± 7.9
≥23 (n=58)	11.2±5.4	15.6±9.1	18.3±6.4	15.4±6.6	15.2 ± 8.1
P value	0.172	0.656	9.479	0.664	0.504

*Normal values of 25(OH) Vit D. Autumn and Winter: 6.2-45.5 Spring and Summer:7-53.5

ID: **500**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN METABOLIC SYNDROME AND CONTRAST NEPHROPATHY IN PATIENTS WITH ST-ELEVATION MYOCARDIAL INFARCTION

Ali Bağcı, Fatih Aksoy

Süleyman Demirel Üniversitesi Tıp Fakültesi Kardiyoloji A.D., Isparta, Turkey

**Corresponding Author (dr.alibagci@hotmail.com)*

OBJECTIVE: We aimed to determine the relationship between the presence of metabolic syndrome and development of contrast nephropathy following ST-elevation myocardial infarction (STEMI).

METHODS: A total of 360 patients with ST-elevation myocardial infarction who underwent primary coronary angioplasty were included in the study. Patients were divided into two groups according to American Heart Association and National Heart, Lung and Blood Institute (AHA / NHLBI) criteria. Groups were followed for the development of contrast nephropathy. Patients were divided into groups according to the presence of metabolic syndrome and compared for the development of contrast nephropathy.

RESULTS: In this study, contrast nephropathy was detected in 21% of patients and Metabolic syndrome was found in 76% of patients. The incidence of contrast agent nephropathy was higher in patients with metabolic syndrome than patients without metabolic syndrome (26.7% and 9.9%, respectively, p = 0.001).According to univariate analysis, the presence of metabolic syndrome was found to be a predictor for contrast nephropathy (Odds ratio [OR] = 3.32; 95% confidence interval [CI] = 1.52-7.23; p = 0.003).

CONCLUSIONS: There is a high risk for the development of contrast nephropathy in patients with metabolic syndrome and STEMI patients after percutaneous coronary intervention. In individuals with metabolic syndrome, greater attention should be paid to reduce unwanted cardiovascular risk factors and the development of future cardiovascular events.

Keywords: Metabolic Syndrome, contrast nephropathy, ST-elevation myocardial infarction

ID: **239**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

INFECTION DURING HOSPITALIZATION IS ASSOCIATED WITH LONG-TERM MORTALITY IN PATIENTS WITH ST SEGMENT ELEVATION MYOCARDIAL INFARCTION

Serhat Sığırcı

Şişli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey

**Corresponding Author (serhatsigirci@gmail.com)*

Background: Long term outcomes of infection during hospitalization, is a condition about which there is little published data. In our study, we aimed to assess the impact of infection on mortality in patients with STEMI.

Methods: In this retrospective cohort study, we analyzed the data of 859 STEMI patients who received primary percutaneous coronary intervention (pPCI). All-cause mortality was defined as the primary endpoint of the study.

Results: Overall 84 patients (9.7 %) had an infection (mean age 65.2 ± 12.6 and 75.0 % men) along with STEMI. Compared with the patients without infection, patients with infection were significantly older, had higher prevalence of diabetes mellitus and hypertension (p values are <0.001, 0.021 and <0.001, respectively). There were no differences between two groups in angiographic features (Table 1)

The mean duration of follow-up was 34.1 (±11.8) months. All cause mortality rate was 8.1% (6.2% of without infection vs 26.2% of with infection; p<0.001). It demonstrated that infection during hospitalization [hazard ratio (HR): 1.96, 95% confidence interval 1.121-3432, p=0.018], age [HR: 1.05, %95 CI: 1.033-1.080, p<0.001], diabetes mellitus [HR: 1.68, %95 CI: 1.008-2.800, p=0.046] and left ventricular ejection fraction [HR: 0.945, %95 CI: 0.920-0.971, p<0.001] were independent predictors of long-term mortality. Kaplan-Meier analysis revealed that patients who had infection during hospitalization had worse survival rates.

Conclusion: Patients with infection during hospitalization should be monitored closely for long-term adverse events.

Table 1. Baseline Clinical, Laboratory and Angiographic Characteristics of Patients with ST Segment Elevation Myocardial According to Infection

Variables	Overall n: 859	No Infection n: 775	Infection n: 84	P value
Age, years	57.0 ± 12.2	56.1 ± 11.8	65.2 ± 12.6	**<0.001**
Age>75, % (n)	9.9	8.0	27.4	**<0.001**
Mortality, % (n)	8.1	6.2	26.2	**<0.001**
Sex, male % (n)	82.8	83.6	75.0	0.066
Diabetes, % (n)	31.0	29.8	42.2	**0.021**
Hypertension, %(n)	45.3	43.2	65.1	**<0.001**
Dyslipidemia, % (n)	38.1	39.0	29.6	0.117
History of CAD, % (n)	18.3	17.7	23.8	0.167
Hgb, g/dL	14.4 ± 1.9	14.5 ± 1.8	13.8 ± 1.9	**0.003**
WBC, ×109 /L	12.1 ± 3.9	11.9 ± 3.8	13.0 ± 4.4	**0.021**
Neutrophil, ×109 /L	7.7 ± 0.5	7.6 ± 0.5	8.5 ± 0.6	0.374
Lymphocyte, ×109 /L	3.2 ± 0.4	3.2 ± 0.4	3.3 ± 0.6	0.343

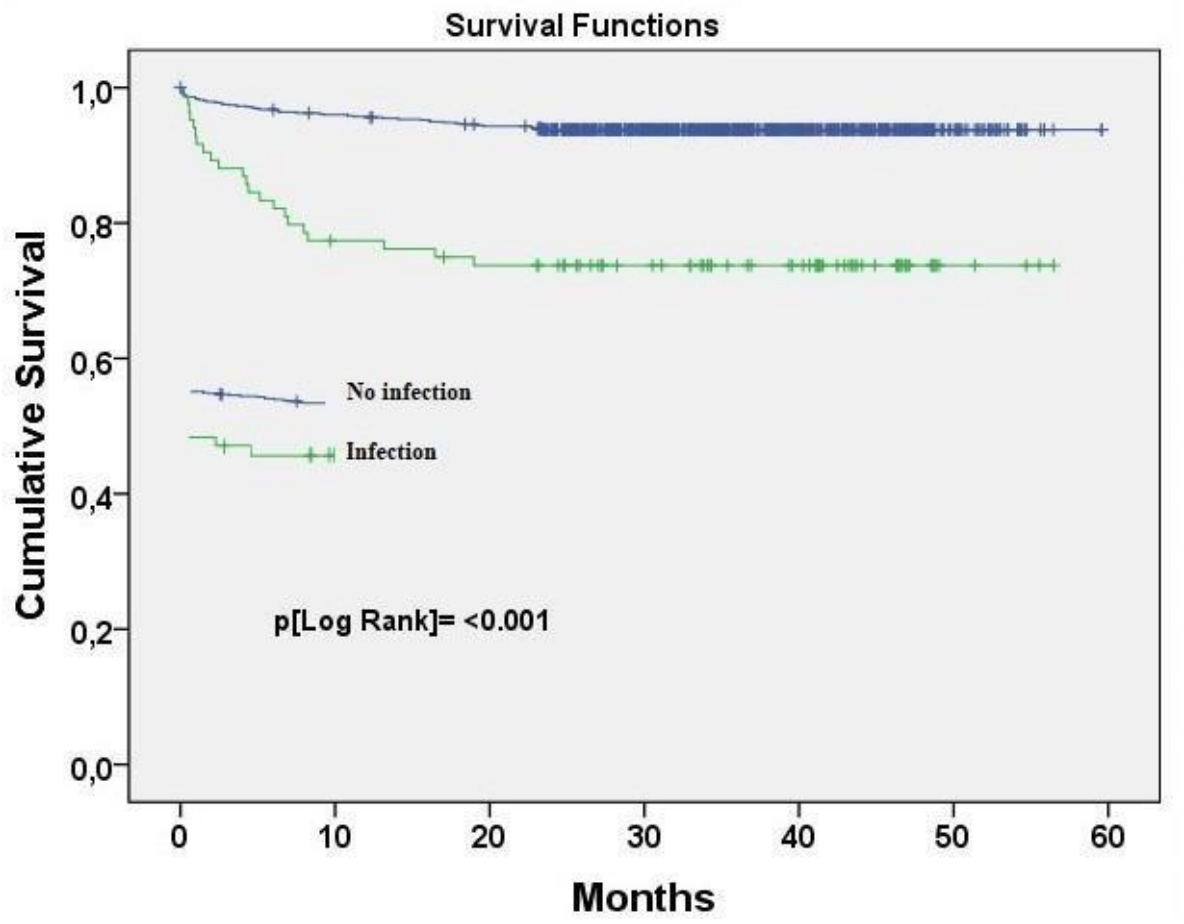
PLT count, ×109 /L	251.6 ± 72.0	251.6 ± 73.2	251.3 ± 60.0	0.974
RDW, %	13.6 ± 1.1	13.5 ± 1.1	13.9 ± 1.2	**0.020**
GFR<60mL/min/1.73m2,%	7.9	6.1	25.0	**<0.001**
Admission Crea, mg/dl	0.9 ± 0.2	0.8 ± 0.2	1.0 ± 0.3	**<0.001**
Total cholesterol, mg/dL	188.4 ± 45.4	189.0 ± 45.3	182.2 ± 45.8	0.197
LDL cholesterol, mg/dL	119.7 ± 40.2	120.0 ± 40.1	116.4 ± 42.1	0.451
HDL cholesterol, mg/dL	40.0 ± 10.5	39.7 ± 10.4	42.4 ± 11.4	**0.028**
Triglyceride, mg/dL	150.3 ± 100.0	153.0 ± 103.2	125.2 ± 57.1	**0.018**
Hemoglobin A1c, %	6.5 ± 1.7	6.5 ± 1.7	6.7 ± 1.5	0.345
LV EF at 24thhour, %	46.9 ± 9.6	47.6 ± 9.2	41.0 ± 10.4	**<0.001**
Angiographic features, % (n)				
Anterior MI	43.0	41.9	52.4	0.081
LMCA	0.3	0.3	1.2	0.266
LAD	46.0	44.9	56.0	0.065
LCx	18.7	19.2	14.3	0.306
RCA	35.3	35.9	29.8	0.282
1 vessel disease	49.9	50.7	42.9	0.206
2 vessels disease	32.8	32.6	34.5	0.715
3 vessels disease	17.1	16.5	22.6	0.170
Stent count >1	37.1	36.9	39.3	0.722

Table 2. Univariate and Multivariate Cox Regression Analysis of Long-Term Survival

	Univariate			Multivariate		
	HR	95% CI	p	HR	95% CI	p
Infection	4.80	2.899-7.960	**<0.001**	1.96	1.121-3.432	**0.018**
Age	1.07	1.056-1.093	**<0.001**	1.05	1.033-1.080	**<0.001**
DM	1.95	1.221-3.128	**0.005**	1.68	1.008-2.800	**0.046**
HT	2.41	1.475-3.958	**<0.001**			
LVEF*	0.92	0.898-0.947	**<0.001**	0.945	0.920-0.971	**<0.001**
Hgb	0.83	0.766-0.912	**<0.001**			
CRF**	3.57	2.017-6.322	**<0.001**			
3 vessels CAD	1.45	0.831-2.537	0.190			

* at 24th hour, ** GFR<60mL/min/1.73m²

Abbreviations: DM, diabetes mellitus; HT, hypertension; LVEF, left ventricular ejection fraction; Hgb, hemoglobin; CRF, chronic renal failure; CAD, coronary artery disease


Survival Functions
Cumulative Survival
1,0
0,8
0,6
0,4
0,2
0,0
No infection
Infection
p[Log Rank]= <0.001
0
10
20
30
40
50
60
Months

ID: **382**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

THE SYSTEMIC IMMUNE-INFLAMMATION INDEX PREDICTS ALL-CAUSE MORTALITY AT 1-YEAR IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION WHO UNDERGO PRIMARY PERCUTANEOUS CORONARY INTERVENTION

Kurtuluş Karaüzüm, Irem Karauzum

Kocaeli University, Kocaeli, Turkey

**Corresponding Author (kurtuluskarauzum@yahoo.com)*

BACKGROUND: The systemic immune-inflammation index (SII), a new inflammation-based biomarker combining platelet, neutrophil and lymphocyte counts, has been shown to be associated with morbidity and mortality in several malignancies. However, the relationship between SII and clinical outcomes has not been studied in patients with ST-segment elevation myocardial infarction (STEMI) who undergo primary percutaneous coronary intervention (PCI). This study investigated the relationship between SII and all-cause mortality at 1-year in these patients.

METHODS: A total of 592 patients with STEMI who underwent primary PCI were retrospectively included in the study. Baseline clinical, demographic and laboratory data of patients' were recorded. SII was calculated as platelet count x neutrophil count/lymphocyte count. The primary outcome was all-cause mortality during 1-year follow-up.

RESULTS: The mean age of study patients was 58.9±11.9 years. Of the patients, 72.8% was male. All-cause mortality rate at 1-year was 10.0% (59 patients). The frequency of diabetes mellitus, multivessel disease, previous MI, history of contrast induced nephropathy (CIN) and worse Killip class were observed significantly higher in death patients compared to those alive patients. Additionally, in the 1-year all-cause mortality group patients mean platelet volume (MPV) and SII were higher, whereas estimated glomerular filtration rate (eGFR) and hemoglobin were lower. In the multivariate logistic regression analysis, SII (p=0.019, hazard ratio [HR] 2.880, 95% CI 1.192-6.955), eGFR (p=0.040, HR 0.968, 95% CI 0.939-0.999) and Killip class (p<0.001, HR 15.824, 95% CI 7.549-33.171) were found independent predictors of 1-year all-cause mortality in study population.

CONCLUSIONS: SII may be used as a simple and reliable biomarker in predicting all-cause mortality and MACE at 1-year follow-up in patients with STEMI who undergo primary PCI.

ID: **383**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

EFFECT OF POTENT ANTIPLATELET THERAPIES ON LEFT VENTRICULAR MYOCARDIAL TISSUE FUNCTION IN PATIENTS WITH ACUTE CORONARY SYNDROME

Sinan Saymaz, Murat Sünbül, Altuğ Çinçin, Emre Gürel, Nurten Sayar, Beste Özben, Kürşat Tigen

Marmara University, Istanbul, Turkey

**Corresponding Author (sinansaymaz@gmail.com)*

BACKGROUND

Ticagrelor is an antiplatelet agent with proven pleiotropic effects. It is believed to exert these effects through adenosine and nitric oxide-related mechanisms and is known to improve endothelial function. It has been shown in several previous studies that ticagrelor may reduce cardiovascular mortality and regulate neointimal proliferation after stent implantation due to the pleiotropic effects. How this antiplatelet agent influences myocardial tissue performance during the recovery process is a subject that has not been studied yet. In our study, we investigated whether pleiotropic effects at tissue level contribute to myocardial healing after acute MI. The direct effect of ticagrelor on myocardial tissue was investigated by strain measurements with speckle tracking echocardiography.

METHODS

109 patients who were admitted to our clinic with the diagnosis of acute MI and confirmed coronary angiographically, without contraindications for prasugrel or ticagrelor, and who underwent successful percutaneous intervention within the first 24 hours were included in our study. Demographic, clinical, laboratory, ECG and coronary angiographic data and detailed echocardiographic evaluations were performed. In addition to 2D measurements of cardiac structures, blood flow-related dynamics, tissue Doppler evaluations, strain-based evaluations for left and right ventricle and left and right atrium were performed. After a mean follow-up of 5.1 months in groups that similar on in demographic, clinical, and medicine use, analysis was performed on 78 patients who were not included in the exclusion criteria such as non-control, non-compliance with medicine, or switch to clopidogrel.

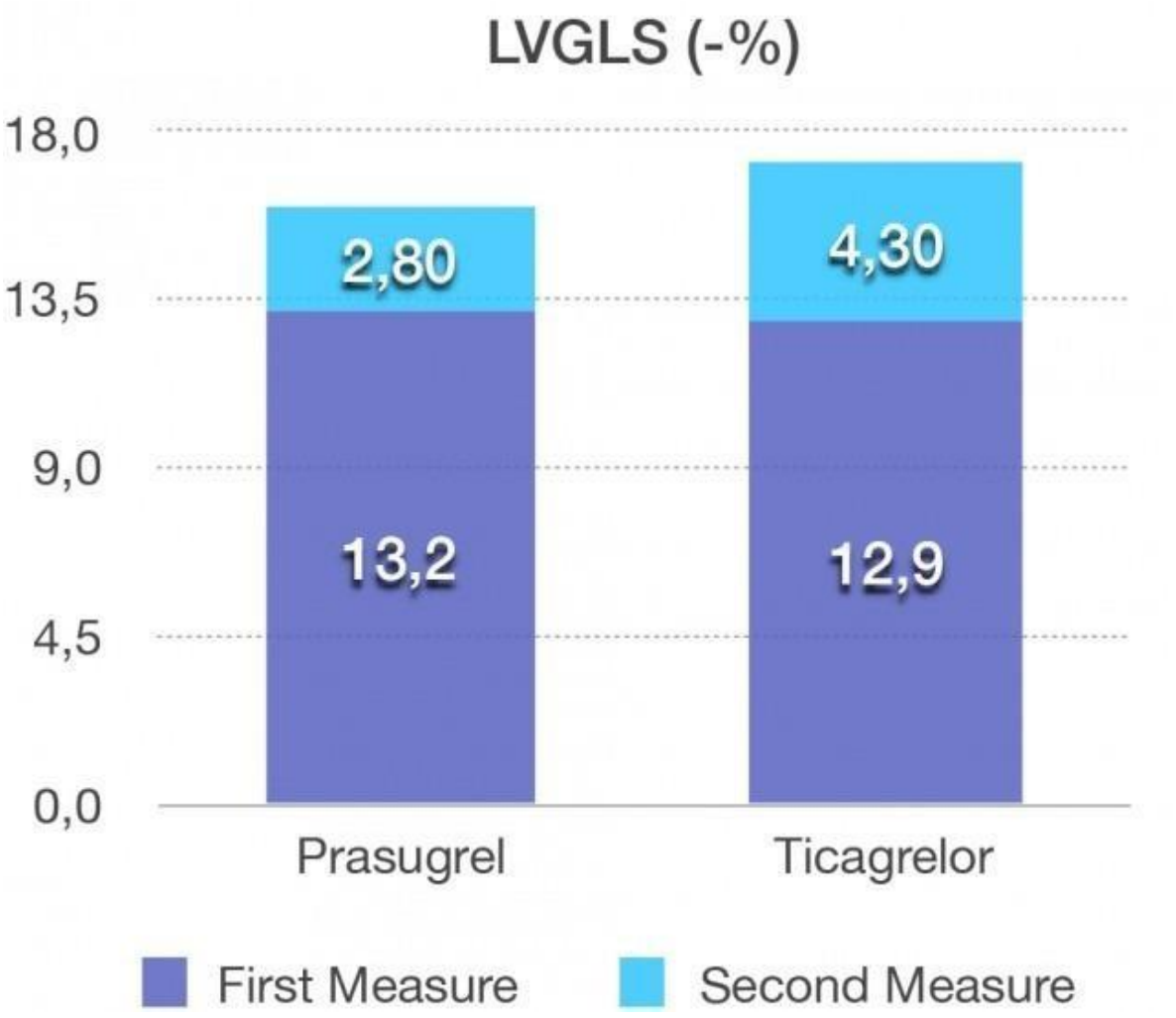
RESULTS

Conventional echocardiographic parameters and strain measurements were similar in the first measurements after acute MI. The initial measurements of left ventricular global longitudinal strain (LVGLS) (-%) were 13.2 ±2.5 in the prasugrel group and 12.9 ±3.3 in the ticagrelor group (Table). LVGLS (-%) values were observed as 16.0 ±2.2 in prasugrel group and 17.2 ±2.8 in ticagrelor group (p = 0.02) after follow-up period. A similar trend was maintained when the percent change from baseline (Percent change in LVGLS measured as 18.1 ±11.2 for prasugrel and 24.8 ±12.7 for ticagrelor, p = 0.03) (Figure).

CONCLUSION

According to the PLATO study, some of the successful results of ticagrelor were attributed to their pleiotropic effects. While coronary artery disease risk factors, acute disease severity and demographically similar groups were compared with prasugrel and ticagrelor, conventional echocardiographic data were equal, whereas strain-based examinations at the myocardial tissue level showed significant superiority of ticagrelor in LVGLS measurement. Thus, the direct effect of ticagrelor on myocardial tissue was demonstrated by strain measurements at tissue level.

	First Measurement			Second Measurement		
	Prasugrel	**Ticagrelor**	***p***	**Prasugrel**	**Ticagrelor**	***p***
Age	53.3 ±10.6	56.3 ±10.8	*0.24*	-	-	-
Male	25 (80.6)	35 (74.5)	*0.72*	-	-	-
LVEF (%)	52.4 ±11.1	49.2 ±10.5	*0.21*	57.5 ±8.5	54.2 ±11.6	*0.36*
LVGLS (-%)	13.2 ±2.5	12.9 ±3.3	*0.52*	**16.0 ±2.2**	**17.2 ±2.8**	***0.02***
LVGLS Ratio (%)	-	-	-	**18.1 ±11.2**	**24.8 ±12.7**	***0.03***
RVGLS (-%)	17.7 ±4.8	16.6 ±4.2	*0.39*	18.3 ±4.0	18.1 ±3.6	*0.97*



ID: **561**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

SERUM THIOL LEVELS AND ACUTE ST ELEVATION MYOCARDIAL INFARCTION

Yücel Yılmaz

Kayseri City Hospital, Kayseri, Turkey

**Corresponding Author (dryyilmaz@hotmail.com)*

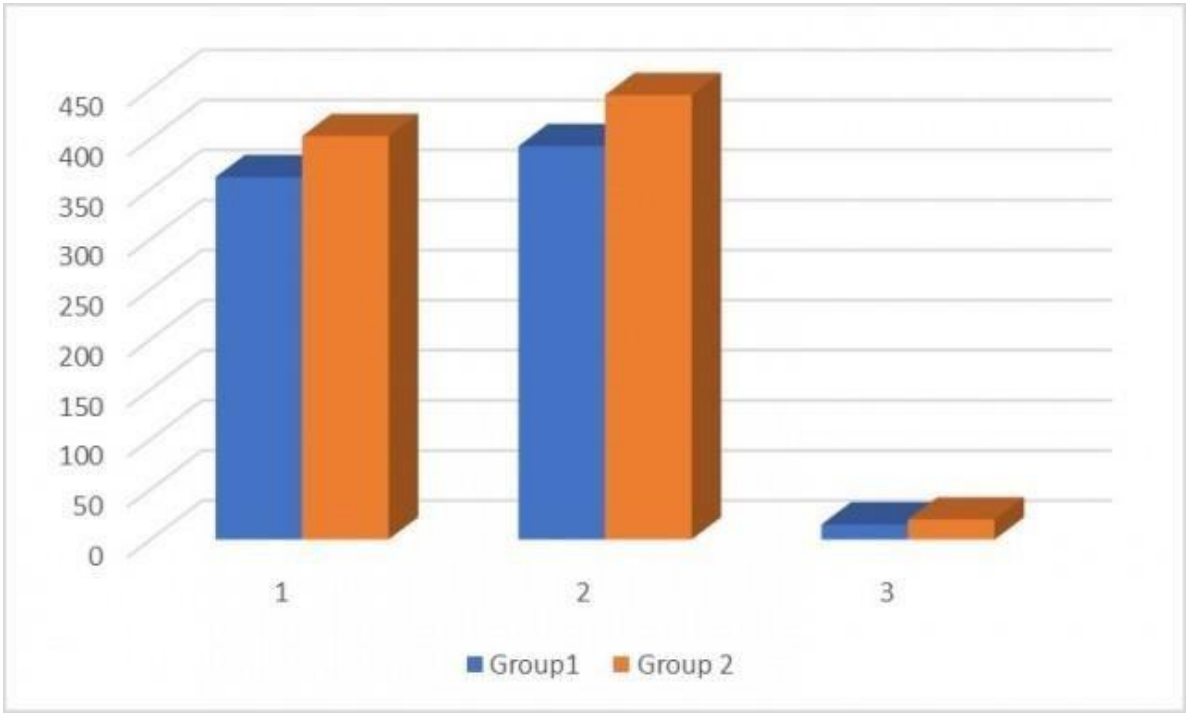
Background: The oxidative stress has been reported as one of the underlying mechanisms atherosclerosis and related disorders. Plasma thiols are constituting an important part of the antioxidant defense system. We aimed to investigate the relation of serum thiol levels and the acute ST elevation myocardial infarction.

Methods: Sixty-six patients with acute ST elevation myocardial infarction patient and 41 patients with control patient were included in the study. Plasma total thiol levels, native thiol levels and disulfide levels were measured. Thiol disulfate values, which are antioxidant markers, were compared between the groups.

Results: There was no significant difference between basal characteristics. Due to the presence of NonST MI patients, there was a difference in ejection fraction from echocardiography parameters. Plasma native thiol levels (362.04 ±73.69 µmol/L vs. 403.62±62.36 µmol/L, p =0.02), total thiol levels (393,.69± 74.15 µmol/L vs. 444.17 ±65.53 µmol/L, p<0.0001) and disulfide levels (15.82 ± 6.97 vs. 20.27 ± 8.10, p = 0.03) were significantly lower in patients with in in acute ST elevation myocardial infarction than control patients

Conclusions: Antioxidant marker changes were significantly lower in ST ST elevation myocardial infarction patients. In line with this result, the contribution of ST ST elevation myocardial infarction to antioxidant system disorder has been shown. Our results suggest that thiol levels could be a good biochemical marker in STEMI patients.

Figure1. Native thiol, total thiol and disulfide values between two groups



Oral Presentation Session

Advances in Cardiac Imaging

Date: 14.03.2020 Time: 17:30 – 19:00 Hall: 5

ID: **17**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

THE CORRELATION BETWEEN MITRAL ANNULAR CALCIFICATION AND PROGNOSTIC NUTRITIONAL INDEX

Veysel Ozan Tanık, Hılal Erken Pamukcu

DISKAPI YILDIRIM BEYAZIT EDUCATI ON AND RESEARCH HOSPITAL, ANKARA, Turkey

**Corresponding Author (drozantanik@gmail.com)*

Objective: The relationship between nutritional status and mitral annular calcification (MAC) has not been established before. The prognostic importance of prognostic nutritional index in other diseases like colorectal cancers, postoperatively septic complications and ST elevation myocardial infarction has been shown before. The aim of this study is to determine the relationship between the presence of PNI and MAC.

Methods: A total of 398 patients who admitted to echocardiography laboratory were included in this retrospective study. The study group was conducted with 310 patients with MAC (+) and control group was conducted with 88 subjects with MAC (-). Demographic features like age and sex, presence of hypertension and diabetes mellitus were similar between groups. Laboratory and echocardiographic examination were performed to all patients. The prognostic nutritional status of all patients was calculated with the PNI values: 10 × serum albumin (g / dl) + 0.005 × total lymphocyte count (per mm3).

Results: Serum albumin levels were found to be significantly lower in the MAC (+) group compared to the control group (3.76 ± 0.57; 4.12 ± 0.31, p <0.001). Lymphocyte count of MAC group was lower than the control group (1.86 ± 0.63; 2.02 ± 0.66, p = 0.05). Prognostic nutritional index of the MAC (+) group were significantly lower than the MAC (-) group (38.5 ± 5.8; 42.2 ± 3.1; p <0.001). In correlation analysis, PNI value was found to be negatively correlated with presence of MAC. (r:-0.285; p<0.001))

Conclusion: We found that the presence of MAC is significantly associated with lower levels of PNI.

Table 3 Correlation analysis parameters associated with MAC positivity		
	r	**P value**
LVED Diameter	0.182[b]	<0.001
Left Atrial Diameter	0.338[a]	<0,001
sPAP	0.364[a]	<0.001
Fasting blood glucose	0.154[a]	0.001
Blood Urea Nitrogen	0.148[a]	0.002
Calcium	-0.209[a]	<0.001
Phospuor	0.233[a]	<0.001
Hemoglobin	-0.210[b]	<0.001
RDW	0.213[a]	<0.001
PNI	-0.285[b]	<0.001

LVED = left ventricul end diastole ;sPAP= Pulmonary artery systolic pressure;RDW= Red blood cell distribution width; r= rho correlation coefficient;

ID: **332**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

ISOLATED RIGHT VENTRICULAR SYSTOLIC DYSFUNCTION AFTER LIVER TRANSPLANTATION: PRELIMINARY RESULTS

Mehmet Onur Omaygenç[1], Deniz Dilan Naki[2], Esin Korkut[1]

[1]*Istanbul Medipol University, International Medical School, Istanbul, Turkey*

[2]*Istanbul Medipol University, Faculty of Medicine, Istanbul, Turkey*

[*]*Corresponding Author (moomaygenc@medipol.edu.tr)*

Background

Although association of right ventricular functional impairment and advanced chronic liver disease in pulmonary hypertensive subjects has been well-established, the presence of isolated right ventricular systolic dysfunction in transplant recipents remained disregarded. Here we aimed to assess the relationship of baseline clinical, laboratory, and imaging parameters with persistent right ventricular systolic dysfunction after elective liver transplantation. This term was identified by 2D echocardiographic measures.

Methods

34 transplant recipients with chronic liver disease (54.1±8.7 years, 32,4% female) were involved. Demographic characteristics, baseline blood test results, and initial estimated systolic pulmonary artery pressure (sPAP) values were retrospectively collected from the patient database of our facility. Patients were recalled for echocardiographic evaluation. LVEF, E/E', sPAP, RA volume, ratio of the baseline diameters of RV and LV, TDI S' of RV, TAPSE, and 2D RVEF measurements were recorded. RV dysfunction was identified by having at least one value below the reference levels of RV S', TAPSE or RVEF as defined in the relevant guideline of American Society of Echocardiography. Patients were then grouped according to presence of RV dysfunction.

Results

Isolated RV dysfunction was observed at 20,6% (n=7, Group B) of the sample population. There was not any statistically significant difference regarding quantitative parameters including baseline and follow-up sPAP values between groups (Table 1). The frequency of patients with a history of coronary artery disease and gastrointestinal bleeding were higher in Group B (%, 11.1 vs 42,9, p=0.05 and 0 vs 28.6, p=0.004; respectively). Individuals who used an alternative beta blocking agent and did not use propranolol were seemed to have higher rates of isolated RV dysfunction (Figure 1).

Conclusions

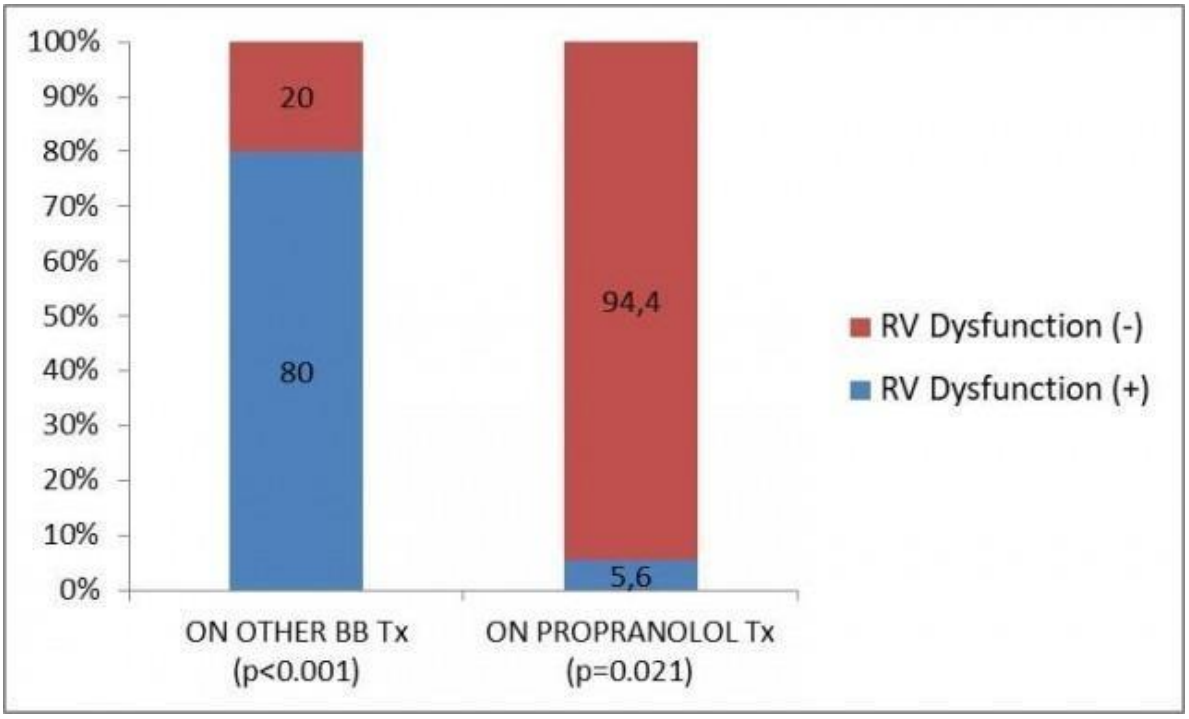
None of the parameters derived from preoperative biochemical work-up and right heart-oriented measurements were related to the detection of isolated long-term RV dysfunction in our population. The influence of propranolol and other beta-blockers on this end-point will be further investigated when the sample size reaches to target threshold.

Table 1. Demographics and other parameters of the population. MELD, model for end-stage liver disease; RA, right atrium.

Variables	Group A (n=27)	Group B (n=7)	P value
Age,years; Mean±SD	53.6±8.7	56.1±9.1	0.647
Gender,female; % (n)	29.6 (8)	42.9 (3)	0.505
Body Mass Index, kg/m2; Median [Range]	29.4 [11.5]	30.5 [7.4]	0.403
Diagnosis-to-transplantation time, years; Mean±SD	5.8±5.5	4.6±4.3	0.708

Etiology, viral; % (n)	48.1 (13)	42.9 (3)	0.803
Child-Pugh score; Mean±SD	8.3±1.5	8,5±2,6	0.427
MELD score; Mean±SD	19.3±6.3	14.6±5.1	0.064
Glomerular Filtration Rate, ml/min/1,73m2; Median [Range]	99.7 [143.5]	99.7 [143.5]	0.934
GGT, U/l; Mean±SD	69±62.1	131±119.5	0.163
Hemoglobin, g/dl; Median [Range]	10.5 [9.2]	12.6 [5]	0.239
NT-ProBNP, pg/ml; Mean±SD	161±166.5	257.9±353.8	0.901
Initial estimated sPAP, mmHg; Mean±SD	29.6±6	28.3±2.2	0.677
Follow-up estimated sPAP, mmHg; Mean±SD	28±7.5	27.6±7	0.868
RV:LV ratio; Median [Range]	0.75 [0.28]	0.77 [0.35]	0.357
RA area, cm2; Median [Range]	12.5 [11.6]	14.4 [7]	0.452

Figure 1. Distribution of percentage of patients with and without right ventricular dysfunction among patients on propranolol or other beta-blocker treatment. BB, beta-blocker; RV, right ventricular; Tx, treatment.



ID: **120**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

ASSOCIATION BETWEEN VITAMIN D LEVELS AND CARDIOMETABOLIC RISK FACTORS AND ECHOCARDIOGRAPHIC PARAMETERS AMONG POSTMENOPAUSAL WOMEN

Veciha Özlem Bozkaya

Keçiören Education and Training Hospital, Ankara, Turkey

**Corresponding Author (vobozkaya@gmail.com)*

Objective
Menopause is a period of increased cardiac risk for women due to hormonal changes. It is important to investigate additional clinical conditions that may affect cardiac risk during this period. Although vitamin D (Vit D) deficiency and cardiovascular disease risk have been studied previously, there are limited data in the literature on how this affects cardiometabolic risk factors and echocardiographic parameters in postmenopausal (PMO) women. We aimed to evaluate association between Vit D levels and cardiometabolic risk factors and echocardiographic parameters in PMO women.

Method
200 PMO women enrolled in this study and the study patients. Prevalence of 25-0H Vit D deficiency was 67% (n=134/200) (severe deficiency 29.5 %, n=59/200). Demographic data (age, body mass index, and waist circumference), serum Vit D levels, cardiometabolic risk factors (blood pressure, serum glucose, insulin, HOMA, total cholesterol, HDL, LDL, triglycerides and CRP) and echocardiographic parameters of study population were recorded. The relation between serum levels of Vit D and cardiometabolic risk factors and echocardiographic measurements were analyzed. Correlation analysis and linear regression were used to estimate the association between Vit D status and cardiometabolic risk factors and echocardiographic parameters.

Results
Mean age of study population was 56, 26 (±5, 37) years. Left ventricular end diastolic diameter (LVEDD), BMI, triglyceride levels were higher; HDL levels were significantly lower in patients with lower Vit D levels. Linear regression analysis showed that 25-OH Vit D was negatively correlated with LVEDD (p=0,0097), isovolumic relaxation time (IVRT) (0,0207), RVEDD (p=0,0328) and triglyceride (0,0052); and was positively correlated with HDL (p=0,0010), E value (p=0, 0352). After adjustment for age and BMI; 25-OH Vit D was found to be an independent predictor for LVEDD (p=0,0470), IVRZ (p=0,0327), triglyceride (p=0,0019) and HDL (p=0,0010). With t-test, it was seen that Vit D levels were lower in the presence of diastolic dysfunction (DDF) (p=0,0283). However, after adjustment with age and BMI, no association was found between Vit D levels and DDF.

Conclusions
This study demonstrates that Vit D deficiency is related to impairment of cardiometabolic risk factors such as triglyceride and HDL and found to be an independent predictor for LVEDD, IVRZ. Although the frequency of DDF in Vit D deficiency increased, an independent relationship between Vit D and DDF could not be demonstrated. We suggest that future cardiac risk may be prevented by revealing and understanding the effect of 25-OH Vit D deficiency on cardiometabolic risk factors and subclinical cardiac findings.

Table 1. Demographic and Clinical Characteristics of study population

Parameter	Mean ± Standard Deviation			p Value
	Vit D≤10 ng/ml (N=59)	10 < Vit D≤20 ng/ml (N=75)	Vit D > 20 ng/ml (N=66)	
BMI, kg/m2	30,69±4,96	31,21±5,91	28,68±5,04	0,0159
Age, years	55,81±5,14	57,19±5,88	55,59±4,89	0,1606
SBP, mmHg	122,03±16,17	120,13±13,51	119,55±13,86	0,607
DBP, mmHg	74,58±11,50	73,16±12,85	75,44±10,69	0,5098
Waist circumference, cm	103,44±10,65	103,67±11,48	97,73±12,17	0,0038
FBG, mg	110,73±33,79	104,01±20,34	104,91±22,11	0,2791
Insulin, mg	12,08±6,81	11,37±5,48	11,65±7,88	0,8445
CRP, mg	5,37±6,42	4,30±4,72	3,96±4,47	0,3512
LDL, mg/dl	125,98±27,03	134,31±34,58	133,63±41,56	0,3441
Triglyceride, mg/dl	199,31±120,69	154,60±71,21	152,89±78,12	0,0063
VLDL, mg/dl	38,74±24,38	32,53±21,68	33,31±22,49	0,2642
HDL, mg/dl	49,81±12,12	55,15±12,24	57,38±13,20	0,0034
TC, mg/dl	218,28±36,05	222,85±38,80	225,91±46,09	0,5803
HR, bmp	74,54±13,22	72,40±13,88	73,11±11,33	0,6297
LVEF, %	65,17±3,09	65,33±4,08	65,59±3,41	0,802
LVEDD, cm	4,58±0,26	4,54±0,36	4,41±0,31	0,0087
LVESD, cm	3,14±0,33	3,04±0,43	3,00±0,41	0,1206
E, m/s	0,78±0,16	0,82±0,16	0,81±0,16	0,2433
A, m/s	0,79±0,13	0,81±0,14	0,81±0,12	0,6983
IVRZ, ms	79,34±12,65	78,68±16,78	73,55±12,77	0,0436
IVCZ, ms	67,85±13,40	66,31±12,45	68,80±16,43	0,5717
E', cm/s	9,10±2,58	9,87±2,29	10,11±2,74	0,0729
A', cm/s	10,92±2,38	11,04±2,29	11,12±2,45	0,8883
DT, ms	195,15±43,47	187,89±45,98	194,30±53,15	0,6188
LAEDD, cm	3,32±0,36	3,20±0,42	3,22±0,40	0,1832
RAEDD, cm	3,09±0,42	3,12±0,42	3,00±0,45	0,291
RVEDD, cm	2,24±0,25	2,21±0,21	2,13±0,21	0,0204
TAPSE, cm	1,98±0,38	2,02±0,36	2,03±0,40	0,764
E/E'	8,96±2,39	8,68±2,28	8,55±2,42	0,6105

ID: **75**

Topic: **Cardiology » Hypertrophic Cardiomyopathy**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN GLOBAL LONGITUDINAL STRAIN AND MYOCARDIAL FIBROSIS DETECTED BY CARDIAC MAGNETIC RESONANCE IN HYPERTROPHIC CARDIOMYOPATHY

Begüm Uygur

İstanbul SBÜ Mehmet Akif Ersoy Göğüs Kalp ve Damar Cerrahisi Eğitim ve Araştırma Hastanesi, İstanbul, Turkey

**Corresponding Author (uygurbegum@gmail.com)*

Background: Hypertrophic cardiomyopathy (HCM) is the most common genetic cardiomyopathy. However, echocardiography is the first line diagnostic tool, cardiac magnetic resonance (CMR) with contrast is a powerful imaging modality for the characterization of the heterogeneous phenotypes in HCM. CMR provides relevant diagnostic and prognostic information not identifiable with traditional echocardiography. Late gadolinium enhancement (LGE) which shows myocardial fibrosis can identify high risk patients for sudden death independent from other high-risk features. Speckle tracking echocardiography based on tissue displacement and gives information about myocardial mechanics and left ventricular function. The aim of our study was to investigate whether assessment of left ventricle global longitudinal strain (LV GLS) can detect the extent of myocardial fibrosis detected by CMR and serve as a novel prognostic parameter in HCM patients.

Methods: Present retrospective study recruited 23 consecutive patients with HCM who underwent comprehensive echocardiographic examination including LV GLS and CMR with contrast study. Study population was divided into two groups according to the presence of late gadolinium enhancement which shows fibrosis. Then the relationship between LGE extent and LV GLS was evaluated.

Results: LGE was detected in 13 (56.5%, mean age 51.6±9.3, 76.9% male) of the 23 patients. No significant differences were found between baseline characteristics of HCM patients with or without LGE except sex. Male sex and LV mass index were found to be significantly higher (p: 0.040, p:0.028 respectively) and LV GLS was significantly lower (p:0.008) in LGE (+) group. Mean number of LV segments with LGE was 4.00±3.44. Negative correlation was detected between LV GLS and number of LV segments with LGE ($p<0.001$, r:0.683) which showed association between LV GLS and the extent of myocardial fibrosis. In regression analysis male sex and LV GLS were found to be significantly associated with LGE in HCM patients. ROC analysis showed GLS >18.4 had 70% sensitivity and 76.9% specificity (AUC 0.819, 95% CI 0.643-0.995, $p < 0.001$).

Conclusion: Male sex and LV GLS were found to be significantly associated with LGE in HCM patients. LV GLS may provide useful information on myocardial fibrosis and can be used for risk stratification in HCM beyond well known risk factors.

Keywords: Hypertrophic cardiomyopathy, myocardial fibrosis, cardiac magnetic resonance, global longitudinal strain

ID: **174**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

THE IMPORTANCE OF THE GRADE OF LEFT ATRIAL ECHO CONTRAST ON CARDIAC OUTCOMES

Selcuk Kucukseymen, Elif Uygur Kucukseymen

University of Health Sciences, Antalya Education and Research Hospital, Antalya, Turkey

**Corresponding Author (skucukseymen@gmail.com)*

Background: Systemic thromboembolism is a serious morbidity and mortality cause for patients with rheumatic mitral stenosis (RMS). Previously conducted researches showed that spontaneous echo contrast (SEC) found in the left atrium (LA) can constitute a risk factor for thrombus formation and thromboembolism. Underlying conditions are associated with low blood flow velocities in the LA. We sought to determine to evaluate the role of LA SEC grade on hospitalization for transient ischemic attack (TIA) in patients with moderate–severe RMS.

Methods: This retrospective study includes 104 patients (mean age 67 years, range 31-77) who were diagnosed with moderate–severe RMS and underwent trans-esophageal echocardiography between 2011 and 2014, but without any intra-cardiac mass. RMS was graded using by WILKINS criteria. They were then divided in two groups depending on SEC presence; a SEC negative group and a SEC positive group. Data regarding baseline parameters, treatment and clinical features during follow-up were gained based on hospital and out-patient clinic and telephone interviews. The end point of the study at follow-up 12 months was hospitalization for TIA.

Results: Of the 104 patients, 71 (68%) patients had LA SEC on echocardiography. Both groups had similar demographic parameters, and conventional echo parameters such as LVEF and LV volumes ($p>0,05$). Total of 27 hospitalizations have been recorded during follow-up (Log Rank $p<0.001$) (Figure 1), besides LA thrombus was present in 7 patients, all of whom had LA SEC. In linear regression analysis, positive correlations were found between grade of LA SEC and WILKINS criteria ($r2=0.548$, $p<0.001$) (Figure 2), and LA SEC correlated with higher probability of TIA ($p=0,01$). LA SEC and intra-cardiac thrombus were significant risk factors for the development of TIA with univariate analysis. However, LA SEC was the only strong predictor for TIA on multivariate analysis.

Conclusion: In RMS patients, coexisting LA SEC was associated with higher risk for TIA and was predictive of poor long-term hospitalization outcome.

Figure 1.

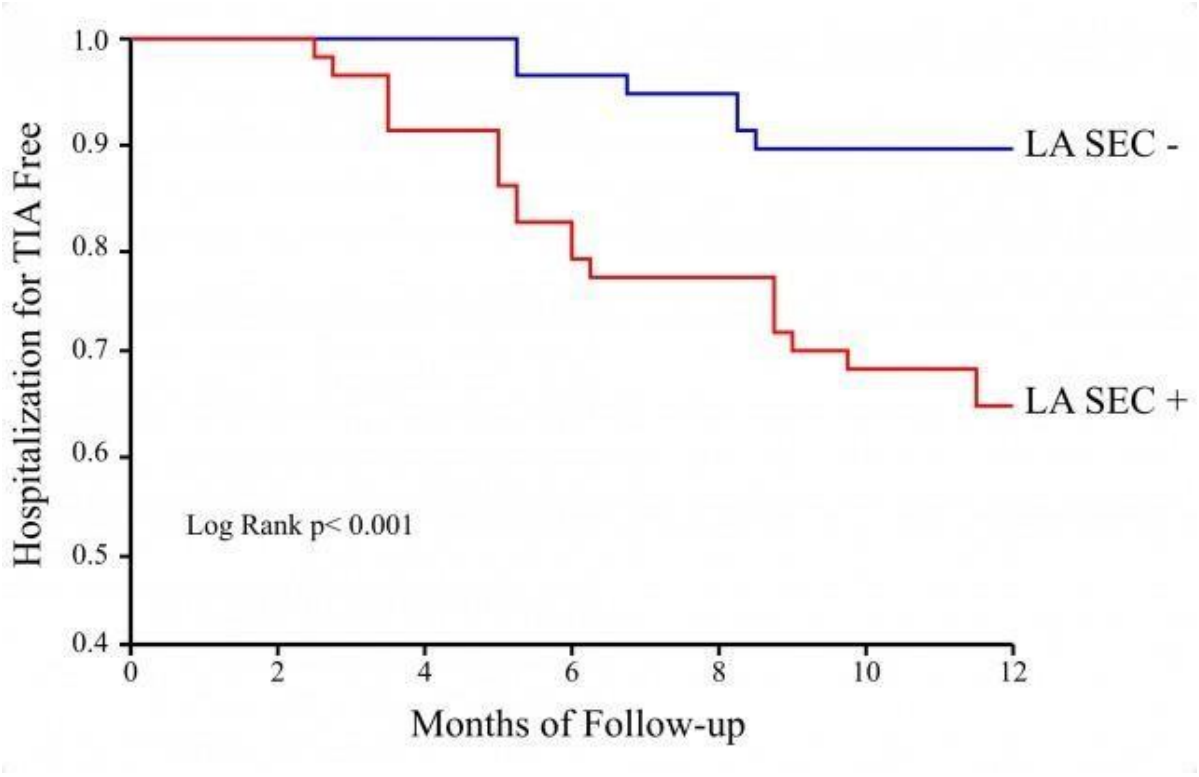
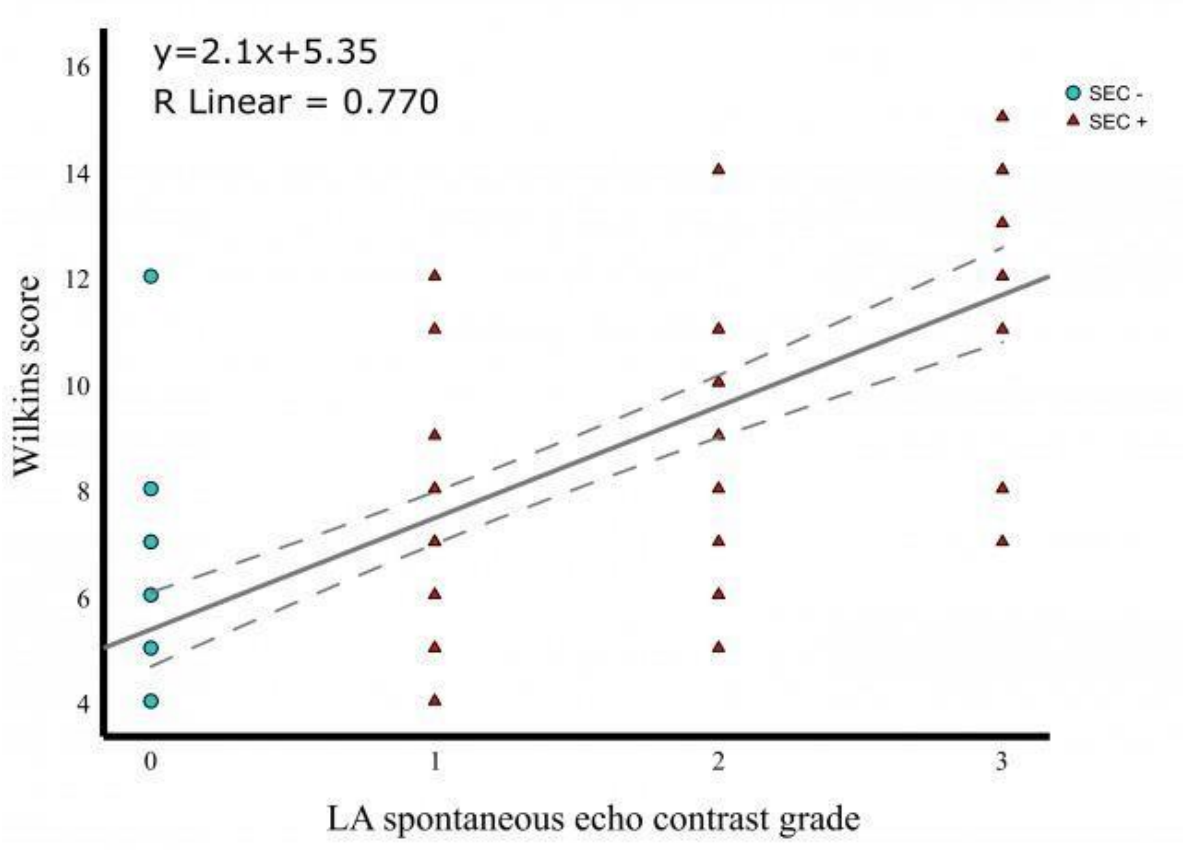

Hospitalization for TIA Free
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0
2
4
6
8
10
12
Months of Follow-up
LA SEC -
LA SEC +
Log Rank p< 0.001

Figure 2.


y=2.1x+5.35
R Linear = 0.770
SEC -
SEC +
Wilkins score
16
14
12
10
8
6
4
0
1
2
3
LA spontaneous echo contrast grade

ID: **326**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN LEFT ATRIAL REMODELING INDEX AND STROKE SEVERITY IN PATIENTS WITH ACUTE ISCHEMIC STROKE

Unal Ozturk, **Onder Ozturk**

SBU Diyarbakir Gazi Yasargil Education and Research Hospital, Diyarbakir, Turkey

**Corresponding Author (drunalozturk@gmail.com)*

OBJECTIVES: The cardiovascular manifestations of acute ischemic stroke have been well known. Apart from preexisting cardiac disorders, cardiovascular complications are most likely mediated by an increased sympathetic activity. It was reported that LA functional remodeling is feasible to predict cardiovascular outcomes as well as LA structural remodeling. However, it is uncertain whether the combined assessment of LA functional and structural markers are related with stroke severity. In this study, we aimed to investigate the relationship between frontal left atrial remodeling index and stroke severity in patients with acute ischemic stroke.

METHODS: A total of 80 patients (45 men, 35 women, 67 ± 15 years) with acute ischemic stroke were included in the study. NIHSS scores were calculated. Patients were divided into 2 groups according to the NIHS score (Group 1; NIHSS < 16, Group 2; NIHSS ≥ 16). Demographic, clinical, and laboratory data were collected for all patients. Cardiac evaluation with two-dimensional echocardiography was performed within 48 hours of admission to neurology care unit. Peak systolic LA strain was evaluated using 2D speckle tracking imaging. We calculated the average value for LA peak systolic strain obtained from the apical four-chamber, two-chamber, and apical long axis views. LA volume was indexed to body surface area (LAVI). We defined the ratio of LA peak systolic strain and LAVI as LA remodeling index (LARI = [LA peak systolic strain/ LAVI]).

RESULTS: There were no significant differences among clinical parameters of patients. LARI was significantly higher in Group 1 patients than Group 2 patients (Table 1).

CONCLUSIONS: Our results suggested that, left atrial remodeling index is associated with stroke severity on admission in patients with acute ischemic stroke.

Table 1: Echocardiographic parameters of patients.

Variables	Group-1 (NIHSS <16) n=58	Group-2 (NIHSS ≥ l6 Group) n=22	p Value
LVDd (mm)	51.2 ± 6.3	54.6 ± 6.8	NS
LVDs (mm)	40.5 ± 4.2	43.2 ± 5.8	NS
LVEDV (mL)	86.05 ± 17.76	95.43 ± 24.34	NS
LVESV (mL)	41.13 ± 12.47	44.78 ± 14.26	NS
LAD (mm)	39.5 ± 4.3	42.4 ± 4.6	NS
RAD (mm)	32.6 ± 3.4	34.7 ± 3.7	NS
RVDd (mm)	28.1 ± 2.5	30.7 ± 2.8	NS
LVEF (%)	59.2 ± 5.6	51.4 ± 6.3	0.024
LA GLS (%)	34.48 ± 9.73	26.27 ± 7.41	0.019
LAVI (ml/m2)	35.3 ± 12	53.4 ± 23	0.028
LARI (%)	0.95 ± 0.37	0.49 ± 0.27	0.032

ID: **312**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **Oral**

USE OF TRANSESOPHAGEAL ECHOCARDIOGRAPHY BEFORE ATRIAL TACHYCARDIA ABLATION

Hasan Can Konte[1], Elif Hande Ozcan Cetin[2], Serkan Cay[2]

[1]kahramankazan hamdi eris state hospital, ankara, Turkey

[2]ankara city hospital, ankara, Turkey

[*]Corresponding Author (hcankonte@gmail.com)

Introduction and Aim: It is known that patients with atrial fibrillation and atrial flutter carry a high risk of left atrial thrombus. To prevent this, oral anticoagulants is recommended to these patients if the CHADS2 VASC2 score is appropriate. Routine TEE control is also recommended for left atrial thrombus before atrial fibrillation and flutter ablation. These two conditions are unclear in patients with atrial tachycardia. It was planned to evaluate the frequency of atrial thrombus and the necessity of routine TEE before the procedure in patients scheduled for AT ablation that did not use oral anticoagulants. This study may be helpful in determining whether or not oral anticoagulants should be given to all or some of the patients with atrial tachycardia and to manage the presence of atrial thrombus before AT ablation.

Method: 29 patients who underwent TEE with AT ablation plan between January 2010 and June 2018 were included in the study. The presence of grade 2-3 SEC and thrombus in left atrium and/or left atrial appendage were accepted as thrombogenic milieu. The patients were divided into two groups according to the presence of thrombogenic milieu

Results: Grade 3 SEC was found in 2 patients and grade 2 SEC was detected in 1 patient. Grade 1-2 sec was detected in 5 patients, whereas 18 patients had no thrombus or sec. Thrombus was not detected in any patient.

Conclusion: In our study, it seems that there is no requirement for TEE before AT ablation. However, since the number of patients is low in the study, studies with more patients are needed.

ID: **418**

Topic: **Cardiology » Stroke prevention in Atrial fibrillation**

Presentation Type: **Oral**

LEFT ATRIAL THROMBUS IN PATIENTS WITH ATRIAL FIBRILLATION AND UNDER ORAL ANTICOAGULANT THERAPY; 3-D TRANSESOPHAGEAL ECHOCARDIOGRAPHIC STUDY

Eser Durmaz

Istanbul University-Cerrahpasa, Cerrahpasa School of Medicine, Istanbul, Turkey

**Corresponding Author (durmazeser@hotmail.com)*

Purpose

Ischemic stroke is the major complication of atrial fibrillation (AF) and only proven preventive therapy is oral anticoagulant therapy (OAC). Previous studies reported the presence of thrombi in the left atrium (LA) or left atrial appendage (LAA) despite anticoagulant therapy. We aim to investigate the predictors of LA/LAA thrombus in patients under OAC therapy and long-term clinical impact of thrombus.

Methods

We prospectively enrolled consecutive patients with permanent AF under OAC therapy. Patients baseline characteristics were recorded. Transesophageal echocardiographic study performed after complete transthoracic echocardiographic study. 3-D evaluation of LAA was made using 3-D zoom mode and thrombus was defined when echo reflecting, mobile mass detected. Patients clinical outcomes were decided according to hospital records or via phone calls.

Results

Among 184 patients, 28 LAT were detected. Mean CHA2DS2-VASC score was significantly higher in patients with LAT in comparison to patients without LAT. CHA2DS2-VASC score(p:0.001), left atrial volume(p:0.001), left atrial flow velocity(p:0.006) and left ventricular ejection fraction(p:0.014) were independently associated with LAT. Among the parameters in CHA2DS2-VASC score, the previous history of stroke and age were independently related to LAT. After 12 months of follow-up, patients with LAT had more ischemic stroke than patients without LAT(7.1% vs 4.4%, p: 0.001 respectively).

Conclusion

Although oral anticoagulation is the default treatment strategy for prevention of LAT and thromboembolism in patients with non-valvular AF, LAT still can be detected especially in patients with a high CHA2DS2-Vasc score. Furthermore, the presence of LAT is significantly associated with future ischemic stroke.

ID: **127**

Topic: **Cardiology » Cardiac imaging - Nuclear Imaging**

Presentation Type: **Oral**

THE IMPACT OF THE STRESS TEST ON SCORING IN MYOCARDIAL PERFUSION SCINTIGRAPHY

Gökmen Akkaya[1], Emine Acar[2]

[1]*Ege University, İzmir, Turkey*

[2]*Izmir Kâtip Celebi University, Ataturk Education and Research Hospital, Izmir, Turkey*

[*]*Corresponding Author (akkayagokmen@gmail.com)*

Objective: The aim of this study is to determine how the scoring changes according to the stress method applied to the patients in myocardial perfusion scintigraphy (MPS).

Method: Overall 247 patients who underwent MPS imaging following stress test with Bruce protocol or pharmacological stress test with adenosine between August 2018 and April 2018 were included in the study. Stress and rest MPS images of the patients were evaluated by Cedars-Sinai myocardial imaging program with a five-point scale on a 17-segment model. Summed stress score (SSS), summed rest score (SRS), summed difference score (SDS), stress total perfusion defect (TPD) percentage, rest TPD percentage, difference TPD percentage were obtained quantitatively. Patients were classified in three groups as all patients, coronary artery disease (CAD) positive and negative. Statistical analysis was performed by using t-test and chi-square test.

Results: The mean age was 62±11 (106 F, 141 M). Ninety-four patients (38%) had a diagnosis of known coroner artery disease. The mean age of patients underwent pharmacological stress in CAD+ and CAD- groups were higher when compared to Bruce group. Table 1 presents the data according to the stress method. CNS, stress TPD and difference TPD values were higher in patients who underwent pharmacological stress test in CAD negative group than Bruce protocol applied patients. In the all patient group and in the CAD positive group; factors -except for age- did not differ with the stress method. There was no significant relationship between pharmacological stress method and gender (chi square, p: 0.085).

Conclusion: The frequency of pharmacological stress increases with age. In non-CAD group; reversible defect was found to be higher in individuals of who underwent pharmacological stress test relative to Bruce stress test. This result demonstrated that more ischemia was observed in pharmacological stress test group.

Key words: CAD, myocardial perfusion imaging, stress test, SSS

ID: **604**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

EVALUATION OF EARLY MYOCARDIAL DYSFUNCTION WITH STRAIN ECHOCARDIOGRAPHY IN CHRONIC HEPATITIS B PATIENTS

Emre Özdemir[1], Tuna Demiral[1], Sadık Volkan Emren[1], Mehmet Tokaç[2], Sena Ümmü Sarı[3], Selin Özdemir[4]

[1]*İzmir Katip Çelebi Üniversity, İzmir, Turkey*

[2]*İzmir Katip Çelebi Üniversitesi, İzmir, Turkey*

[3]*Ankara Etimesgut State Hospital, Ankara, Turkey*

[4]*Tire State Hospital, İzmir, Turkey*

[*]*Corresponding Author (emreozdemir27@yahoo.com.tr)*

Introduction: It is well-known that chronic hepatitis B virus infection (CHBV) can be associated with hepatic-effects but it can also be associated with an extra-hepatic effect, of which cardiac manifestations are the one of the least known. There is a limited amount of data about myocardial dysfunction in CHBV. The aim of this study was to detect early myocardial dysfunction in CHBV using strain echocardiography.

Method: Our study is a prospective study that includes 40 CHBV patients without anti-viral treatment and 40 CHBV patients under anti-viral treatment from 2017 October to 2018 May. All groups included patients, whose ages ranged from 30 to 60, not having co-morbid diseases and patients with pathologies that would cause myocardial dysfunction were excluded for all groups. All patients had statistically similar BMI, serum ALT-AST-INR values. All patients were evaluated with transthoracic 2D, tissue doppler, and strain echocardiography.

Results: Our patients' gender distribution is 67% female, and 33% male for each group. The mean age is 42,8±8,8 for CHBV patients without anti-viral treatment (Group 1), 44,3±8,9 for CHBV patients under anti-viral treatment(Group 2), and 42,5±11,4 for control group(p:0.677).The mean time from the diagnosis of chronic HBV (+) patients was 6.64 ± 3.4 days, and the mean HBV DNA value was 2185254,96±19248074,9.The mean lateral s' have a statistical significance between CHBV patients, and control group. The mean lateral s' was 10,2±1,9 for group 1; 11,3±3,3 for group 2; 211,7±2,6 for control group, and this statistical significance (p:0.035) is between control group, and group 1. The mean GLS was 19,9±3,4 for group 1, 18,7±3,7 for group 2, 22,8±1,9 for control group; the mean GCS was 17±5,2 for group 1, 19,6±5,5 for group 2, 23,6±2,4 for control group. For both GCS, and GLS groups, control group was statistically different ($p<0.01$) from group1, and 2. However; group 1, and 2 was not different from each other. Regarding other parameters Left Atrium diameter, interventricular septum diameter, posterior wall diameter, Left Ventricular diastolic diameter, Left Vent. end Systolic Volume, ejection fraction , E wave velocity, A wave velocity, deceleration time , lateral e' wave velocity ,lateral a' wave velocity , septal s' wave velocity , septal e' wave velocity , septal a' wave velocity ,there were no significant difference among the three groups. And there was no correlation between HBV-DNA quantity, and GLS (R= 0.10 P=0.932), GCS (R=0.079 P= 0.519) values respectively (Table 1).

Conclusion: Chronic HBV infection, due to being a chronic necro-inflammatory period, can affect myocardial functions. Traditional echocardiographic parameters as LVEF are not useful to detect early myocardial dysfunction. Strain echocardiography is more useful in the identification of subclinic myocardial disease. Myocardial dysfunction may be seen as cardiac involvement of CHBV. We detected statically decreased GLS and LE values, without significant difference other echo parameters. In this situation this is the first study that shows strain echocardiography, and tissue doppler echocardiography may be more valuable for CHBV patients than routine 2D echocardiographic LVEF parameters to determinate myocardial effect. Long-term follow-up to evaluate whether low GLS predicted the development of EF reduction will be useful for understanding the cardiac effects of CHBV. Perhaps these datas may change the HBV treatment regimens for cardioprotection in the future

Table 1. Echocardiographic parameters of the patients

	HBV without anti-viral treatment	HBV with anti-viral treatment	Control Group	p-value
LA	31.7±4.1	33.5±3.7	33.5±4.4	0.075
IVS	9.1±1.5	9.3±1.8	9.4±1.3	0.680
PW	9.0±1.4	9.0±1.7	9.1±1.1	0.967
LVD	41.8±3.8	42.2±3	42.9±3.7	0.314
LVS	26.2±3.9	25.9±2.9	26.3±3	0.889
LVEDV	80.2±21.5	77.1±23.5	70.4±18.7	0.096
LVESV	33.9±10.1	33±10.8	29.7±9.6	0.121
EF	61.7±8.2	61.1±5.8	62.6±5.8	0.583
E	90.5±23.2	84.1±20.6	87.4±25.3	0.517
A	84.7±21.5	79.7±18.2	82.4±10.8	0.461
DT	171±48	166±48	153±31	0.222
Lateral s	10.2±1.9	11.3±3.3	11.7±2.6	0.035[a]
Lateral e	13.3±2.6	12.6±3.5	12.5±2.9	0.401
Lateral a	10.4±3.3	11.6±.4	11.5±2.6	0.086
Septal s	8.7±1.9	8.2±2.3	8±1.5	0.281
Septal e	9.9±2.6	9.8±2	9.8±.7	0.941
Septal a	9.5±1.6	10.3±4.3	8.8±2.2	0.084
GLS	19.9±3.4	18.7±3.7	22.8±1.9	<0.001[b]
GCS	17±5.2	19.6±5.5	23.6±2.4	<0.001[c]

a: difference between the control group and Group 1.

b: the control group is different from Group 1 and 2, and there is no difference between Groups 1 and 2.

c: the control group is different from Group 1 and 2, and there is no difference between Groups 1 and 2.

ID: **549**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

ECHOCARDIOGRAPHY-DERIVED AORTIC ELASTIC PROPERTIES AS A NEW TOOL IN CARDIOVASCULAR RISK ANALYSIS

Elif Hande Özcan Çetin[1], **Hasan Can Könte**[2], Özgür Kuş[3]

[1]*Ankara City Hospital, ANKARA, Turkey*

[2]*Kahramankazan State Hospital, ANKARA, Turkey*

[3]*İzmir Çiğli State Hospital, ANKARA, Turkey*

[*]*Corresponding Author (dr.elifhande@gmail.com)*

BACKGROUND: European guidelines on prevention of cardiovascular (CV) diseases routinely recommend SCORE system to assess 10-year cardiovascular risk. However, recent update on these guidelines has suggested using risk age (RA) which can be calculated from SCORE risk tables is a new tool in determination of therapeutic strategies in apparently healthy people. Echocardiography derived aortic elastic parameters are predictors of CV mortality. We aimed to demonstrate the relationship between RA and aortic elastic properties.

METHODS: A total of 150 consecutive asymptomatic patients (49.3% male, mean age: 52.5±7.6 years) without established CAD and diabetes who admitted to outpatient clinics were included in the study. Aortic stiffness index (ASI), aortic distensibility (AD) and aortic strain (AS) were calculated by using echocardiographic parameters and office blood pressure obtained by sphygmomanometry.

RESULTS: The prevalence of CV risk factors found as hyperlipidemia of 42%, smoking habitus of 41.3%, hypertension of 58.2%, respectively. In lineer regression analyses, ASI was positively correlated with RA (β=0.201, p=0.004) and with the difference between RA and chronological age (CA) (β=0.384, p<0.001). AD (β=-0.462, p<0.001) and AS (β =-0.462, p<0.001) were negatively correlated with RA.

CONCLUSIONS: Aortic elastic properties were significantly correlated with RA derived from SCORE risk table and the difference between RA and CA. These echocardiographic measurements can take part in more comprehensive and accurate CV risk analysis.

ID: **637**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

CORONARY REFLU SIGN: THE PRACTICAL MARKER FOR PREDICTION LEFT VENTRICULAR FILLING PRESSURES IN PATIENTS UNDERGOING CORONARY ANGIOGRAPHY

Ersin Sariçam[1], Arslan Ocal[2], **Serkan Asil**[3]

[1]*MEDICANA ANKARA HOSPITAL, Medicana Ankara Hastanesi Kardi, Turkey*

[2]*Gulhane education and research hospital, Ankara, Turkey*

[3]*Gulhane education and research hospital, ankara, Turkey*

[*]*Corresponding Author (saricamersin@yahoo.com)*

BACKGROUND AND AIM: In angiographic view, dye flow features is important for clinicians. The segmental back flow (milking phenomenon), and slow flow pattern have been known as typical angiographic appearance. Similarly, we have declared new coronary imagine 'reflux sign' that dye fluctuation reflux in the left main coronary artery in coronary angiography.

METHODS: The prospective study included 2400 patients admitted angiography laboratory between February 2018 and March 2019. In coronary angiography, we saw the contrast agent's fluctuation in left main coronary artery and defined this appearance as coronary reflux sign. Of the patients, 128 patients had coronary reflux sign in left main coronary vessel imaging. The control group (n=100) had no coronary reflux sign. The both groups were examined in terms of left ventricle catheterization findings.

RESULTS: The age of both of groups were similar. The patients with reflux sign composed of severe aortic valvular disorder, severe mitral insufficiency, untreated hypertension, and hypertrophic cardiomyopathy. The patients with coronary reflux sign had higher left ventricular end-diastolic pressure than control group (22.37 ± 1.36 mmHg, 14.40 ± 2.42 mmHg, respectively, $p<0.05$).

CONCLUSIONS: The coronary reflux sign is significantly associated with high left ventricular end-diastolic pressure. This imagine may be practical marker for clinicians.

Keywords: Angiographic appearance, coronary reflux sign, elevated left ventricular pressure

Oral Presentation Session

Advanced Therapies for Venous Thrombosis

Date: 14.03.2020 Time: 08:00 – 09:00 Hall: 6

ID: **331**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

PHARMACOMECHANICAL TREATMENT OF ILIAC DEEP VEIN THROMBOSIS

Mustafa Dağlı, Mehmet Orkun Şahsıvar

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Deep vein thrombosis is the third most common cardiovascular pathology after coronary artery disease and stroke with life-threatening complications. In the treatment of patients with acute / subacute deep vein thrombosis involving the iliac veins, endovenous pharmacomechanical treatment is a method that provides symptomatic improvement in a shorter time.

METHODS

In the last two years, nine patients with acute iliac deep vein thrombosis underwent pharmacomechanical treatment. Popliteal vein of extremity was catheterized by ultrasonography. If there is a mobile thrombus after venography, inferior vena cava filter was placed from the opposite extremity. Venous stent was placed in one patient with iliac stenosis.
Thrombus segments were treated for an average of 25-30 minutes. Control venography evaluated the patency of the venous system. Repetition of the total non-opened segments was performed and venography control was performed. Balloon angioplasty was applied to the residual stenosis followed by venous stent (self expandable). In patients without contraindications to the use of antifibrinolytic agents during the procedure, 10-25 mg (half dose) and 24 hours after the procedure were administered as infusion. In patients who received coumadin and stents as anticoagulants, acetylsalicylic acid 100 mg tb was started.

RESULTS

Anticoagulant therapy in patients with deep vein thrombosis is known to be inadequate to prevent thrombus dissolution and post thrombotic syndrome. Due to the lack of drug thrombolytic effect in anticoagulation, 2/3 of the patients cannot achieve adequate clot dissolution, so venous valve dysfunction and venous pathologies may develop. In current treatment guidelines, catheter-driven selective fibrinolytic therapy is recommended to avoid complications of fibrinolytic therapy.

Prior to pharmacomechanical treatment, the Vena Cava filter is usually used via the femoral vein from the opposite leg, which must be done while the patient is in the supine position.

The recommended criteria for patients undergoing mechanical thrombectomy were deep vein thrombosis that threatens the extremity, the presence of symptoms lasting less than 14 days, the first episode of venous thrombosis, low risk of bleeding, high life expectancy and good functional capacity of the patient.

CONCLUSIONS

Reduction or loss of thrombus mass in acute thrombus reduces leg pain due to thrombus. We think that mechanical treatment is effective in appropriate patients because it reduces post phlebitic sedum in the future.

ID: **179**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

THE SAFETY AND THE EFFICACY OF PHARMACO-MECHANICAL THROMBOLYSIS IN LOWER EXTREMITY DEEP VENOUS THROMBOSIS

Emjed Khalil

Ordu University Education and Research Hospital, Ordu, Turkey

**Corresponding Author (emjedkhalil@gmail.com)*

Objective: To investigate the impact of accelerated pharmaco-mechanical thrombosis (PMT) with low-dose second-generation urokinase for the management of cases with lower extremity deep venous thrombosis (DVT), and to compare its efficacy in subjects with acute and subacute DVT.

Methods: Thirty-five patients with acute (< 15 days) or subacute (15-30 days) DVT who underwent PMT in a tertiary center were enrolled in this single-arm prospective study. Following the placement of a temporary vena cava filter, urokinase (200,000 IU) was administered into the occlusion through a multi-hole catheter for 15 to 20 minutes duration. Control venography was performed to assess venous flow and the rate of acute recanalization. Percutaneous balloon dilatation and stent placement were carried out in case of a residual iliac vein stenosis of > 50%. Any residue thrombi were suctioned with an aspiration catheter. The percentage of vessel patency and PTS at the 3rd month after PMT were the primary outcome measures of the present study.

Results: Complete recanalization was noted in 23 (66%), while 2 (6%) patients had poor recanalization. The rate of minor complications was 14%. None of the subjects experienced major complications, such as intracranial hemorrhage or pulmonary embolism. No mortality was recorded during the three months of follow-up. Control duplex ultrasonography at the 3rd month revealed that the target vein was patent in all of the subjects. None of the subjects experienced PTS during follow-up. In addition, the percentage of acute complete recanalization was significantly higher in subjects with acute DVT compared to those with subacute DVT (95% vs. 27%, $p < 0.001$).

Conclusion: PMT with an accelerated regimen of low-dose urokinase provides excellent efficacy in the resolution of thrombus and prevents the development of PTS in the mid-term, when used for the management of lower extremity DVT.

ID: **304**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

MANAGEMENT OF EXTREMITY VENOUS THROMBOSIS IN NEONATES AND INFANTS: AN EXPERIENCE FROM A RESOURCE CHALLENGED SETTING

Ahmed Mousa[1], Ossama M. Zakaria[1], Mai A. Elkalla[2], Mohamed Neinaa[1]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

Background: We aimed to evaluate the outcome of different treatment modalities for extremity venous thrombosis (VT) in neonates and infants, highlighting the current debate on their best tool of management.

Methods: This retrospective study took place over a 9-year period from January 2009 to December 2017. All treated patients were referred to the vascular and pediatric surgery departments from the neonatal intensive care unit. All patients underwent a thorough history-taking as well as general clinical and local examination of the affected limb. Patients were divided into 2 groups: group I included those who underwent a conservative treated with the sole administration of unfractionated heparin (UFH), whereas group II included those who were treated with UFH plus warfarin.

Results: Sixty-three patients were included in this study. They were 36 males and 27 females. Their age ranged from 3 to 302 days. Forty-one (65%) patients had VT in the upper limb, whereas the remaining 22 (35%) had lower extremity VT. The success rate of the nonsurgical treatment was accomplished in 81% of patients. The remaining 19% underwent limb severing, due to established gangrene. The Kaplan-Meier survival method revealed a highly significant increase in both mean and median survival times in those groups treated with heparin and warfarin compared to heparin-only group ($P < .001$).

Conclusions: Nonoperative treatment with anticoagulation or observation (ie, wait-and-see policy) alone may be an easily applicable, effective, and a safe modality for management of VT in neonates and infants, especially in developing countries with poor or highly challenged resource settings.

ID: **378**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

ENOXAPARIN SODIUM MAY BE MORE APPROPRIATE DRUG FOR COMPARING NOACS IN REAL LIFE VTE TRIALS IN CANCER PATIENTS: AN IN-VITRO TRANSLATIONAL STUDY

Emre Kubat

Gülhane Training and Reserch Hospital, Ankara, Turkey

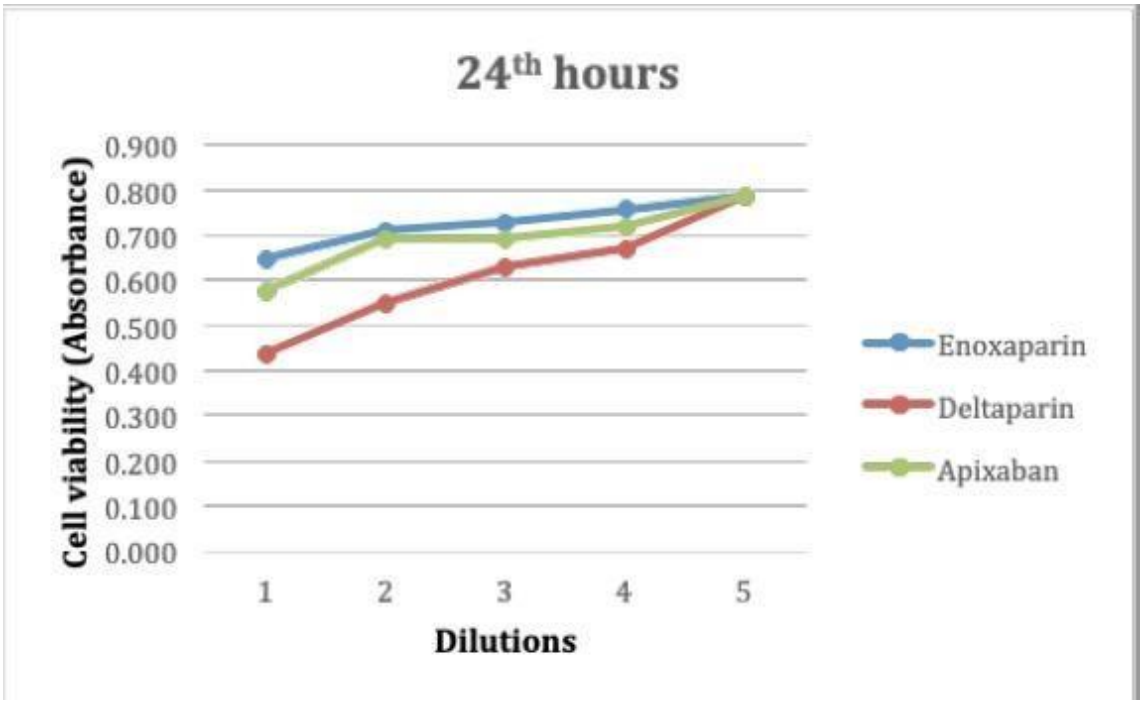
**Corresponding Author (ekubat@gmail.com)*

BACKROUND: Low molecular weight heparins (deltaparin, enoxaparine) and apixaban is the guideline-endorsed treatment for cancer associated venous thromboembolism (VTE). There have been a number of important treatment clinical trials of cancer-associated VTE for non-vitamin K oral anticoagulant (NOAC) usage. Most trials have compared NOAC with deltaparin sodium. Cytotoxicity of drugs also affects side effect profiles. But there are not enough preclinical studies in the literature about this topic. Therefore, in this study, it was aimed to compare the cytotoxic effects of apixaban, deltaparin and enoxaparin in in-vitro model and to correlate the results with real-world setting

METHODS: L929 fibroblastic cells were incubated with four different dilutions for all dugs. study dilutions were adapted to in vitro culture media according to the treatment doses of the drugs. (apixaban, enoxaparin, deltaparin) Morphological changes, cell viability were evaluated at 24 hours of incubation. The cell viability was determined by MTT assay and results were compared to the control group.

RESULTS: The results of MTT assay were showed that apixaban, enoxaparine and deltaparin had more cytotoxic effect in espescially dilution I than the other dilutions ($p<0.05$). When compare the drugs for dilution 1, enoxaparin had a lower cytotoxic effect than apixaban and deltaparin. ($p= 0.006$) In addition, enoxaparin showed lowest cytotoxic effect in all dilutions. ($p<0.005$)

CONCLUSIONS: In this in-vitro study results show that enoxaparin sodium had lowest cytotoxic effect compare with dalteparin and apixaban. Therefore, enoxaparin sodium may be more appropriate drug for comparative studies with NOAC in real life VTE trials in cancer patients.



ID: **13**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

INVASIVE TREATMENT OF SYMPTOMATIC ACUTE ILIOFEMORAL DEEP VEIN THROMBOSIS - THE PRELIMINARY RESULTS OF A SINGLE SURGEON

Orcun Unal

Yedikule Chest Diseases and Thoracic Surgery Training and Research Hospital, Istanbul, Turkey

**Corresponding Author (orcunal@gmail.com)*

Objective: Pharmacomechanical thrombectomy has been widely used for the invasive treatment of acute and subacute deep vein thrombosis. In the current research, the efficacy and safety of pharmacomechanical thrombolysis for symptomatic acute iliofemoral deep vein thrombosis is evaluated.

Materials and Methods: One hundred and fifty two patients with symptomatic acute deep vein thrombosis between January 2007 and September 2019 whom underwent pharmacomechanical thrombolysis by the same single surgeon at the institution were evaluated retrospectively. The thrombectomy device was used only once for the patients with deep venous occlusion. In intractable cases, balloon angioplasty was not hesitated. The extent of thrombus was graded from I (<50%) to III (complete) depending on postprocedural venography.

Results: Acute or subacute 4.5±3.9 days (range, 1–14 days) deep vein thrombosis of the iliofemoral venous segment was detected in all patients. The symptoms were phlegmasia cerulea/alba dolens and/or severe pain. All the patients were treated with pharmacomechanical thrombolysis. The amount of the used tissue plasminogen activator during the procedure ranged between 15-60mg (range: 20.9±19.4 mg). The procedures lasted a mean of 61.3±15.9 minutes. Pharmacomechanical thrombolysis procedure resulted in complete thrombus lysis in 89.3% of the patients (grade III). Grade II lysis was achieved in 8.7% of the cases. In 2% of the cases thrombus resolution was Grade I. One hundred and forty nine of the patients could be could be treated at the initial intervention; however, 13 patients required additional tissue plasminogen activator infusion for the treatment of the residual or recurring thrombus. The cumulative success rate of the procedure could be 92.6%. Mortality and major complications including intracranial or gastrointestinal bleeding did not occur during or after the procedures. Postthrombophlebitic syndrome developed in 5.9% of the cases in the first year follow up.

Conclusions: Invasive treatment of acute deep vein thrombosis of the iliofemoral segment with pharmacomechanical thrombolysis yielded promising outcomes in the early and midterm follow up in the current series. In order to propose the invasive procedure as an alternative to conventional medical treatment, high volume cohorts with long term follow up results are needed.

ID: **364**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

PROGNOSTIC ROLE OF NLR, PLR, AND LMR IN PATIENTS WITH PULMONARY EMBOLISM

Nuri Köse[1], Tarık Yıldırım[2], Fatih Akın[3], Seda Elçim Yıldırım[3], İbrahim Altun[3]

[1]*Mugla Private Yucelen Hospital, Mugla, Turkey*

[2]*Balikesir University, Balikesir, Turkey*

[3]*Mugla Sitki Kocman University, Mugla, Turkey*

[*]*Corresponding Author (drnurikose@hotmail.com)*

OBJECTIVE: Pulmonary embolism (PE) is associated with significant morbidity and mortality. Novel biological parameters are being investigated for estimating the prognosis in these patients. Since PE is closely associated with inflammatory status, the neutrophil/lymphocyte (NLR), platelet/lymphocyte (PLR), and lymphocyte/monocyte (LMR) ratios were suggested to be useful to predict patient outcomes. Based on this background, this study aimed to evaluate the prognostic roles of these parameters in PE cases.

METHODS: A total of 103 PE cases were retrospectively evaluated regarding demographic and clinical characteristics, treatments, laboratory analyses and imaging studies, and outcomes.

RESULTS: Median follow-up of the patients was 39 months, and the 5-year overall survival probability was 73.8%. Twenty patients were classified as high-risk PE cases (19.4%). Thrombolytic treatment was administered to 23 patients (22.3%).The systolic pulmonary arterial pressure was measured during one year, and showed a significant decrease from 51.7±15.7 mmHg at admission to 26.6±4.0 mmHg at 1st year assessment ($p<0.001$).Age (OR: 1.06, $p<0.001$) and NLR (OR: 1.52, $p<0.0019$) were significantly associated with the disease status.Theindependent prognostic factors in moderate-low & low-risk PE cases were NLR (HR: 1.17, $p=0.033$), and LMR (HR: 1.58, $p=0.046$). For the patients with moderate-high & high-risk PE, the independent prognostic factors were determined as age (HR: 1.07, $p=0.014$), and PLR (HR: 1.01, $p=0.046$).

CONCLUSION: The NLR, PLR, and LMR were found to be associated with the prognosis in patients with PE. Clinical severity of the disease should be considered when utilizing these indicators for estimation of the outcomes.

ID: **218**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

UNILATERAL CLUBBING: A RARE FINDING IN EXTREMITAL VENOUS MALFORMATIONS

Yigit Akcali, Rıfat Özmen, Yasin Yılmaz, Özgür Karabıyık

Erciyes University, Kayseri, Turkey

Corresponding Author (yigitakcali@gmail.com)

OBJECTIVE: Clubbing, which is considered one of the oldest clinical symptoms in medicine defined by Hippocrates and affects both finger and toenails, is defined as focal and bulbous enlargement of distal phalanges due to proliferation of subungual connective tissue. Respiratory and cardiovascular diseases are common causes of bilateral clubbing. Unilateral clubbing is a rare condition that may result from local vascular abnormality or hemiplegia. We present our patients with unilateral clubbing of their hand fingers and toes as a clinical manifestation of venous malformation (VM) in the upper and lower extremities.

METHODS: In the last five years, among the 683 patients with VM, 552 extremital VMs in both upper and lower limb were re-evaluated clinically and radiologically for clubbing. The clubbing was diagnosed and classified, as shown in Table I.

Table I. Diagnostic tests/signs and grading of clubbing.

Diagnostic tests/signs	
Name	*Description*
Lovibond or profile sign	Bring the patient's fingertip at the level of your eye and look at the angle of the onychodermal or Lovibond tangentially. Normal: ≤160° and Clubbing: ≥180°
Curth's modified profile sign	Similarly, you can measure the angle between the middle and distal phalanx. Normal: 180° and Clubbing: <160°.
Fluctuation test	The fingertip of the patient is placed on the pulp of the physician's two thumbs and in this position is held under gentle pressure with the tips of the middle fingers of the physician applied to the proximal interphalangeal joint of the patient. The patient's finger is then palpated on the base of the nail with the tip of the physician's index fingers. Due to the softening of the nail bed, the fluctuation of the nail bed has increased in clubbing.
Schamroth's window test	This sign occurs by juxtaposed the dorsal surfaces of the terminal phalanx on opposing fingers. The normally formed diamond-shaped window is obliterated in the presence of clubbing because of the loss of the *hyponychial angle*. This sign is also known as *diamond* or *Schamroth's sign*
Digital index	The ratio of finger circumference in the nail bed (NB) to the distal interphalangeal insertion (DIP), i.e. NB/ DIP, is calculated and summed for 10 fingers. The final value is divided by 10 and the resulting value is the *digital index* (> 1 in clubbing)
Phalangeal depth ratio	The ratio of the index finger's distal phalanx depth (DPD) to the depth of the interphalangeal joint (IPD), i.e. DPD / IPD, is measured using a caliper (it should not touch the skin). A ratio of> 1 indicates clubbing.
Grading	
Grade	*Description*
I	Fluctuation and softening of the nail bed
II	Loss of the hyponychial angle
III	Accentuated convexity of the nail
IV	Fingertip develops a clubbed appearance
V	Nail and surrounding skin develop a glossy change with longitudinal striations of the nail

RESULTS: The rate of clubbing among the extremital VM was 2.5% (this rate was 2.2% and 2.6% in the upper and lower limbs, respectively). Among the patients with a median age of 8 (range, 2-23), the female/male ratio was 6/1. The etiological cause was venous malformation (64.3%) and Klippel-Trénaunay syndrome (35.7%). None of the patients had painful clubbing. In all patients, the digital index and the

phalangeal depth index were above 1. The degrees of clubbing were 14.3%, 21.4%, 42.9% and 21.4% for Grade II, III, IV and IV, respectively. Hallux and pollex were more frequently involved (42.9%) (Figure 1).

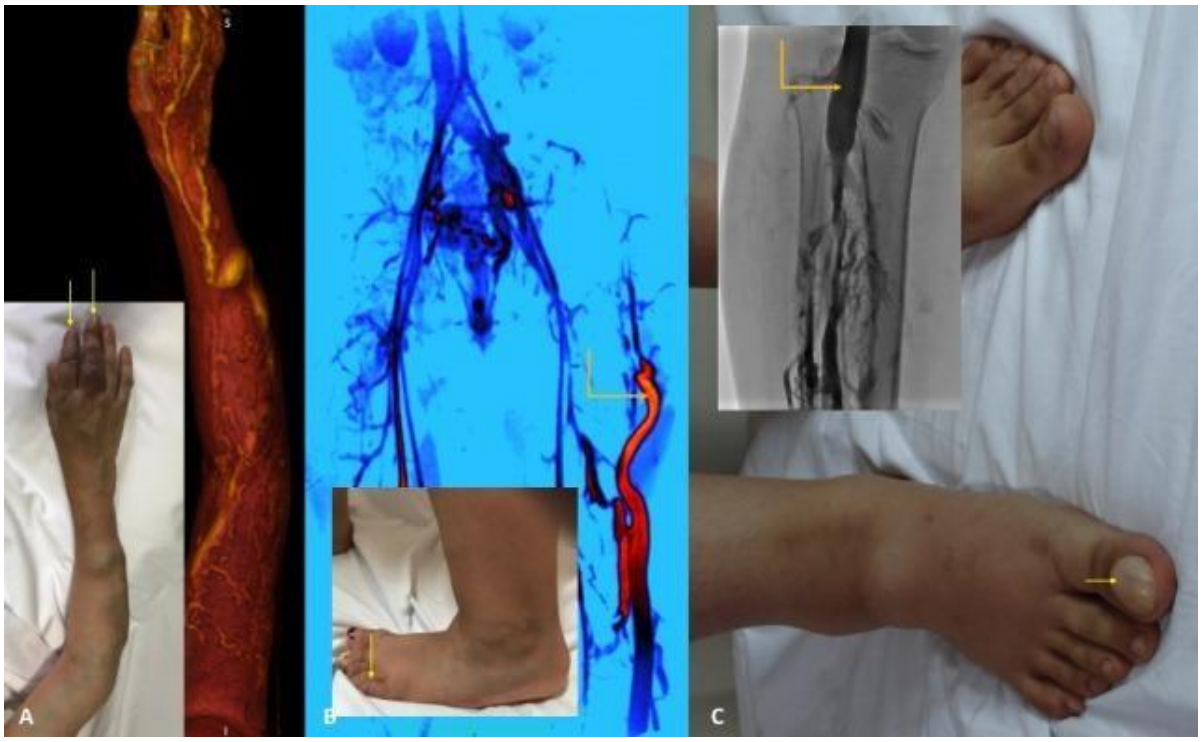


Figure 1. Clubbing in a patient with truncular venous malformation (T-VM) (arrows) (A). Clubbing in a patient with lower extremity VM (arrow); a CT venography showing an embryonic lateral mega vein (elbow-arrow) (B). Hallucal clubbing in a patient with lower limb T-VM (arrow). Note the aneurysmal dilatation of the popliteal vein in this patient (elbow-arrow) (C).

CONCLUSION: To our knowledge, unilateral clubbing associated with venous malformations has not been identified. The difficulty in venous return caused by venous malformation associated with changes in microcirculation may cause clubbing in existing cases.

ID: **614**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

AN INVESTIGATION INTO THE SHORT-TERM RESULTS OF THE USE OF ACUPUNCTURE IN THE TREATMENT OF ENDOVENOUS ABLATION. WHAT IS THE STATUS OF PAIN AND SAPHENOUS VEIN DIAMETER? IS THE PATIENT SATISFIED?

Yavuz Orak[1], **Erdinc Eroğlu**[2], Mehmet Acıpayam[2]

[1]*Kahramanmaraş Sütçü İmam Univ., Kahramanmaraş, Turkey*

[2]*Kahramanmaraş Sütçü İmam Üniv., Kahramanmaraş, United States*

[*]*Corresponding Author (dryavuzorak@hotmail.com)*

BACKGROUND: Our aim is to investigate the 6-9 months results of acupuncture in endovenous ablation.

METHODS: Ethical committee approval was obtained from the Clinical Research Ethics Committee with the 2019/18-08 decision. Group C (n=35);The control group, Group A (n=35);The acupuncture group .Patient satisfaction score and other complications (redness, edema, pruritus) were recorded. Comparison between the groups was made.

RESULTS: There was no difference between the groups in terms of age and BMI (p> 0.05).There was a statistically significant difference between the acupuncture and control groups in terms of patient satisfaction score (p<0.05).Patient satisfaction scores were higher in the acupuncture group. There was a statistically significant difference between acupuncture group and control group in terms of patient the VAS results, (p<0.05).VAS values were higher in the control group.

There was a statistically significant difference between the values of saphenous vein diameter 6-9 months before and 6-9 months in the control group (p <0.05).There was an increase in median values. The diameter of the saphenous vein decreased numerically in 8 patients, increased in 24 patients, and did not change in 3 patients.

In the acupuncture group, there was a significant difference between the values of saphenous vein diameter data 6-9 months before and 6-9 months later (p <0.05).There was a decrease in the measurements after 6-9 months. The saphenous vein diameter decreased numerically in 8 patients, increased in 16 patients, and did not change in 11 patients in the acupuncture group.

In the control group, there was a statistically significant difference between the values of CEAP classification 6-9 months before and 6-9 months later (p<0.05).There was a decrease in the measurement after 6-9 months. In the control group, the CEAP score decreased numerically in only 8 patients, did not increase in 24 patients, and did not change in 3 patients.

In the acupuncture group, there was a significant difference between the values of CEAP classification 6-9 months before and 6-9 months later (p<0.05).There was a decrease in the measurement after 6-9 months. The CEAP classification decreased numerically in 22 patients in the acupuncture group , did not increase in any of the patients, and did not change in 13 patients.

In the control group, the patients had redness (5.7%);edema (20.0%);itching (20.0%);analgesic use was found to be 22.9%.In the acupuncture group, analgesic use was 9.3%,redness was 0%;edema 9.3%;itching was 5.8%.

CONCLUSIONS: Acupuncture increased patient satisfaction in 6-9 months, decreased pain levels and CEAP classification. Analgesic consumption and complications were less in acupuncture group.

Oral Presentation Session

Challenging Observations in Peripheral Venous and Arterial Disease

Date: 14.03.2020 Time: 09:00 - 10:00 Hall: 6

ID: **628**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

TEN-YEAR EXPERIENCE OF SURGICAL TREATMENT OF PATIENTS WITH NON-SPECIFIC AORTO-ARTERITIS

Abdurasul Yulbarisov, Karimov Sh.I., Irnazarov A.A., Alidzhanov H.K., Akmatov A.M., Muminov R.T., Tsay V.E., Djalilov A.A., Nurmatov D.H.

Republican Special Center of Surgical Angionevrology, Tashkent, Uzbekistan

**Corresponding Author (rasul-1981@mail.ru)*

Aim of the study: Conduct a retrospective analysis of the results of surgical treatment of patients with nonspecific aortoarteritis (NAA).

Material and methods: For a ten-year period (2008 - 2018), 976 patients with NAA were hospitalized at the Republican Specialized Center for Surgical Angioneurology and the Department of Vascular Surgery of the Tashkent Medical Academy. The average age of the patients was 30.6 ± 5.3 years. Of these, the majority (89.8%) are female. Various types of surgical interventions were performed in 229 patients. All surgical interventions were divided into 3 groups: open, endovascular and hybrid. All patients received long-term immunosuppressive and cytostatic therapy.

Results: Neurological complications - ischemic stroke, were observed in 3 (1.3%) patients in the group of open surgical interventions. Also in this group, bleeding of the anastomotic region was observed in 2 patients, which was stopped. Thrombosis of the operated vessel was noted in 8 patients, of which 2 cases were in the open surgery group, 3 cases were in the endovascular intervention group and 2 were in the hybrid surgery group. Also, in 1 patient after aorto - carotid bypass surgery, suppuration of the postoperative area and infection of the prosthesis were noted. Lethal outcomes were not noted. In the long-term postoperative period, the following results were observed on average up to 64 months of follow-up: restenosis or occlusion of the operated vessel - 36 (15.7%) cases, of which the largest number - 29 patients, was observed in the endovascular intervention group, 6 cases - in 1 group, and 1 case of occlusion in the group of hybrid interventions. Aneurysm of the anastomotic region - 2 patients from the first group. It should be noted that the reason for the majority of cases (26 patients) of restenosis or occlusion of the arteries was the use of immunosuppressive drugs in subtherapeutic doses and inadequate monitoring of the activity of the disease in primary care settings. Ischemic stroke in the long-term postoperative period was observed in 4 patients, which caused a fatal outcome in 2 cases.

Conclusions: 1. Shunting and prosthetics are the preferred methods in most patients with NAA with good long-term freedom from restenosis, but have a higher tendency to develop postoperative complications.
2. Endovascular treatment, in our opinion, should be performed for local lesions and in patients with high anesthetic risk, but patients often need repeated intervention in a long period and careful monitoring.
3. The combination of open surgical and endovascular treatment (hybrid interventions), as well as drug therapy can increase the effectiveness of treatment
4. Adequate immunosuppressive therapy, monitoring of disease activity and an integrated approach to the treatment of patients with nonspecific aortoarteritis are necessary to prevent adverse outcomes.

ID: **425**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

COMPARATIVE OUTCOME OF PATCH ANGIOPLASTY VERSUS BALLOON ANGIOPLASTY AFTER SURGICAL THROMBECTOMY OF THROMBOSED ARTERIOVENOUS HEMODIALYSIS GRAFT: 18-MONTH RESULTS

Ahmed Allam

Benha University, Benha, Egypt

**Corresponding Author (ahmed.allam01@fmed.bu.edu.eg)*

Background: Repeated interventions to keep the well-functioning dialysis vascular access represent the Achilles heel for hemodialysis patients. Thrombosed permanent dialysis access, either arteriovenous fistula or graft remains one of the most common and debatable complications regarding frequency of occurrence and how to manage.

Objectives: Our study aims to evaluate mid-term outcomes of surgical thrombectomy of clotted arteriovenous grafts with adjunctive venous outflow procedures mainly patch angioplasty versus balloon dilatation to restore their function regarding patency as primary endpoint and safety as secondary endpoint.

Methods: Between May 2016 and April 2019, 96 of 125 patients with first-time thrombosed dialysis arteriovenous grafts were prospectively evaluated after block randomization for surgical patch angioplasty (group A) versus balloon angioplasty (group B) for venous anastomotic side after surgical thrombectomy in 4 tertiary referral hospitals in Egypt.

Results: Over 18-month follow-up period of our enrolled patients, immediate technical success was 100% with regaining graft functionality in 100% of 45 patients in group A patients versus 89.6% (P=0.056) in group B with achieving optimum graft functionality in 100% of technically successful declotting procedures (43 patients) in group B. The primary patency at 6, 9, 12 and 18 months in group A was 66%, 63.6%, 52.3% and 31.8% respectively, versus 48.8%, 48.8%, 37.2% and 18.6% respectively in group B. The secondary patency in group A at 6, 9, 12 and 18 months was 86.4%, 100%, 88.6% and 77.3% respectively versus 72.1%, 90.7%, 79.1% and 69.8% respectively that was not statistically significant except 12-month primary patency (P=0.014).

Conclusion: we found no significant difference in 18-month outcomes between patients treated with surgical thrombectomy with patch angioplasty and surgical thrombectomy with balloon angioplasty for thrombosed arteriovenous grafts regarding regaining functionality and patency, however patients treated with balloon angioplasty required more additional secondary interventions and most of them were to manage graft venous anastomotic site restenosis.

ID: **449**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

A MEDICAL PORTRAIT OF AN ANCIENT ENIGMA -THICK LEGS ARE NOT ALWAYS LYMPHEDEMA

Yigit Akcali, Cihat Atabaş, Gülden Sarı

Erciyes University, Kayseri, Turkey

Corresponding Author (yigitakcali@gmail.com)

OBJECTIVE: Lipedema (LpE), a seldom-recognized disorder that nearly just affects women and frequently starts post-pubertal, is a painful, bilateral and symmetrical subcutaneous fatty deposition of lower extremities but sparing feet. Lipedema is diagnosed usually on history and clinical exam (Table I). Ultrasonography (USG) and lymphoscintigraphy (LSG) are useful in the differential diagnosis of veno-lymphatic disorders. Standard conservative therapy includes strict weight control, complex decongestive therapy with or without intermittent pneumatic compression, and physical exercises.

METHOD: In last decade, 147 patients with LpE were studied prospectively with regard to clinical, diagnostic and therapeutic aspects. The patients' demographic, clinical (i.e., history, physical exam, and tests) and diagnostic (i.e., USG, LSG) data were recorded. Also, clinical staging/typing and differential diagnosis (obesity, lymphedema-LE, lipolymphedema-LpLE) was made (Table I). After therapeutic suggestions, the patients were followed-up at intervals of six months.

RESULTS: While LpE/LE was 1.47/5.12 in the same period, LpLE/LE ratio was 6.4% and LpLE/LpE was 22.4%. All patients except two were female (98.6%). Median age was 52 years (range, 18 to 83). The onset of LpE was pubertal (19.4%), gestational (36.1%), and premenopausal, etc. (34.0%). Average child number was 3.2. On antecedent, the rates of familial history and hormonal imbalance were 58.4% and 34.3%, respectively. Median body mass index was 34.3 (range, 22.7 to 62.3). Accompanying diseases were obesity (87.7%), chronic venous disease (57.8%), lymphedema (22.4%), onychomicosis (22.8%), and the others (6.5%). Three patients with LpLE had elephantiasis nostras verrucose (2.0%). The patients had pain (35.8%) and pitting edema (16.3%). The rates of clinical typing were as follows: Type I, 6.1 % (IA: 75%); Type II, 45.5 % (IIB: 37.5%); Type III, 35.4 % (IIIB: 75%); Type IV, 9.5 % (IVA: 100 %); and Type V, 3.3 % (VA: 100 %). The rates of clinical staging were as follows: Stage I, 26.5%; Stage II, 41.4%: Stage III, 17.6%, and Stage IV, 19.0% (Figure 1). Stemmer's sign was positive in 19.0 percent of the patients. Lymphoscintigraphy demonstrated a lymphatic abnormality in 39.1 percent of the patients as bilateral (33.3%), the right (41.6%), and the left (16.6%). All patients except one took conservative treatment.

CONCLUSION: The significance of lipedema, a misdiagnosed and misunderstood disproportional fatty deposition syndrome, is due not only to the disease itself, but also to the combination of lipedema and the group of associated and secondary diseases such as veno-lymphatic diseases, obesity. The more diseases coexist, the worse is the prognosis of lipedema itself. The diagnosis of lipedema, a chronic disorder that significantly affects every day functioning, decreases social participation, and has considerable effects on the quality of life, with important functional and cosmetic morbidity, should be made as early as possible to inform lipedema patients and prevent progression and complications of the disease.

Table I. Diagnostic criteria, types and stages of lipedema.

Diagnostic criteria	
1	Lipedema merely affects women and commonly appears by the 3rd decade of life, with incongruent/disproportional fat distribution
2	Bilateral and symmetrical fat deposits develop downward from the hips, while the feet are usually spared
3	Non-pitting edema
4	Affected subcutaneous regions are tender, painful and characterized by easy bruising (pain with bimanual palpation)
5	Resistance to diet and stimulation of backflow by the elevation of the limbs (no/limited influence of weight loss on disproportionate fat distribution)
6	Increased vascular fragility
Types*	
I	Fat deposits on pelvis, buttocks and hips without spread to the rest of the legs
II	Buttocks to knees, with formation of folds of fat around the inner side of the knee
IIII	Fat deposits located between buttocks and malleoli
IV	Fat that is predominantly deposited in the arms, without affecting the lower limbs
V	Symmetrical deposits between the knees and malleoli (lower leg), without affecting the feet
Stages	
I	Normal skin surface with enlarged subcutaneous tissue
II	Uneven skin with indentations in the fat, larger mounds of tissue grow as unencapsulated masses (lipomas)
IIII	Large extrusions of tissue causing deformations, especially on the thighs and around the knees
IV	Development of lipo-lymphedema with large overhangs of tissue

***Schrader**'s classification; **Schingale** distinguishes five types of presentation of the lipedema: *Type I*: adipose tissue increased on buttocks and thighs, *Type II*: the lipedema extends to the knees with formation of fat pads on the inner side of the knees; *Type III*: lipedema extends from the hips to the ankles; Type *IV*: involving the arms and legs; *Type V*: lipo-lymphedema.



Figure 1. Going to the distorted leg with mechanical force of increased fat tissue in the knees and legs (**A**). Note the varying weight distribution and ulceration due to friction. *Schrader*'s stage III lipedema with bulging fat deposits (**B**); Type V Lipedema according to Schrader's classification (**D**); The female patients with type II Lipedema according to Schrader's classification (**F, H, I**). Note to mattress phenomena; Advanced columnar distribution of fatty deposits ("Michelin tire" appearance). Note the patient's bilateral secondary lymphedema (**J**); Characteristic "step-off" seen at the ankles in patients with lipedema. Pantaloon distribution of fat with overlapping at ankles but sparing of feet (cuff sign) (**A, E, J, M, P**). Disproportionate swelling of waist and lower extremities while feet are spared. This creates "cuff sign." Note lipedema of upper arm, but forearm and hand are normal (*Schrader*'s stage IV lipedema) (**G**); A 45-year-old male patient with lipedema whose symptoms began nine years ago. He applied to the outpatient clinic after complicated with lymphedema (**H**); Type II lipedema coexisted with livedo reticularis (**K**); Progression to the distorted leg by mechanical strain of increased adipose tissue in the inner sides of knees and legs (**L**); Columnar type lipedema with secondary lymphedema; the feet are still largely spared (fat-pad sign) (**M**); *Schrader*'s stage III lipedema coexisted with chronic venous disease (I call it "phlebolipedema"-Y.A.) (**N**); Stage II lipedema with irregular skin and nodular fat deposits ("columnar type" according to *Földi & Földi*) (**O**); stage III lipedema with large deforming fat deposits ("lobar type" according to *Földi & Földi*) (**P**); Note to irregular skin and nodular fat deposits.

ID: **328**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

THE IMPORTANCE OF USING ULTRASOUND WHEN INSTALLING A PERMANENT DIALYSIS CATHETER

Mustafa Dağlı, Ilyas Selim Yılmaz

Health Sciences University Konya Training and Research Hospital, Cardiovascular Surgery Clinic, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

In our study, we aimed to evaluate our surgical experience and early complications of permanent dialysis catheters which are inserted by ultrasound for the treatment of hemodialysis patients.

METHODS

In our clinic, a permanent catheter was placed in 113 patients (58 women) in the last year. The mean age of women was 63.4 years while the mean age of men was 62.5 years. retrospectively evaluated the permanent dialysis catheter operation. Permanent dialysis catheters in the operating room 20% and in the intensive care unit 80%; it was inserted only under local anesthesia and under ultrasound guidance. An ultrasound puncture was performed and the direction of the guide was monitored. Permanent dialysis catheters were applied to right and left subclavian vein, right and left jugular vein and right and left femoral vein. Complications developed during the operation and in the first month were evaluated.

RESULTS

All of our patients were diagnosed with chronic renal failure. Interventions were performed in the intensive care unit (80%) under ultrasound guidance. 20% of patients underwent surgery in the operating room. Some of the patients who underwent surgery in the operating room were those who had a permanent catheter in the same session after arteriovenous fistula operation. All of the patients underwent local anesthesia. General anesthesia or sedo analgesia was never used. Venous interventions were left femoral vein in 1 patient, right femoral vein in 3 patients, right jugular vein in 32 patients, left jugular vein in 11 patients, left subclavian vein in 2 patients, and right subclavian vein in 7 patients. None of the patients developed pneumothorax. In 2 patients, wound infection at the puncture site was observed as redness and increased temperature. Permanent catheters were removed in the third month because of suspected catheter infection. The complication rate was less than 1%. There was no mortality due to operation.

CONCLUCIONS

In the clinics ultrasound-guided permanent catheter insertion reduces the morbidity and complication rates with the cooperation of experienced physicians and nurses.

ID: **137**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

NARA SOCKS PROJECT AIMED AT DISSEMINATION OF COMPRESSION THERAPY AND REVIVAL OF LOCAL INDUSTRY

Takahiro Imai

Nishinokyo Hospital, Nara, Japan

**Corresponding Author (my-fists@cello.ocn.ne.jp)*

BACKGROUND: In japan " Monozukuri " stands for the manufacturing industry and its spirituality and culture. It is not only making things but also Japanese traditional technique in pursuit of advanced production by the craftsmen. Koryo-cho with a population of 30 thousand called "Town of Socks" is the largest producer of socks traditionally here in Japan. These manufacturers are highly reputed for their technical skills and capabilities, and supply products to such overseas luxury brands. However, due to the large quantity of imported products to Japan, the production volume has dropped greatly from the peak period. And Japan is a country with many disasters because of island. The Great East Japan Earthquake struck in 2011. The 9.0 magnitude earthquakes caused a huge Tsunami and the death was reported to be over 16,000. It is necessary to enlightenment to prevention of thrombosis at the time of disaster to the people. The incidence of thrombosis at the time of a disaster is reported to be about 8 %. I asked medical institutions, stocking manufacturers, and university students in local for cooperation. As a result, one elastic stocking was completed. The purpose of the activity is enlightenment of prevention of thrombosis and reconstruction of local industry.

METHODS: The research period is from January 2017 to January 2019. There are 80 objects (M34/F46, 34.5±9.3 years old). We investigated changes in the circumference of the leg below the knee and improvements in the blood circulation of the legs before and after using the compression stockings with sonogram and investigated a compression pressure while wearing the stockings (Fig.1).

RESULTS: The results revealed that the circumference of the leg below the knee showed a decreasing tendency after wearing the compression stockings. The peak velocity of the popliteal vein tended to increase 20 min after wearing the compression stockings (Table 1).

CONCLUSION: The compression stockings seemed to be effective for promoting venous return and preventing deep vein thrombosis of the lower limbs in healthy people. I am hoping to reduce the suffering caused by human thrombosis and revive the local industry.

Measurement Item	0 min	20 min	40 min	P -value*
Peak velocity (cm/sec)	3.9 (2.5 – 8.7)	4.8 (3.0 – 9.6)	4.8 (3.0 - 10.4)	0.008
Vein diameter (mm)	8.6 (7.1 – 10.9)	8.48 (6.8 – 11.0)	8.3 (6.5 – 11.0)	< 0.001
Pair	0 vs 20 min	0 vs 40 min	20 min vs 40 min	
Peak velocity (P -value**)	< 0.05	< 0.05	1.000	
Vein diameter (P -value**)	< 0.05	< 0.05	0.063	

*Friedman's test(Two-tailed)
**Wilcoxon signed-rank test(Two-tailed)



ID: **248**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

MAY-THURNER SYNDROME: BEYOND A VENOUS COMPRESSION

Yiğit Akçalı, Halis Yılmaz, Özgür Karabıyık, Yasin Yılmaz

Erciyes University, Kayseri, Turkey

**Corresponding Author (yigitakcali@gmail.com)*

INTRODUCTION AND PURPOSE: May-Thurner syndrome (MTS), also known as iliac vein compression syndrome, is often the results of compression of the left commune iliac vein by the right commune iliac artery. Although this compression of the vein is ubiquitous finding, it is not the only contributing factor. Because half of the patients with asymptomatic chronic venous disease (CVD) have compression findings. Although the process that makes these lesions symptomatic or asymptomatic is not well understood, MTS may be considered as a permissive condition that makes the person susceptible to thrombosis when a second hit occurs, such as oral contraceptives, malignancy, prolonged immobility, or thrombophilia. Recognition of the role that venous compression syndromes can play in any patient with leg swelling or iliofemoral DVT should not be neglected. In the present study, we investigated conditions that cause second hit and/or contribute to morbidity such as distal DVT, saphenous valvular insufficiency, and lymphedema.

PATIENT AND METHOD: In the last eleven years, 67 patients with MTS were followed and treated. Of the patients, 51 were female (76.1%) and the median age was 35 years (range, 11-63). DUS and CTV were used for diagnosis in all patients (Figure 1). When indicated, it was investigated for hereditary thrombophilia. MTS evaluated according to its clinical patterns, i.e. acute, chronic and post-thrombotic syndrome. Additional anatomic variants that can produce compression at the other venous vasculature were excluded.

RESULTS: In addition to chronic venous disease (CVD) symptoms such as lower extremity edema/weight sensation (86.5%), there were also symptoms of pelvic congestion such as dysuria, dyspareunia and hematuria (22.4%). Varicose veins were located in the extremities (86.5%) and vulvar/suprapubic (40.3%). The patients had deep vein thrombosis (25.4%) and superficial (7.5%). Hereditary thrombophilia was a common condition (32.8%). Other comorbidities were obesity (6%), nutcracker syndrome (22.4%), Klippel-Trénaunay syndrome (4.5%), and others. Eight patients had more than 50% vein compression. None of the patients had documented pulmonary embolism except asymptomatic one.

CONCLUSION: MTS, a progressive disease with long-term disabling complications, is an underestimated cause of DVT and CVD. Syndrome should be suspected in all young and middle-aged patients with left-sided IFDVT or isolated CVD. DVT may be associated not only with mechanical obstruction, but also with genetic factors predisposing to thrombophilia. Therefore, we believe that MTS should be considered not only as venous compression syndrome but also as a de novo syndrome that should be an inherited thrombophilia component.

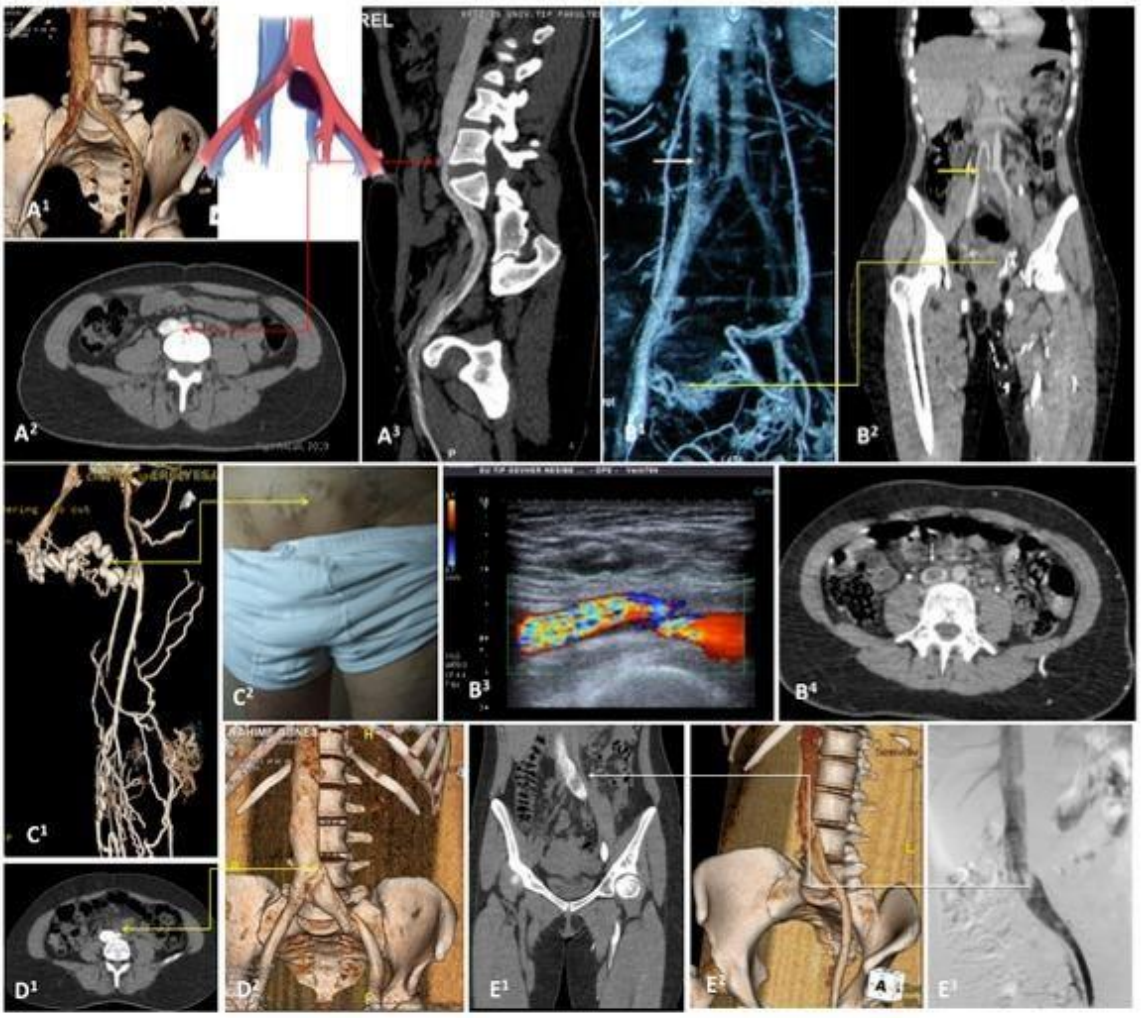


Figure 1. A CT venography shows the compression of the left common iliac vein between the right common iliac artery and lumbar vertebra (**A**); in an "acute" clinical pattern of MTS, a CT venography shows a caval-extending iliofemoral vein thrombosis, diffuse pelvic, suprapubic and femoral collaterals (**B**); in an "PTS" clinical pattern of MTS, a 3DVRCT venography shows suprapubic and femoral collaterals (**C**); and in an "chronic" clinical patterns of MTS, CT and contrast phlebographies show venous compression (D and E). Note the indentation of iliac veins in 3DVR views. *3DVRCT*, 3D volume rendering computed tomography.

ID: **621**

Topic: **Cardiology » Interventions for peripheral arterial diseases**

Presentation Type: **Oral**

RETROGRAD APPROACH VERSUS ANTEGRAD APPROACH FOR TREATMENT OF FEMOROPOPLITEAL DISEASES USING DCB: OUTCOME AT SHORT AND MILD TERM FOLLOW UP

Emced KHALIL

Ordu University, Ordu, Turkey

**Corresponding Author (emjedkhalil@gmail.com)*

Abstract:

Pre-procedural CT angiography (CTA) assists in evaluating vascular morphology, disease distribution and treatment planning in patients with lower extremity peripheral artery disease (PAD). The aim of the study was to determine the target lesion technical success (retrograde or antegrade) of endovascular revascularization of occlusions in the superficial femoral-popliteal (SFA-pop) region.

MATERIAL AND METHOD:

We studied 158 consecutive EVTs performed at multicenter centers between 2017 and 2019. Radiologists reviewed pre-operative CTAs of patients with occlusions in the SFA-pop region. included and divided into two groups; “with popliteal approach” (WPA) and “without popliteal approach” (WOPA). : with popliteal approach” (WPA)118 patients and “without popliteal approach” (WOPA) 40 patients.

Based upon clinical data 89 patients had severe claudication 78% - Rutherford class 3);89 patients suffered from ischemic rest pain 61% - Rutherford class 4); and five presented minor tissue loss (10% - Rutherford class 5). 97 % of patients showed femoro-popliteal lesion TASC-II B, and 45 % presented lesions pertaining to TASC-II C.

RESULT:

CTO length > 10mm (28.68% vs.6.89 %,), the primary success rate was better in the WPA group (% 31.vs.68.89 %, respectively;);.The procedure was performed after CTA images and was successful in 118patients (%) under antegrade approach and 40patients (%) under retrograde approach. however, both total complication rate and major complication rate were not significantly different. The primary patency rate at 12 months was 88.2% and secondary patency 100%. Immediate technical success was 94.85% without perioperative complications. Primary patency rate was 84.44% at twelve months. 4patients underwent major lower limb amputation 2 patients died during follow-up and 4 patients were lost at follow-up.

CONCLUSION:

Based in our experience the antegrade approach is successful for SFA lesions not total occlusion on the other hand the popliteal approach improved the primary success rate of EVT for SFA CTO.

Keyword: Superior femoral artery, endovascular treatment, peripheral arterial disease

ID: **626**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Oral**

HYBRID INTERVENTIONS IN TREATMENT OF LOWER LIMB ISCHEMIA AT PATIENTS WITH HIGH RISK OF COMPLICATIONS

Irnazarov Akmal, Karimov Sh.I., Irnazarov A.A., Rakhmanov S.U., Asrarov U.A., Yulbarisov A.A., Hasanov V.R., Avlonazarov H.A.

Tashkent Medical Academy, Tashkent, Uzbekistan

**Corresponding Author (rasul-1981@mail.ru)*

Aim of study: to improve the results of treatment of patients with critical lower limb ischemia (CLLI) with a high risk of complications with hybrid surgical interventions.

Material and methods: From 2017 to 2019, 65 patients (45 men and 20 women) with CLLI aged 66 ± 3.5 years who underwent hybrid interventions were hospitalized in the Department of Vascular Surgery. The average duration of the disease was 27 ± 3.4 months.

In determining the tactics of treatment, an important role has played the number of atherosclerotic lesions and the severity of the concomitant pathology, which significantly limited the performance of full reconstructive interventions on the arteries of the lower extremities. Reconstruction of the femoral artery with balloon dilatation of the iliac arteries was used in 22 (33.8%) patients, reconstruction of the femoral artery with stenting of the iliac arteries in 14 (21.5%). In 15 (23%) patients, reconstruction of the femoral artery was combined with angioplasty of the popliteal arteries.

Results: The effectiveness of hybrid interventions was assessed by regressing ischemia or relieving pain at rest, increasing the distance of painless walking, healing ulcers and increasing of regional systolic pressure and ankle-brachial index (ABI).

After hybrid interventions in the ileo-femoral segment, clinical improvement in the form of relief of pain at rest, granulation of ulcers, and primary healing of wounds after minor amputations in grade IV was achieved in 23 (35.3%) patients. Another 10 (15.4%) patients had satisfactory treatment results after reconstructive surgery in the form of pain relief. High amputations were not required for these patients. Hybrid operations with angioplasty of the lower leg arteries gave satisfactory results in 18 (37.7%) patients, in 1 (1.5%) of them, due to the increase in ischemia, amputation was performed at the hip level. Initially, ABI in these patients was 0.38 ± 0.06, and on the 3-4th day after interventions it increased to 0.74 ± 0.3 ($p < 0.05$).

In the early postoperative period, 1 (1.5%) patient on the background of severe concomitant diseases (coronary heart disease, hypertension, diabetes mellitus) developed myocardial infarction with a fatal outcome. One (1.5%) patient had thrombosis of the reconstruction site, for which he had high amputation. The clinical symptoms of CLLI, in particular, a decrease of lower limb ischemia to degrees IIa-IIb, were stopped in 38 (58.4%) patients. The follow-up period was 14 ± 1.5 months, during which the primary patency remained.

Conclusion: The use of hybrid surgical interventions in patients with CLLI at a high risk of complications is an effective method of surgical treatment of patients with multiple stenotic lesions, which leads to regression of ischemia and increases the salvage of the limb.

ID: **399**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Oral**

TWO-YEAR FOLLOW-UP AFTER ENDOVASCULAR THERAPY OF SUPERFICIAL FEMORAL ARTERIES WITH RETROGRADE POPLITEAL APPROACH: SINGLE-CENTER EXPERIENCE

Emjed KHALIL

Ordu University, Ordu, Turkey

**Corresponding Author (emjedkhalil@gmail.com)*

Objective: Popliteal artery puncture, which makes possible the use of lower profile sheaths and devices, has gained popularity as an alternative to the antegrade approach due to the reduction in vascular complications at the access site. The present study aimed to analyze the safety of the procedure and long-term patency of the superficial femoral artery (SFA) in subjects undergoing recanalization with the popliteal retrograde approach.

Methods: Forty-three subjects who underwent endovascular therapy (EVT) of the SFA with retrograde popliteal approach were enrolled in this retrospective study. The decision for retrograde approach was made according to pre-intervention CT angiography results (severe calcification and/or relatively long CTO segment) in 20 of the subjects. The remaining 23 subjects underwent SFA recanalization with the retrograde approach due to failed antegrade recanalization attempt. All subjects underwent color duplex ultrasound at the first, sixth, 12th, and 24th months to determine patency. The rate of the procedural complications, including hematoma, bleeding and distal embolism, were recorded for all subjects.

Results: Technical success was achieved in all cases. Access site complications, including hematoma and bleeding, were observed in 2 subjects (4.66%). Transfusion or surgical treatments were not required in any cases with access site complications. Acute success rate was defined as the recovery of good blood flow evaluated by angiography after EVT was 100%. Distal embolization, which did not cause any limitations in distal flow, occurred in 1 subject (2.33%). Ankle-brachial index (ABI) calculated at 1 month post-intervention was significantly higher than pre-intervention ABI [0.9 (0.59 - 1.3) vs. 0.7 (0.4 - 1.1), $p < 0.001$]. Patency rates, as determined by ultrasonographic assessment, at post-interventional first, sixth, 12th, and 24th months were 100.00%, 97.67%, 97.67%, and 95.35%, respectively.

Conclusion: Our findings demonstrate that retrograde popliteal artery puncture can be used as a safe and effective technique for recanalization of SFA stenosis and occlusions. The retrograde popliteal approach provides excellent long-term primary patency rates.
Keywords: Endovascular treatment, retrograde popliteal access, superficial femoral artery, long term patency.

ID: **697**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

IS PREMEDICATION OF AV VASCULAR ACCESS SURGERY NECESSARY OR NOT?

Gökay Deniz[1], Ferit Kasımzade[2], Bahadır Aytekin[2], Kanat Özışık[3]

[1]Ankara City Hospital, Ankara, Turkey

[2]Ankara City Hospital, ankara, Turkey

[3]ankara, ankara, Turkey

[*]Corresponding Author (dr.gokaydeniz@gmail.com)

Aim:

The necessity of heparin and antibiotics for prevention from infection and early thrombosis in vascular access attempts for hemodialysis is still under discussion. In this article, we investigate this requirement by comparing two different notions retrospectively.

Methods:

In this paper, we investigated all AV fistula operations for hemodialysis between 2015-2019. While 242 of 456 patients did not have any premedication, the other 214 patients received 80-100 mg / kg heparin and 1 gr cefazolin iv before the procedure, and they completed antibiotic treatment for 1 week after discharge. We compared the differences of these two different methods in terms of infection and early patency rates with multivariate analysis.

Results

72% of all fistula patients are radiocephalic fistulas and the remaining 21% are brachiocephalic fistulas. 7% are AV fistulas made using grafts. Compared to the premedication group using heparin and antibiotics and the control group, fistula locations are similar in terms of localization. The average age is 45 and the ratio of women and men is 1 to 3. There was no difference between the groups in terms of comorbid diseases and demographically. The hematoma rates detected in the perioperative 1 week are high, although not statistically significant in heparin areas (2%, 0.9% p = 0.42). There is no significant difference in terms of early patency rates and fistula reaching dialysis in 3 months. No fistula infection was seen in both groups.

Conclusion:

The use of heparin and antibiotics as premedication does not contribute to the prevention of infection and early thrombosis in vascular access interventions. AV fistula creation is a surgery that can be performed safely without antibiotics and heparin.

Oral Presentation Session

Surgical Approach to Peripheral Venous Disease

Date: 14.03.2020 Time: 10:30 - 11:30 Hall: 6

ID: **314**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

LATERAL MARGINAL VEINS: A NEW PATHOPHYSIOLOGICAL PERSPECTIVE

Yigit Akcali

Erciyes University, Kayseri, Turkey

**Corresponding Author (yigitakcali@gmail.com)*

BACKGROUND AND OBJECTIVE: Persistent embryonic veins (PEVs), characterized by the absence of the valve and smooth muscle in media layer, appear as embryonic veins (EV) and lateral marginal veins (MV), depending on whether the deep venous system (DVS) is hypoplasia or agenesis or intact and functional. MV is a truncular venous malformation and is associated with an increased risk of VTE. This clinicopathological process may be accelerated not only by embryopathogenetic causes but also by venous compressions of the abdominal arterial vasculature.

PATIENTS AND METHOD: In the last 16 years, 62 patients with PEV were followed and treated in our department. The female to male ratio was 1.7 / 1.4.

RESULTS: The incidence of PEV in all Klippel-Trénaunay syndrome types (n = 151) and CLOVES syndrome (n = 6) was 39.5%. Persistent embryonic veins were MV (82.3%) and EV (17.7%). Two of them bilaterally, the involved limb ratio was right / left = 1.4 / 1.6. Deep venous system was patent in 69.3% of patients. The rest was agenesic or hypoplastic (30.7%). According to Weber classification, PEVs were Type I (17.7%), II (11.3%), III (6.4%), IV (12.9%) and V (30.6%); others remained unrated. Fifteen (25.9%) patients with KTS had May-Thurner syndrome (MTS) with different compression measures and two had anterior nutcracker syndrome (ANS) (3.4%) (Figure 1). The median age in patients with concomitant MTS and ANS was 12 (range, 2 to 27 years) as compared to the median age of 16.5 years (range, 6 months to 44) in all patients. Venous compression syndromes (VCSs), i.e., MTS and NS, were more common in female patients (72.3%). The rate of LLD in patients with VCS was 72.2% as compared with 29.5% of those without. Namely, LLD were approximately 2.5 times more common in patients with CVS compared to those without CVS. The genital anomalies were 2.7 times more common in patients with CVS compared to those without CVS.

CONCLUSION: Avalvular MV is one of the most important components of KTS, but it is seen as a varicose vein with similar risks and complications. Venous congestion and varicose veins can be developed due to 'stenotic barriers' against blood flowing through marginal veins with a weak wall structure and valveless. Therefore, it is suggested that concomitant venous compression syndromes such as MTS and ANS may increase the disabling and fatal complications caused by marginal vein such as angio-osteodystrophy and VTE.

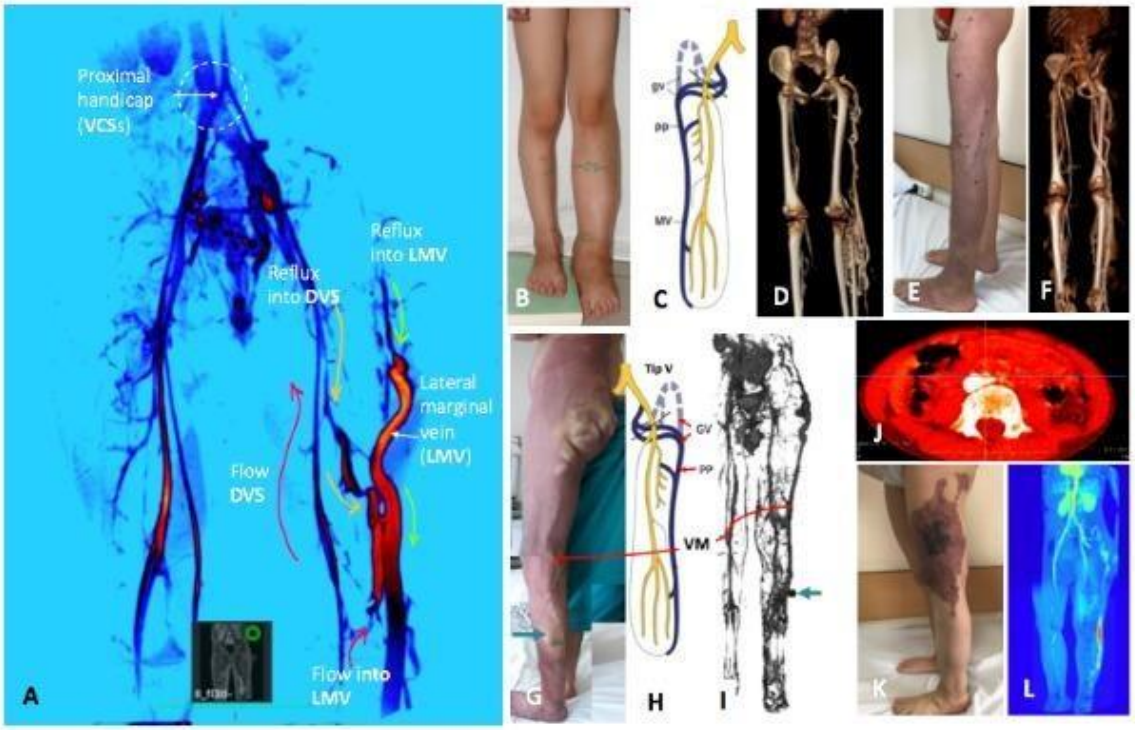


Figure 1. Blood flow in the deep venous system slows down, especially in the presence of hypoplastic vasculature, due to stenotic "barriers" caused by venous compression syndromes such as MTS and/or nutcracker syndrome, and venous blood flows backward more easily in the weakened LMV because it is avalvular and there is no smooth muscle in the media layer. Stasis, secondary varicose veins, thrombosis and finally pulmonary embolism may develop due to this increased back-flow in the lateral marginal veins (**A**); a Type V LMV according to Weber classification in the 3DVRCT of a female patient with vascular-bone syndrome and limb length difference, which are the late complications of the MV, (**B-D**); a 3DVRCT shows a male KTS patient's Weber Type IV MV (**E, F**); a male KTS patient with Weber Type V showing excessive dilatation and gluteal tortuosity (**G-I**); a 3DMPR of a female KTS patient demonstrates Weber Type V MV and MTS (**J- L**).

LMV/MV, lateral marginal vein; DVS, deep venous system; MTS, May-Thurner syndrome; KTS, Klippel-Trénaunay syndrome; 3DVRCT, 3D volume rendering computed tomography; 3DMPR, 3D multi-planar reconstruction.

ID: **111**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

MIDTERM RESULTS OF PERCUTANEOUS EXTERNAL VALVULOPLASTY IN PATIENTS WITH ISOLATED GREAT SAPHENOUS VEIN INSUFFICIENCY

Atilla Saraç

Istinye University Medical Faculty, Istanbul, Turkey

**Corresponding Author (saracatilla@gmail.com)*

Objective: Lower-extremity venous insufficiency is one of the most common chronic disorders of the population. Drug therapy and compression stockings are used to relieve symptoms in early phases, while surgery is applied in advanced cases. Different surgical procedures have been described, including great saphenous vein (GSV) ligation and stripping, GSV radiofrequency ablation, and GSV endovenous laser ablation. Reconstruction procedures such as repair or transplantation of incompetent valves of deep veins, direct saphenofemoral junction (SFJ) plication, and external vein valve wrapping did not gain large popularity among physicians and are less applied.

External valvuloplasty (EVP) is a reconstructive surgical modality preferred in cases with dilation and reflux of the GSV due to SFJ or proximal GSV valve incompetency. Percutaneous external compression valvuloplasty (RD Global-Invamed, Ankara, Turkey) is a new, minimally invasive procedure to restore venous valve competence by reducing the vein's circumference. We aimed to report our midterm results and the the efficacy of this technique.

Methods: From January 2019 to July 2019, there were 28 patients with chronic venous disease due to saphenofemoral insufficiency enrolled in this study. All patients were preoperatively evaluated with color duplex scanning, and isolated valve insufficiency at the SFJ was the main enrolment criterion for EVP. Patients that had concomitant deep venous insufficiency or extensive varicose veins were not included. Mean Venous Clinical Severity Score (VCSS) at baseline was 5.2 ± 1.2.

Color duplex scanning was performed on all the patients at the first postoperative day, first and third postoperative month. Absence of reflux, vein patency, functionality of the valve, and deep or superficial vein thrombosis were the primary outcomes.

Under local anesthesia, a specifically designed nonabsorbable biopolymer was delivered with guidance of duplex ultrasound around the valve of the saphenofemoral junction percutaneously.

Results: After the procedure, venous reflux was completely abolished in 24 patients (85%). Average VCSS improved to 2.8, 2.4, and 2.3 at postoperative day 1, month 1 and month 3, respectively. Average duration of the procedure was 12 ± 2 minutes. No complications occurred. Patients were discharged on the same day. In a follow-up period of 3 months, clinical status was documented by color duplex ultrasound by the same radiologist. Three patients (10.7%) had mild reflux and one (3.5%) had moderate reflux.

Conclusion: Percutaneous external compression therapy procedure is a new and efficient method in cases with dilation and reflux of the GSV due to SFJ or proximal GSV valve incompetency. This is a preliminary study. Further studies with a larger population of patients and longer follow-up are warranted.

ID: **298**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

DIFFERENT MANAGEMENT OPTIONS FOR PRIMARY VARICOSE VEINS IN FEMALES: A PROSPECTIVE STUDY

Ahmed Mousa[1], Mohamed Neinaa[1], Ossama M. Zakaria[1], Mai A. Elkalla[2]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

Background: The aim of this study was to evaluate the long term follow up results of different management modalities in treating primary uncomplicated lower limb female varicosities.

Methods: A prospective study took place within a three-year period from June 2010 until July 2012. Patients were divided into three groups group I (n=35) included those who underwent open surgical treatment. Group II (n=25) included those who subjected to ultrasound-guided foam sclerotherapy (USGFS). While group III (n=20) included those, who treated with endovenous laser therapy (EVLT). The patients were followed up for six years.

Results: All selected patients were female aged from 35 to 62 years with a mean of 47 ± 7.6 years. Thirty-five patients (43.75%) were treated surgically by saphenofemoral junction disconnection (SFJD), and great saphenous vein (GSV) stripping; 25 patients (31.25%) with USGFS and the remaining 20 patients (25%) were treated with EVLT. A significant success rate for GSV ablation for the EVLT treated group over the USGFS treated patients (P = 0.023). There is no significant difference between the surgically treated group and those group treated with EVLT (P = 0.85). Recurrence was observed following long-term follow-up after 6 years in 8.5% in group I, 36% in group II, and 10% in group III respectively. Venous clinical severity score (VCSS) and health-related quality of life score (HRQOLS) improved significantly in all treated groups.

Conclusions: Long-term follow-up of patients with primary superficial varicosities among females is mandatory to elucidate the postoperative recurrence, especially those who underwent USGF sclerotherapy. In addition to the observation of the development of newly formed varicosities in susceptible individuals which might develop later following long-term follow-up.

ID: **219**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

MID-TERM VARICOSE VEIN RECURRENCE RATES OF ENDOVENOUS LASER ABLATION: COMPARISON OF RADIAL FIBER AND BARE FIBER

Burcin Abud, Ayse Gul Kunt

University of Health Sciences İzmir Tepecik Research and Education Hospital, İzmir, Turkey

**Corresponding Author (burcinabud@hotmail.com)*

Introduction

Seventy percent of varicose veins occur due to insufficiency of saphenofemoral junction (SFJ) and great saphenous vein (GSV). This disease can be treated with conservative treatment options, as well as with surgical therapy when indicated. In addition to these conventional treatment modalities, endovenous laser ablation (EVLA) is a novel minimally invasive method of treatment that has been used more frequently in recent years. In this study, we evaluated and compared mid-term recurrence results of our patients with great saphenous vein insufficiency that were treated with a 1470 nm diode laser using two different fiber catheter kit.

Materials and Methods

Treatment of 61 patients was performed using a bare fiber (Group BF) and of remaining 60 patients were performed using radial fiber (Group RF). The choice of fiber catheter was made without criteria. All patients were treated successfully and no complications were developed during and after the procedures. Criteria for successful treatment were the following: at first month follow-up, an occluded GSV with substantial (>30%) reduction in diameter and absence of flow within the treated segment on Doppler ultrasonography (USG). First year SFJ and GSV of the patients were examined for recurrence with Doppler USG system and varicose veins with recurrence were classified according to Stonebridge. Reflux >0,5 seconds was considered pathologic.

Results

There was no significant difference between BF and RF groups in terms of demographic characteristics, diameter of SFJ and GSV, Clinical, Etiological, Anatomical and Pathological (CEAP) classification before the EVLA procedure. A 100% success rate has been achieved in both groups and no recurrence was detected in the patients as a result of Doppler ultrasound examination at first month follow-up. At first year follow-up Doppler USG examination showed no recurrence in the RF group, whereas a recurrence was detected in 6 patients in group BF (6 extremities), which was statistically significant (p = 0.028). All of recurrences were type 1b (incompetent tributaries= 1 superficial epigastric vein and 5 anterior accessory saphenous vein) varicose vein recurrence. In 19 patients, of the one year GSV residual stump Doppler ultrasound findings of the radial group, the SFJ was completely closed, and in the remaining the GSV residual stump was present in minimal length (mean:0,49cm; min:0cm max:1,5cm). In contrast, in the bare fiber group, there was no complete closed saphenofemoral junction, and the residual stump was much longer (mean 1,2 cm, min:0,5cm max:1,7cm) (p=0.000).

Conclusion

After 1 year, varicose vein recurrence was more often seen in the bare fiber group compared with the radial fiber group. Recanalization-induced recurrence and neovascularization-induced recurrence was not found in both groups, whereas saphenofemoral side branches induced recurrence was significant more in the bare fiber group.

Table: Patient follow-up data

	Group BF(n=61)	**Group RF (n=60)**	**p Value**
Postoperative EVLA success rate (%)	100	100	-
Postoperative complication rate (%)	0	0	-
1.month follow-up data	0	0	
Number of varicose vein recurrence	0	0	-
Superficial epigastric vein	0	0	

Superficial circumflex iliac vein	0	0	
Superficial external pudental vein	0	0	
AASV			
1. year follow-up data			
Number of varicose vein recurrence	6	0	
Superficial epigastric vein	1	0	
Superficial circumflex iliac vein	0	0	0,028
Superficial external pudental vein	0	0	
AASV	5	0	
Completely closed SFJ	0	19	-

ID: **522**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

SHORT-TERM OUTCOMES FOR TREATMENT OF SAPHENOUS VEIN INSUFFICIENCY WITH N-BUTYL CYANOACRYLATE: A NOVEL, NON-THERMAL, AND NON-TUMESCENT PERCUTANEOUS EMBOLIZATION TECHNIQUE

Mustafa Tok[1], Oktay Tüydeş[2], **Ahmet Yüksel**[3], Sefa Şenol[4], Serkan Akarsu[5]

[1]*Uludag University Faculty of Medicine, Bursa, Turkey*

[2]*Bingöl State Hospital, Bingöl, Turkey*

[3]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[4]*Elazığ Education and Research Hospital, Elazığ, Turkey*

[5]*Medical Art İzmir Hospital, İzmir, Turkey*

[*]*Corresponding Author (mustafatok@uludag.edu.tr)*

BACKGROUND:

The purpose of this study was to present short-term outcomes of VariClose® Vein Sealing System, which is a novel, non-thermal, and non-tumescent percutaneous embolization technique for treatment of saphenous vein insufficiency.

METHODS:

Between March 2014 and July 2015, 189 saphenous veins in 141 patients were treated with Variclose Vein Sealing System containing n-butyl cyanoacrylate. Pre-, intra-, post-procedural, and follow-up data of patients were collected and retrospectively reviewed.

RESULTS:

Mean age of patients was 42.5 ± 14.0 years, of which 53% were female. Technical success rate of intervention was 98.9%. Mean procedure time was 14.3 ± 7.5 minutes. Eighty-nine percent of patients (n = 126/141) were available at mean follow-up time of 6.7 months. Mean Venous Clinical Severity Score was significantly improved from 8.3 ± 2.2 at pre-procedure period to 3.3 ± 1.8 at follow-up. No complete recanalization was observed, but 2 patients were presented with partial recanalization during follow-up. The complete occlusion rate was 98.4%. No serious adverse event related to procedure was observed.

CONCLUSION:

Variclose Vein Sealing System appears to be safe and effective in treatment of saphenous vein insufficiency. Further randomized studies with long-term outcomes are required for determining optimal treatment modality in patients with saphenous vein insufficiency.

ID: **493**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Oral**

THICK LEGS MAY NOT BE AS INNOCUOUS AS IT APPEARS: RARE AND DANGEROUS COMPLICATIONS OF LYMPHEDEMA

Rıfat Özmen[1], **Yigit Akcali**[2]

[1]*Erciyes University, Kayseri, Turkey*

[2]*Erciyes University, kayseri, Turkey*

[*]*Corresponding Author (rifatozmen@gmail.com)*

OBJECTIVE: In patients with untreated or neglected lymphedema (LE), rare but dangerous complications such as elephantiasis nostras verrucose or Stewart-Treves syndrome (STS) may develop in the late period. Elephantiasis nostras verrucose (ENV) is a rare, serious form of chronic peripheral LE that causes progressive cutaneous changes comprising dermal woody fibrosis, hyperkeratotic, and verrucous and papillomatous lesions. The STS is a rare, deadly entity, which is defined as cutaneous angiosarcoma arising in the setting of long--standing chronic LE. We presented our patients who had these complications to draw attention to their seriousness.

METHODS: In last 15 years, nine patients (female=7, male=3) with ENV (88.9%) and STS (11.1%) reviewed retrospectively. They accounted for 1.7% of the patients with LE managed during the same period. The patients' mean age was 51 (range, 26 to 84).

RESULTS: All patients except one with STS were obese: Class II (BMI=35.0-39.9)=3 patients; Class III (BMI≥40.0)=5 patients. All patients except one with STS were associated with a history of lower extremity cellulitis and/or lymphangitis at admission. Three patients had a lipedema complicated by lymphedema (Figure 1A). Concomitant chronic venous insufficiency (CVI) was identified in five ENV patients (62.5%). Physical examination revealed several confluent, partially hyperkeratotic and verrucous cobblestone-like papules and nodules on both popliteal areas. A 26-year-old female patient with a history of right sural surgery was diagnosed with primary lymphedema (truncular lymphatic malformation) at the outpatient clinic. However, because the patient lived in another city, the communication of the diagnostic and therapeutic process was lost. Years later, it was founded out that the patient managed by different treatment modalities (venolymphatic anastomosis etc.) and underwent amputation for lymphangiosarcoma (Figure 1B).

CONCLUSION: This study suggests the association among ENV, obesity, and soft tissue infection. In the origin of ENV, CVI may be a thankless risk factor. Prompt diagnosis and management can reduce the morbidity and mortality of ENV. Treatment options are limited to compression, acitretin, topical ointments, and surgery. The prognosis of STS, which is lymphangiosarcomas that result from congenital and other causes of chronic secondary lymphedema, even with wide surgical excision and subsequent radiotherapy, is poor.

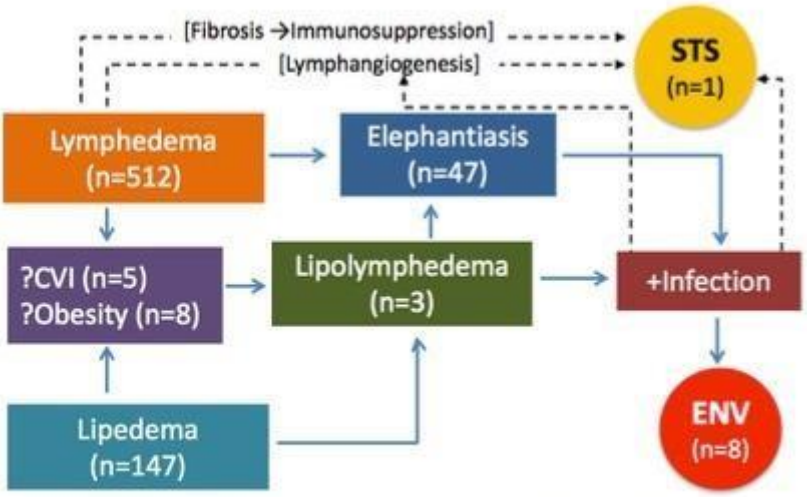


Figure 1A. Pathogenetic data. STS, Stewart-Treves syndrome; CVI, chronic venous insufficiency; ENV, elephantiasis nostras verrucosa.



Figure 1B. Elephantiasis nostras verrucosa (EVN) on the bilateral lower legs (**A**), the right foot (**B**), and the left thigh (**C**); A 70-year-old EVN woman presenting to hospital malodorous, verrucous, cobblestone-like papulonodules and plaques bilaterally *over her lower legs*. The surrounding area was erythematous, and warm to the touch (**D**); A 63-year-old female patient with lymphedema complicated by EVN in her left foot (**E**); A computed tomography of a 59-year-old male patient with coexisting peripheral arterial disease shows diffuse edematous subcutaneous tissue and atrophic muscle plans (**F**); The same patient's lymphoscintigraphy shows diffuse dermal backflow throughout the right lower extremity, with no involvement of the main lymphatic canal and regional lymph nodes (**G**); The clinical and MRI images of a 26-year-old female patient with lymphangiosarcoma (**H, I**). She underwent sub-knee amputation as the final therapeutic management.

Oral Presentation Session

Noval Approaches and Outcomes for Heart Valve Surgery

Date: 14.03.2020 Time: 11:30 - 12:30 Hall: 6

ID: **169**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

MITRAL VALVE REPAIR IN CHILDREN WITH MARFAN SYNDROME

Ramal Hasanov[1], Dinara Mammadzada[2], Umid Mahmudov[1], Tural Mammadzada[1]

[1]*Educational Surgical Clinic of Azerbaijan Medical University, Baku, Azerbaijan*

[2]*Central Hospital of Oilworkers, Baku, Azerbaijan*

[*]*Corresponding Author (hesenovramal1989@gmail.com)*

BACKGROUND: Mitral valve prolapse is the most common cardiac-related involvement of Marfan syndrome. Severe mitral regurgitation caused by mitral valve prolapse in children requires valve repair.

METHODS: A 5-year-old 22 kg female patient was admitted to our hospital with tachypnea. Severe mitral regurgitation and ASD were revealed by echocardiography. This patient had also lens dislocation and skeletal anomalies. Mitral valve repair was performed successfully from the median sternotomy. We performed anterolateral and posteromedial papillary muscle shortening, A2 chordal shortening, implantation in P2 loop neochordae, and 3D physio ring (30 mm) annuloplasty. ASD was closed with pericardium treated with glutaraldehyde. X clamping time was 130 minutes.

RESULLTS: In postoperative period echocardiography showed no mitral regurgitation or stenosis.

CONCLUSION: In children who undergoing open heart surgery due to mitral insufficiency, valve repair should performed and valve replacement should be avoided.

ID: **599**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

INTRAOPERATIVE DIAGNOSIS OF QUADRICUSPID AORTIC VALVE WITH SEVERE AORTIC INSUFFICIENCY

Mustafa Barış Kemahlı, Barış Can Atlı, Şahin Karakılıç, Tuğra Gençpınar, Hüdai Çatalyürek

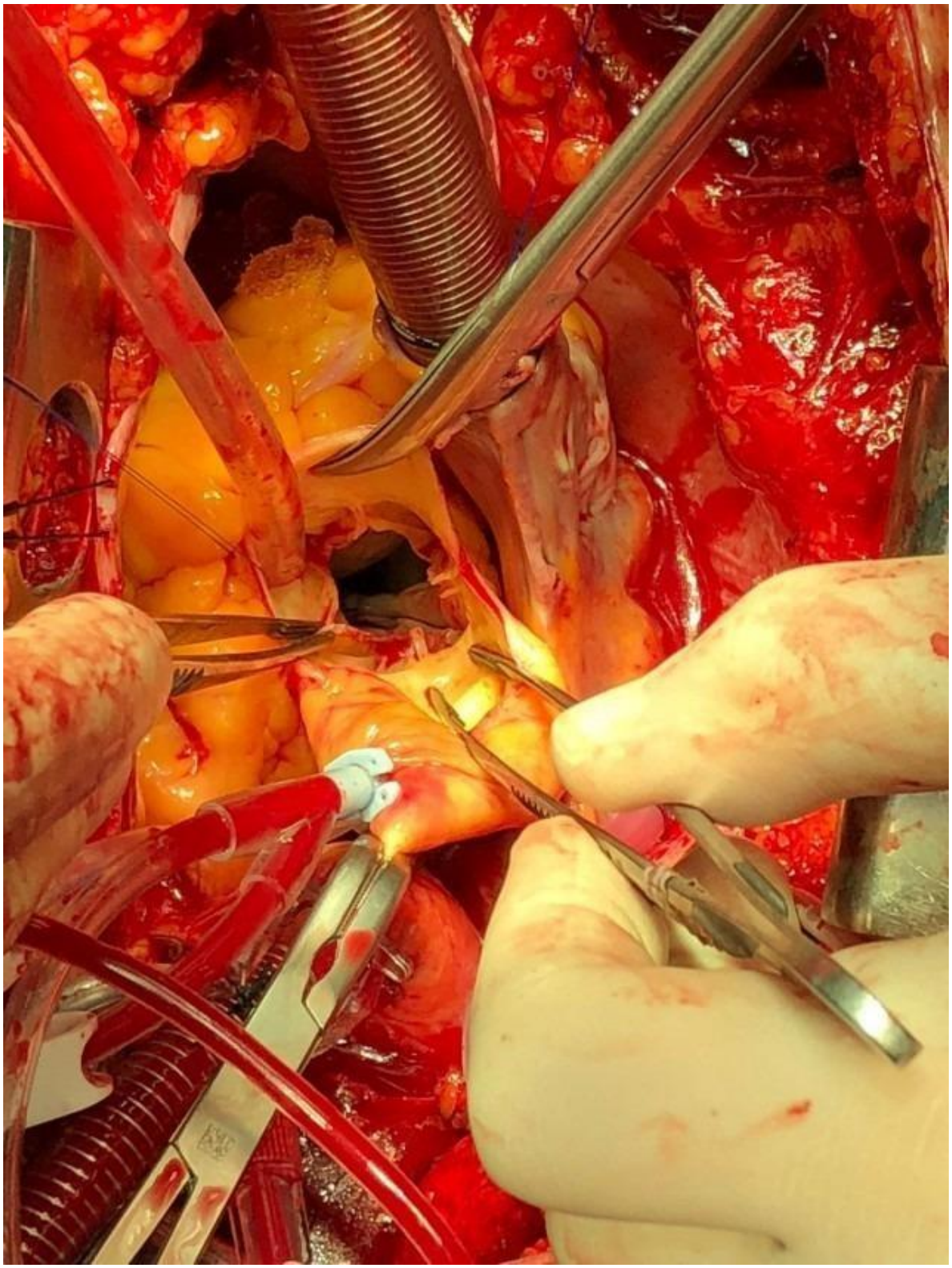
Dokuz Eylül University, İzmir, Turkey

**Corresponding Author (bariskemahli@hotmail.com)*

Background: Quadricuspid aortic valve is a rare congenital cardiac anomaly. It is generally isolated and complicated with aortic insufficiency, with a slow and progressive evolution. Significant valvulopathy is often toward the fifth to sixth decade. Diagnostic tools are transthoracic (TTE) and transesophageal echocardiography (TEE). Though, some patients get the diagnosis during aortic valve replacement.

Case presentation: In this case, a 58-year-old man, suffering from dyspnea and weakness, was referred to surgical AVR for significant aortic insufficiency with reduced EF (%25) and heart failure (NYHA class III-IV). The patient who was evaluated and followed by dilated cardiomyopathy for 8 years at multiple heart center for his symptoms with coroner angiography and echocardiography assessment. In this process, moderate aortic insufficiency was reported but heart failure was progressive thus CRT-ICD was implanted two years ago. The patient referred to our clinic for aortic valve replacement due to severe aortic regurgitation. In the operation, while performing the aortatomy, it was evaluated that the structure of the aortic valve was quadricuspid. It was not appropriate for aortic valve repair. Therefore, it was replaced with 23 mm mechanic aortic valve.

Conclusion: Despite extensive and advanced use of echocardiography, in some cases it cannot be enough for diagnoses. QAV can reduce ejection fraction and induce heart failure prior of resulting severe aortic regurgitation.



ID: **550**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

COMPARISON OF PERIOPERATIVE RESULTS OF SUTURELESS AND CONVENTIONAL VALVES IN AORTIC VALVE REPLACEMENT SURGERY

Fatih Öztürk, Taylan Adademir, Osman Türe, Hızır Mete Alp

Marmara University Istanbul Pendik Training and Research Hospital, İstanbul, Turkey

**Corresponding Author (drfatihozturk@gmail.com)*

Objective: The aim of this study was to evaluate the early and midterm results of sutureless and conventional valves used in patients with bioprosthetic aortic valve replacement on aortic stenosis.

Methods: Patients who underwent a bioprosthetic aortic valve replacement on the aortic stenosis at the Cardiovascular Surgery Clinic of Kartal Koşuyolu Yüksek İhtisas Training and Research Hospital between the years of 2012-2017; divided into two groups as sutureless bioprosthesis were implanted and conventional bioprosthetic aortic valve implants. The patients in these 2 groups were evaluated by comparative analyzes.

Results: The number of patients in the sutureless group was 62 (22 male, 40 female, mean age 71,38 ± 9,83) and 69 (34 male, 35 female, mean age 70,36 ± 12,32) in the conventional group. The surgical risk assessment using the EuroScore 2 in the sutureless group was found to be statistically significant (p=0,0121). The mini incisional approach in the sutureless group was 22 (36%) while in the conventional group only 4 (6%) were found. (p=00002). Mean Aortic Cross Clemp Time (ACCT) was 53.87 min (min: 15 min, max: 175 min) in the sutureless group and 79.2 min (min: 30 min, max:226 min) in conventional group was found to be significant. In sutureless group, the mean cardiopulmonary bypass (CPB) times was 87.56 min (min: 28 min, max: 216 min) while in the conventional group CPB times found 117.45 min (min: 44 min, max: 540 min) as statistically significant (p <0.0001); it was found to be strongly significant. Early (<30 days), all-cause mortality in total sutureless group was 5 (8.06%), while in the conventional group 2 was calculated as 2 (2.90%) (p=0.255). Early mortality due to cardiac causes was 1 (1.61%) in the sutureless group and 1 (1.45%) in the conventional group (p = 1,000). Mortality due to all causes in the late period (> 30 days) was 11 (19,30%) in the sutureless group and 13 (19,40%) in the conventional group (p = 1,000). Late mortality due to cardiac causes was 4 (7.02%) in the sutureless group and 9 (13.43%) in the conventional group (p=0,379). When Kaplan-Meire survival analysis was performed, the overall survival rate of the sutureless valve group was found to be 72.6% and 78.3% in the conventional valve group (p=0,253).

Conclusions: Sutureless aortic valves appear to be a promising alternative to conventional valves in advanced elderly and high-risk patients with comorbid diseases,

Keywords: Aortic stenosis, Aortic valve replacement (AVR), Sutureless aortic valve

ID: **367**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

INFECTIVE ENDOCARDITIS ASSOCIATED WITH SPONDILODISCITIS, OUR EXPIRIENCE

Nemanja Karamarkovic, Ivanisevic Dragan, Mikic Aleksandar, Cubrilo Marko

Department for Cardiac Surgery, Clinical Centre of Serbia, Belgrade, Serbia

**Corresponding Author (nemanja_bg89@hotmail.com)*

Background: Infective endocarditis associated with a high of risk of complications such as systemic and cerebral emboli, glomerulonephritis, splenic infarction and rheumatologic manifestations. Spondylodiscitis, however, is rarely observed. It is association with infective endocarditis in about 4% of that patients.

Methods: Case 1- A 48- year old man was hospitalized with low back pain and fever. Ten days before, patient had a urinary infection. During hospitalization, after magnetic resonance was done, discitis was revealed. Ten days delay diagnosis of infective endocarditis was established according to the Duke criteria. An echocardiography revealed vegetations on septal cuspis of tricuspid valve. Blood cultures were obtained grew out Staphylococcus Aureus. Antimicrobial therapy was initiated according the results of blood culture, 4 weeks. Case 2- A 78-old man was admitted to hospital because he had high temperature and low back pain. He had severe urinary infection. After Magnetic resonance was done, discitis was revealed on two places. Case 3 A 54-year old man was admitted with high temperature and low back pain. Transesophageal echocardiography confirmed endocarditis of mitral valve. After magnetic resonance was done, discitis was revealed on two places. Blood cultures were obtained grew out Staphylococcus aureus. The patient was treated with three antibiotics intravenous six weeks.

Results: First and second patient, after 4 weeks antibiotics therapy, were operated on. In fist patient we removed the vegetations with partial excision of septal cuspius and performed annuloplasty of tricuspid valve. In second patient, we replaced the aortic valve with aortic biological valve. Intraoperative we found vegetations on right cuspis and perforation of the left. On the same way we continued antibiotics therapy next 4 weeks.

Conclusions: Infective endocarditis should be included in differentia diagnosis in patients with spondylodiscitis and risk factors for endocarditis. In such patients, echocardiography should be performed routinely.

ID: **605**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

CLOSE MITRAL COMISSUROTOMY IS STILL A GOOD OPTION FOR MITRAL STENOSIS IN BANGLADESH A 20 YEARS FOLLOW UP

Golam Sarwar, Mohammed Kibria, Anisuzzaman Anisuzzaman, Ahsan Habib, Aftab Uddin, Amanur Rahman, Nazib Ahsan

National Institute of Cardiovascular Disease, Dhaka, Bangladesh

**Corresponding Author (mgl.sarwar@gmail.com)*

Background: The incidence of rheumatic fever in Bangladesh is high. Good number of patients develop mitral stenosis. The purpose of the study is to evaluate the result of our Bangladeshi patient. We perform these operations in different hospital and clinic in Dhaka city by an organized team. Operation was done from 1999 to 2019. The total number of patients was 850. Male and female ratio was 1: 1.5. Age range from 16 years to 58 years. Most of the patients were NYHA class III. Mean MV area was calculated range from 0.5 cm2 to 1.4 cm2. MVG range from 17 mm Hg to 24 mm Hg.

Method: Consecutive patients undergoing CMC for mitral stenosis at our hospital from 1999 to 2019 were reviewed. Indication of CMC were non calcified moderate to severe mitral stenosis along with or without minimal mitral regurgitation and aortic regurgitation with moderate functional tricuspid regurgitation.

Result: The procedure was successful in 99% of the patients. Patients improved significantly after operation. 75% had major and total improvement. In hospital mortality only 0.2%. Rate of restenosis, 10% within 5 years, 40% within 15 year, 10 % within 20 years. CMC was done 2.5 cm2 to 3.5 cm2. Patient discharged after 5 + 1 days.

Conclusion: Usually the patient develop symptom at the age of 20 years and operation done at the age of 30 years. The LA appendage is ligated so there is less chance of thromboembolism. CMC is done by metallic dilator, so more chance of dilatation. It is long lasting. So we recommend CMC as a better palliative surgery in Bangladesh.

ID: **611**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

SURGICAL VERSUS MEDICAL TREATMENT OF PATIENTS WITH SEVERE TRICUSPID REGURGITATION

Hatice Irem Öztürk[1], Tuğra Gençpınar[1], Kıvanç Gökhan Kaçar[1], Hüseyin Dursun[2], Abidin Cenk Erdal[2], Mehmet Birhan Yılmaz[2], Öztekin Oto[2]

[1]*Dokuz Eylül Univercity School of Medicine, izmir, Turkey*

[2]*Dokuz Eylül Univercity School of Medicine, İzmir, Turkey*

[*]*Corresponding Author (irem.uzumcu@gmail.com)*

Objectives:
The aim of this study was to assess the outcome of isolated tricuspid regurgitation (TR) who underwent tricuspid valve replacement (TVR) or received drug treatment.

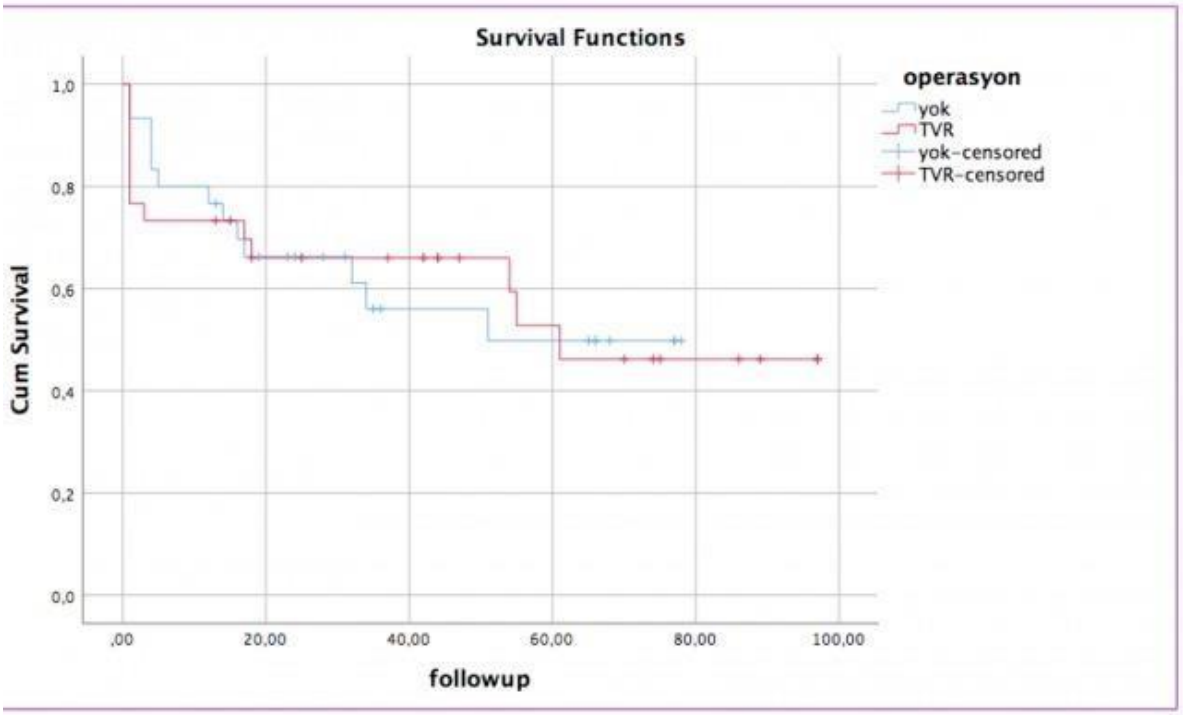
Background:
TR is associated with increased rates of heart failure and mortality. Severe isolated disease of the tricuspid valve (TV) is increasing and results in intractable right heart failure. However, isolated TV surgery is rarely performed, and there are little data describing surgical outcomes.

Methods:
Patients with isolated severe TR who underwent TVR or medically managed from December 2010 to November 2019 in our hospital were identified. Patients with malignancy, pregnancy, previous history of cardiopulmonary resuscitation, concomitant severe pathology of other valves and undergoing concomitant cardiac valve operations were excluded.

Results:
Almost a 10-year period, a total of 60 isolated severe TR patients identified, follow-up was 35±29 months. In medically managed group, 66.7% of the patients were female (n=20), mean age was 62±7 years. In TVR group, 80% of the patients were female (n=24), mean age was 53±17 years. In both groups, the presence of NYHA range(p=0.591), diabetes mellitus (DM) (p=0.712), hypertension (HT) (p=0.148), severe kidney disease (p=0,425) were similar. 30 isolated TV operations were performed, fourteen (46.6%) of them were redo-TVR. Overall mortality was occurred in 13 (43.3%) patients in medically managed group and 13 (43.3%) patients in TVR group (p=1.00)
In both groups, from univariate analysis, male gender (p=0.036), increased index admission pulmonary artery pressure(PAP) (p=0.053), decreased index admission glomerular filtration rate GFR (p=0.028), decreased index admission hemoglobin (p=0.001), DM (p=0.042) and high New York heart association (NYHA) classification (p=0.016) were statistically significant for mortality. From Backward Stepwise LR multivariate analysis, index admission hemoglobin [p<0.024, exp(B):0.594 (95% CI=0.378-0.933)] and male gender [p=0.01, exp(B):30.302 (95% CI=2.254-407] were independent predictors of mortality.

Conclusions:

Isolated TV surgery is rarely performed, although utilization has increased over time. However, despite an increase in surgical volume, operative mortality is still high the same as medical treatment. Therefore, research into optimal surgical timing and patient selection is critical. Preoperative optimal treatment of modifiable risk factors such as anemia, DM and chronic kidney diseases may reduce mortality. Besides the third option such as Transcatheter tricuspid valve interventions might be considered in patients who are not suitable candidates for TVR. Larger trials should be performed to confirm these results.


Survival Functions
operasyon
yok
TVR
yok-censored
TVR-censored
Cum Survival
1,0
0,8
0,6
0,4
0,2
0,0
,00
20,00
40,00
60,00
80,00
100,00
followup

ID: **620**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

RIGHT VENTRICULAR HYDATID CYST RUPTURED IN THE PULMONARY ARTERY

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Cardiac location of hydatid disease is rare (<3%), even in endemic countries. It is an affection characterized by a long functional tolerance and a great clinical polymorphism.

Methods: We report a case of a 44-year- man old, with no medical history presenting a respiratory distress and cyanosis, following the sudden rupture of a right ventricular hydatid cyst in the pulmonary artery shown on echocardiography.
The intraoperative exploration revealed the rupture of the right ventricular cyst in the pulmonary artery; which contained a clear colorless liquid, hydatid sand, Membrane, and daughter cysts. The surgical treatment consisted in removing the liquid, the membrane and the ablation of daughter cysts, sterilization by 30% hypertonic saline solution, and finally the padding of the residual cavity.

Results: the immediate postoperative course was simple.

Conclusion: Cardiac hydatid cyst surgery is required, due to the rupture risk and sudden death by anaphylactic choc.

ID: **635**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

COMPARATIVE EVALUATION OF MORTALITY AND HEMODYNAMIC PERFORMANCE BETWEEN ATS AND ST JUDE MECHANICAL HEART VALVES IN MITRAL AND AORTIC POSITIONS

Manochihr Timorian

Global medical complex heart institute, Kabul, Afghanistan

**Corresponding Author (manochihr@yahoo.com)*

Background: Rheumatic heart disease is the most commune heart disease in Asian countries specially in Afghanistan, the age adjusted death rate for this heart disease is 27,57 per 100 000 people as published by data of world health organization (WHO). ST JUDE mechanical heart valve first time implanted in October 1977 and quickly became the gold standard for subsequent valve, and ATS medical international developed a mechanical heart valve that has been in use since 1992, these mechanical heart valves implantation has been started in Afghanistan since 2012.

We present a result of 148 patients who have undergone valve replacement in mitral and aortic position with ATS and ST JUDE mechanical heart valves at departments of cardiothoracic and vascular surgery amiri medical complex and global medical complex Kabul Afghanistan.
Method and results: we performed ATS and ST JUDE mechanical heart valve replacement in 148 patients between May 2015 and April 2018 at departments of cardiothoracic and vascular surgery global medical complex and amiri medical complex Kabul Afghanistan.
Male patients were 69(46.6%) and female patients were 79(53.3%), age range was between 11-65 years, 94(63.5%) patients under went mitral valve replacement, for 38(25.6%) patients performed aortic valve replacement and 16(10.8%) patients undergone double valve replacement, overall mortality were 16(10.8%) patients for mitral, aortic and double valve replacement. The early mortality (hospital mortality) were 4.05% and late mortality during 3 years follow up were 6.7%.

Conclusion: there were seen a few prosthetic valve complications after ATS mechanical valve implantation (total number of implanted ATS mechanical heart valve were 70), early mortality was just 1 patient and there was no late mortality, but in implanted ST JUDE mechanical heart valve (total number of implanted ST JUDE mechanical heart valve were 78) the early mortality were 6 patients and late mortality were 9 patients due to valve related complications. The international normalized ratio(INR) was maintained between (2.5-3.5) in both ATS and ST JUDE mechanical heart valves for mitral position and (2-3) for aortic position, hemodynamically ATS mechanical heart valve seen better than ST JUDE mechanical heart valve regarding trans valvular gradient, thrombosis and low prosthetic valve noise, and this appears to be an excellent mechanical heart valve.

Oral Presentation Session

Off-Pump Coronary Surgery: New Techniques and Outcomes

Date: 14.03.2020 Time: 13:30 – 14:45 Hall: 6

ID: **475**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

CARDIOVASCULAR OUTCOMES IN CORONARY ARTERY DISEASE WITH EJECTION FRACTION <= 30% AND ISCHEMIC BURDEN <= 10% UNDERGOING OFF-PUMP COMPARED TO ON-PUMP CORONARY ARTERY BYPASS GRAFTING

Dudy Arman Hanafy, Widya Trianita Suwatri, **Rendy Aprilianus Jiwono**, Rr. Pasati Lintangella

National Cardiovascular Center Harapan Kita, Jakarta, Indonesia

**Corresponding Author (hanafymedical@gmail.com)*

BACKGROUND: A benefit of coronary artery bypass graft (CABG) for coronary artery disease (CAD) with Ejection Fraction (EF) <=30% and ischemic burden (IB) <=10% is still on debate. Off-pump coronary artery bypass (OPCAB) might reduce postoperative complications related to cardiopulmonary bypass (CPB). The objective of this study is to analyze mortality and morbidity in patients with EF <=30% and ischemic burden <=10% undergoing OPCAB compared to conventional CABG (CCABG).

METHODS: This study used a retrospective analytic cohort study design to determine mortality and morbidity in 109 CAD subjects with EF <= 30% and IB <=10% comparing OPCAB and CCABG during the period of January 2016 to November 2019 at the National Cardiovascular Hospital Harapan Kita, Indonesia and meet the study's inclusion and exclusion criteria. Besides the EF and IB criteria, we only included patients who were scheduled electively. We excluded patients who underwent emergency and urgency CABG procedures, CAD subjects accompanied by ruptured ventricular septum, moderate to severe heart valve disease requiring intervention and were confirmed by echocardiographic examination, subjects with cardiac surgery in addition to the CABG procedure.

RESULTS: We included 35 patients undergoing OPCAB and 74 patients undergoing CCABG between January 2016 to November 2019 at the National Cardiovascular Centre Harapan Kita. Arrhythmia is statistically lower in OPCAB compared to CCABG (8.6% vs 39.2%; p = 0.001). Kidney injury is statistically lower in OPCAB (8.6% vs 27.0 %; p = 0.027). Stroke is statistically lower in OPCAB (1.0 % vs 17.6%; p = 0,032). There is no significant difference between OPCAB and CCABG in mortality, 5.7% vs 16.2%, (RR 3.20; CI 95% 0.67–15.12; p = 0.126)

CONCLUSIONS: There was a statistically significant difference in the occurrence of postoperative morbidity in CAD patients with EF <=30% and IB <=10% who underwent OPCAB surgery compared with patients who underwent CCABG. Mortality that occurred after OPCAB procedure was lower in CAD patients with EF <=30% and IB <=10% compared to CCABG although it was not statistically significant different. So patients with this condition are advised to undergo OPCAB.

Keywords: left ventricular dysfunction, ischemic burden, off-pump coronary artery bypass grafting

ID: **346**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

COMPARISON OF INCENTIVE SPIROMETRY AND ACAPELLA DUET FOR PULMONARY REHABILITATION AFTER CORONARY ARTERY BYPASS GRAFT SURGERY

Yıldırım Gultekin, Ali Bolat, Atike Tekeli Kunt

Kirikkale University, Kirikkale, Turkey

**Corresponding Author (dr.ygultekin@hotmail.com)*

Background: The use of incentive spirometry (IS) is a common way of pulmonary rehabilitation after cardiac surgery to reduce postoperative complications. The Acapella duet is a device developed for airway clearance that produces a combination of high-frequency oscillations and positive expiratory pressure. The purpose of the study is to compare the effects of IS and Acapella duet on arterial blood gas changes and pulmonary complications after CABG surgery.

Materials and Method: Thirty adult patients who underwent isolated CABG surgery from April 2019 to December 2019 were retrospectively evaluated. The patients were divided into two groups on the basis of IS (n=15) and Acapella duet (n=15) use for pulmonary exercise. The arterial blood gases were measured preoperatively on the1st, 2nd and 3rd postoperative days after extubation. Functional exercise capacity was measured by 6-minute walk test (6MWT).

Results: Arterial blood gases showed a significant improvement in Acapella duet group when compared to IS group on the 2nd and 3rd postoperative days. 6MWT was also significantly improved in Acapella duet group. Both intensive care unit and hospital stay times were lower in Acapella duet group ($p<0.05$).

Conclusions: The results of this preliminary study suggest that Acapella duet is a valid device compared with IS as an adjunctive therapy for pulmonary rehabilitation after CABG surgery

ID: **40**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

EARLY AND LONG-TERM RESULTS OF SURGICAL REPAIR OF ANOMALOUS CORONARY ARTERIES FROM THE PULMONARY ARTERY

Servet Ergün

Mehmet Akif Ersoy Training and Research Hospital, İstanbul, Turkey

**Corresponding Author (drservetergun41@gmail.com)*

Objective: The aim of this study was to report early mortality and morbidity and long-term follow-up results of anomalous coronary arteries from the pulmonary artery operated in our hospital.
Materials and Methods: We retrospectively reviewed 22 consecutive patients with anomalous coronary artery originating from pulmonary arteries operated in our clinic between January 2013 and September 2019. Surgical outcome and complications were determined according to international standards [1]. Undesired re-operation, complete heart block requiring a permanent pacemaker implantation, need for mechanical support, diaphragm paralysis, sudden circulatory arrest, and death were considered as significant major adverse events (MAE).

Results: Mean age at operation was 22.3 months (2 months-21 years) and the mean weight was 15.3 kg (4.5-97). In 20 patients (90.9%) left main coronary artery was originated from pulmonary artery (ALCAPA). In 2 (9.1%) patients, the right coronary artery was originated from the pulmonary artery (ARCAPA). Pericardial hood method was used in 2 (9.1%) patients, Tekauchi method in 3 (13.6%) patients and direct reimplantation method was used in 17 (77.3%) patients. Major adverse event was observed in 1 patient (4.5%). No mortality was observed. During the mean follow-up period of 66.9 months (7 days-5.4 years), none of the patients required reoperation or reintervention. No patients died during follow-up period. Cardiac functions improved in all patients except 3 (13.6%) patients in the early postoperative period.

Conclusion: Anomalous coronary arteries from the pulmonary artery should be suspected in patients with low cardiac function and should be treated appropriately if diagnosed. 1-Jacobs ML, O'Brien SM, Jacobs JP et al (2013) An empirically based tool for analyzing morbidity associated with operations for congenital heart disease. J Thorac Cardiovasc Surg 145(4):1046–1057

ID: **514**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

A SINGLE-CENTER EXPERIENCE OF BEATING HEART CORONARY BYPASS SURGERY IN A VERY LOW EJECTION FRACTION

Rashad Mahmudov[1], Tarana Goyushova[1], Kanan Asadov[1], Gunay Hatamova[1], Yasmin Rustamova[2], Shahin Mazanov[1], Nurlan Mahmudov[1]

[1]*Central Customs Hospital, Baku, Azerbaijan*

[2]*Azerbaijan Medical University Educational Medical University Educational-Surgery Clinic, Baku, Azerbaijan*

[*]*Corresponding Author (rmahmudov@yahoo.com)*

Background

Heart failure (HF) is growing problem worldwide. Ischemic heart disease (IHD) is the most common cause of HF and prognosis in patients with ischemic cardiomyopathy is worse than with non-ischemic etiology. Impaired ventricular fraction is an important risk factor for mortality, associated with coronary artery bypass grafting. Current medical standards indicate the surgical way as a method of choice in treatment of patients with IHD. It is not a new, but an established treatment concept. Revascularization of ischemic myocardium by coronary artery bypass surgery improves left ventricular regional and global mechanical and metabolic function. To identify patients with IHD, who can benefit from revascularization surgery, modern diagnostics are based on dobutamine stress echocardiography and nuclear imaging (positron emission tomography and vascular magnetic resonance)

Methods

This article reviews our experience with coronary bypass grafting in patients with EF< 25%. All patients with very low ejection fraction have received optimal medical treatment during two months. To distinguish ischemic or non-ischemic HF has been performed coronary angiography and results of which showed three or four multivessels occlusion. The cardiac MRI was performed to define if the cardiac surgery can be beneficial to the patients. On cardiac MRI was confirmed myocardial viability. Considering risk factors and decreasing postoperative complication we prefer off-pump surgical revascularization. Postoperative period was characterized with low doses of inotrope support. Average ICU beds totaled two days. Patients were discharged home after 6-7 days.

Conclusion

Current recommendations in practice guidelines on heart failure suggest that revascularization should be considered for all patients with heart failure and coronary artery disease. However, the optimal treatment strategy remains unknown, our practice shows that by conducting off-pump CABG we can achieve significant reduction in mortality and morbidity of the patients with low EF

ID: **278**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

AGGRESSIVE NEO-INTIMAL HYPERPLASIA IS ASSOCIATED WITH IINCRESED TNF-A MRNA EXPRESSION IN A PIG ANIMAL CORONARY GRAFTING MODEL

Mutaz Fakhry Al-khateeb

AL-Qassimi Hospital, Sharjah, United Arab Emirates

**Corresponding Author (mutaz_alkhateeb@yahoo.com)*

Background: Atherosclerosis is a chronic vascular and inflammatory disease condition that results in thickening and hardening of the affected blood vessels. Different risk factors contribute to the cause of atherosclerotic cardiovascular disease and increasing evidence implicates the immune system.

Intimal hyperplasia (thickening of the intimal vascular layer) will support the foundation of the atherosclerotic process and later on the progression of the formation of atheromatous plaque, and starts as early as few hours following coronary bypass surgery, and progress within the first one month post- operatively. In this study, we hypothesized that TNF-α mRNA expression levels were directly dependent on the severity of atherosclerosis to test our hypothesis.

Methods: Seven, 4 months old, 35 kilograms, domestic swine were proposed to be used in this study. Our pigs animal model, are planned to be subjected to coronary bypass surgery. The implanted vessels to be harvested at different time points 0 hour, 1 hour, 3 hours, 1 day, 4 days, 1 week and 2 weeks to calculate the development of intimal hyperplasia at vein to artery versus artery to artery implantation sites, based on the intimal area/ total circumference area (RI) ratio.

Results: Our expected results may be helpful to show that TNF-α mRNA expression and the development of the neo-intimal hyperplasia in providing the evidence of a direct pro-inflammatory cytokine signaling link between the biomechanical forces on the vessel wall and the remodeling response.

We are expecting that anastomosis of a vein graft to an artery will result in acute induction of intimal hyperplasia and expression of the TNF-α mRNA with an early increase within the first few hours, peaking at the first week post operatively. The expected high levels of TNF-α mRNA associated with the aggressive development of the intimal hyper plasia at the venous side of the anastomosis could be similar to human studies. The proposed study could be an important step for better understanding the pathogenesis of re-stenosis and the aggressive development of neo-intimal hyper plasia in association with the expression of TNF-α mRNA

Conclusion: the study proposed that aggressive neo-intimal hyperplasia in animal pig model can develop early, and is associated with increased recruitment of macrophages capable of expressing TNF-α mRNA producing TNF-α.

The above results may guide us to the use of arterial graft conduits in humans (total arterial revascularization) which could even be helpful in preventing the progression of the atherosclerotic process in the native coronary arteries.

Thus, it becomes rather obvious that part of the disease management and therapeutic approach entails the modulation of the innate immune responses to lipoproteins.

ID: **227**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

EFFECTIVITY OF DEXAMETHASONE IN PATIENTS UNDERGOING OFF PUMP CORONARY ARTERY BYPASS GRAFTING SURGERY: A RANDOMIZED DOUBLE BLIND CONTROLLED CLINICAL TRIAL

Dudy Arman Hanafy, I Komang Adhi Parama Harta, Pribadi Wiranda Busroh, Sugisman, Dicky Aligheri, Amin Tjubandi, Bagus Herlambang, Tri Wisesa Soetisna

National Cardiovascular Center Harapan Kita Hospital, Jakarta, Indonesia

**Corresponding Author (hanafymedical@gmail.com)*

Background: Based on a pilot study in National Cardiovascular Center Harapan Kita, systemic inflammatory response syndrome (SIRS) is more common in OPCAB compared to on-pump CABG, 67% vs 33% (30 samples, 2017). Based from this result, this research conducted a clinical trial to provide dexamethasone in patients undergoing OPCAB surgery.

Methods: Samples were collected consecutively in Harapan Kita between August 2018 - January 2019. Samples were randomized to dexamethasone group (n = 30) and placebo group (n = 30). Intervention using intravenous dexamethasone dose of 1 mg/KgBB (maximum 100 mg) or placebo using normal saline (0.9% NaCl). Statistical analysis were used independent t-test, Mann-Whitney test, fisher exact test and AUC.

Results: Major Adverse Cardiovascular Events (MACE) incidence in dexamethasone group compared to placebo group (RR 0.385, 95% CI: 0.157-0.945, p = 0.024). Clinical outcome of dexamethasone group was better than placebo group in duration of mechanical ventilation (6 (5-16) hours vs 8 (5-72) hours, p = 0.029), ICU length of stay (17.5 (12-32) hours vs 19 (13-168) hours, p = 0.028), hospital length of stay (5 (5-8) days vs 6.5 (5-30) days, p = 0.04) and VIS (0 (0-15) vs 5 (0-100), p = 0.045). As a result of the inflammatory markers, there was a significant mean difference between dexamethasone group compared to the placebo group in IL-6 (217.4 pg/mL, 95% CI: 107.9-326.8, p = 0.0001), PCT (3.41 µg/L, 95% CI: 2.1-4.71, p = 0.0001) and CRP (52.3 mg/L, 95% CI: 28.8-75.8, p = 0.0001). In the AUC analysis there was a significant association between inflammatory markers with the incidence of MACE in IL-6 (AUC 0.728, 95% CI: 0.585-0.871, p = 0.005) and PCT (AUC 0.723, 95% CI: 0.578-0.868, p = 0.007).

Conclusion: Preoperative dexamethasone OPCAB is effective to improving clinical outcome and controlling postoperative inflammatory reactions compared to placebo.

Keywords: OPCAB, SIRS, Dexamethasone, MACE, Inflammatory Markers

ID: **259**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

SINGLE-CENTER RESULTS OF CORONARY ARTERY BYPASS GRAFTING ON BEATING HEART

Ilkhom Abdukhalimov [1], Abdusalom Abdurakhmanov[2], Mustafa Obeid[2]

[1]*Republican Research Center for Emergency Medicine, Tashkent , Uzbekistan*

[2]*Republican Research Center for Emergency Medicine, Tashkent, Uzbekistan*

[*]*Corresponding Author (ilk99@yandex.ru)*

Introduction: Coronary artery bypass grafting (CABG) on beating heart (BH) has become recently a spreading technique. In recent studies, it has been shown that off-pump CABG technique, which is performed without using cardiopulmonary bypass (CPB), provides a remarkable decrease in operative trauma, intensive care unit and total hospital stay time. Some researchers emphasize significant reduction in the amount of bleeding and need blood and its components transfusions and postoperative complications as well.

Material and Methods: In this retrospective study, we aimed to analyze the experience with 1520 off-pump CABG cases performed in Department of Cardiac Surgery at Republican Research Center for Emergency Medicine, between 12 th September 2013 and 27th December 2019.

Results: 1195 (78.6%) of patients were male and 325 (21.4%) were female. In 94 (6.1%) patients left ventricle ejection fraction (LVEF) was lower than 30%, 677 (44.5%) patients had a history of diabetes mellitus (DM), 196 (12.8%) patients had a history of chronic obstructive pulmonary disease (COPD), and 524 (34.4%) patients had a history of hypertension (HT). Inotropic drug support was needed in 309 (20.3%) patients. Postoperatively 14 (0.9%) patients underwent revision surgery due to significant bleeding. Postoperative atrial fibrillation (AF) was observed in 13 (0.8%) patients. Mortality rate was 1.2% with eighteen patients, ten of whom had low cardiac output syndrome, and another one had massive pulmonary thromboembolism. Mean intensive care stay time was 1.5±1.4 days, and mean total hospital stay time was 7.1±2.7 days.

Conclusion: Off-pump CABG technique is effective and safe method for coronary revascularization with low mortality and relatively low postoperative morbidity, followed by significant shortness of intensive care unit and total hospital stay time.
Keywords: Coronary artery bypass grafting, beating heart, complication, mortality

ID: **440**

Topic: **Cardiology » Diabetes Mellitus and Cardiovascular Disease**

Presentation Type: **Oral**

OFF-PUMP CORONARY ARTERY BYPASS THROUGH MINISTERNOTOMY AT PATIENTS WITH DIABETES MELLITUS

Saidorifkhon Murtazaev, Khusan Khalikulov

Republican specialized scientific practical medical center, Tashkent, Uzbekistan

**Corresponding Author (mss197402@rambler.ru)*

Objective: Estimation of the direct results off-pump coronary artery bypass through ministernotomy at patients with diabetes mellitus.

Material and methods: We have performed 40 operations off-pump coronary artery bypass. All operations were performed through ministernotomy with the using myocardial stabilizer. The age of patients varies from 32 to 60 years old. All patients were male. Unstable angina was diagnosed at 15 (37,5%) patients, and the rest of 25 (62,5%) patients had different class of stable angina. Arterial hypertension at 38 patients, coronary insufficiency at 11 patients. 34 patients had myocardial infarction in the anamnesis.
ECG data revealed ischemia at 25 patients. EchoCG: left ventricle ejection fraction under 40% at patients, under 50% at 22 patients and the rest of patients had a 55%. Blood glucose level was varied from 8 to 15 mmol/L and average mean composed of 11,2 mmol/L.
Angiography data revealed single-vessel disease at 25 cases and the other 15 patients had double-vessel disease.

Results: In all cases performed off-pump coronary artery bypass grafting. The use of internal mammary artery at 38 cases. By the means of reducing complications related to the diabetes mellitus in all cases performed inferior L-shaped ministernotomy.
After operation patients were extubated from 3 to 4 hours (average mean 3,4 hours). Mortality was 0%. After operation all patients were prescribed insulin infusion. Ejection fraction by EchoCG increased up to 6,65% averagely, at 35 (90%) cases were revealed improvement on coronary blood supply by ECG data. There wasn't revealed purulent-inflammatory complications at the nearest-term outcome after operation. Conclusion. Off-pump coronary artery bypass through ministernotomy at patients with diabetes mellitus in accordance with the insulin infusion reduces risk of intra- and postoperative complications such as complications of central nervous system and purulent-inflammatory processes.

ID: **533**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

OUR FIRST EXPERIENCE OF PERFORMING CORONARY ARTERY BYPASS GRAFTING ON A BEATING HEART IN PATIENTS WITH ISCHEMIC HEART DISEASE

Adkham Jalilov, Fozilov Khurshid, Oleg Pulatov, Sardor Sobirov, Sarvar Abdurahmonov

Karshi filial of Republican Specialized Scientific and Practical Medical Center of Cardiology, Karshi, Uzbekistan

**Corresponding Author (jalilov_adham@mail.ru)*

Purpose: Our first experience of performing coronary artery bypass grafting on a working heart in patients with coronary artery disease.

Materials and methods: In the Department of Cardiac Surgery, the Republican Specialized Scientific and Practical Center for Cardiology, from January 2019 to January 2020, 110 coronary artery bypass grafts were performed on a working heart.

The average age of the patients was 56.5 ± 8.8 (30 - 81) years. The group of patients over 65 years old accounted for 31% of cases. By gender, patients were distributed as follows: men - 90, which amounted to 81%; women -20, accounting for 19%. Most patients of the examined group had stable angina pectoris of various functional classes: I - II functional class (FC) - 20 (18%) patients, III FC - 60 (54)% of patients, IV FC - 15 (10%) patients. Patients with painless myocardial ischemia were operated on in 3% of cases. About 20 (18)% of patients with acute coronary syndrome were also subjected to surgical intervention: with unstable angina pectoris - 12 (11%) patients, with myocardial infarction at different times, usually with post-infarction angina pectoris. Myocardial infarction had a history of 70 (63%) patients.
The distribution of patients by the number of affected coronary arteries is presented in Figure 2.3. In the vast majority of cases, it was a multivascular lesion (82 patients) or damage to the pools of 2 leading coronary arteries (18 patients). The defeat of one vascular pool was detected in only 10 cases.

The most common lesion was observed in the main coronary arteries and first-order branches: the anterior interventricular branch of the LCA - 94.3%, the envelope branch - 79.3%, the right coronary artery - 84.6% of patients.
Results: Special selection for performing myocardial revascularization on a working heart was not performed. In addition to patients with medium and low risk of CABG, in our group there were patients with a high risk of cardiopulmonary bypass. In the vast majority of cases, operations were performed according to the OPCAB technique (98.7%), i.e. through median sternotomy.
Hospital mortality in the general group of patients was 0%. The conversion rate in our group of patients was 1%.

Conclusions: CABG surgery performed on a working heart through a median sternotomy makes it possible to achieve complete myocardial revascularization with multiple lesions of the coronary arteries involving three main pools.

Given the necessary experience and compliance with a number of tactical and technical features, it is possible to carry out the vast majority of operations of an isolated CG on a working heart (up to 99% of operations).

ID: **351**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

REDO OFF-PUMP CORONARY ARTERY BYPASS GRAFTING AVOIDING PREVIOUS WOUND ACCESS

Doosang Kim

Seoul Veterans Hospital, Seoul, South Korea

**Corresponding Author (mdksr@paran.com)*

Background: Redo CABG is still remained as a major concern to cardiac surgeons due to high mortality and morbidity. Off-pump technique and minimally invasive approach thru avoiding redo-sternotomy are a safe combination modality to treat repeated coronary artery atherosclerosis. Therefore, we evaluate the feasibility of redo OPCAB thru avoiding previous wound, such as redo-sternotomy and its results.

Methods: From April 1998 to December 2019, 736 patients underwent CABG. Among them, we conducted OPCAB in 294 patients (40%) and redo CABG in 47 cases (6%). These 47 patients are the subjects of this study. Median age is 71 years old (range: 58-84) and all of them are male. Coronary access routes were Lt anterior small thoracotomy in 21, para-sternal vertical thoracotomy in 10, inverted U laparotomy in 9 and full-sternotomy (previous MICS) in 7. Time interval between 1st and redo is 10.0 years (range: 0.3-20.8 years). The timing of redo is early failure in 5 at median 8.4 months, midterm failure in 7 at 2.4 years and long-term failure in 35 at 10.6 years (range: 4.3-20.8 years). The reason of redo is newly-developed coronary lesion in 5 (11%), remained disease progression in 9 (19%) and previous graft failure in 33 (70%). Failed grafts were LIMA-to-LAD in 18, non-LAD arterial graft in 15 and non-LAD vein graft in 8.

Results: Median op time is 300 minutes (135-650), and there was no on-pump conversion during OPCAB surgery but intraoperative IABP support in 12 cases (26%). Postop ICU-stay and hospital-stay are 2 days and 14 days, respectively. There was 5 cases of 30-day operative mortality (11%) and 18 morbidities (38%). All-cause and cardiac death-free survival times are 4.206 (95% C.I. 3.483-4.928) and 5.121 years (4.656-5.586), respectively and 1-, 3-, 5-year survival rates of all cause and cardiac death-free are 77%, 71%, 71%, and 91%, 91%, 91%, respectively.

Conclusions: Conducting redo off-pump CABG surgery avoiding previous wound access is feasible and its results are acceptable.

ID: **559**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

WHICH HAS A BETTER OUTCOME? OFF-PUMP OR ON-PUMP CORONARY ARTERY BYPASS GRAFT

Dudy Arman Hanafy, **Pasati Lintangella**

National Cardiovascular Center Harapan Kita Hospital, Jakarta, Indonesia

**Corresponding Author (hanafymedical@gmail.com)*

Introduction: Coronary Artery Bypass Graft (CABG) Surgery with off-pump technique becomes an alternative instead of on-pump. Using CPB (Cardio Pulmonary Bypass) machine has many pathological effects that may be occurred and it will be increasing Major Adverse Cardiac Events (MACE) incidence, post-operative utilization, ICU length of stay and mortality rate. This study aims to predict the MACE incidence and mortality between the two groups.

Methods: This is an analytic observational study using clinical data, conducted between January 2018 – December 2019 in the National Cardiovascular Center Harapan Kita Hospital Indonesia. The subjects were divided into two groups, off-pump group and on pump group.

Results: There were total 1436 patients underwent CABG with 337 off-pump and 1099 on-pump procedure. We found that MACE incidence was fewer in off-pump compared to on-pump group (20[5.93%] vs 75[6.82%]; P=0.56). Mortality rate in off-pump was lower than in on-pump group but statistically not significant (9 [2.67%] vs 49 [4.46.%];P=0.97). Duration of ventilation in the off-pump group was significantly shorter compared to on-pump group (13.21 ± 21.28 vs 14.48 ± 20.76 hours, P <0.01). ICU length of stay also found to be significantly shorter on the off-pump group (28.56 ± 35.30 vs 35.76 ± 56.41, P=0.04).

Conclusion: We conclude that there were significantly shorter on duration of ventilation and ICU length of stay in patients with off pump than in on-pump CABG. However this study revealed no statistically significant difference in MACE and mortality, even the data showed fewer incidence in off-pump compared to on-pump CABG.

Keywords: *On-Pump, Off-Pump, CABG, MACE, Mortality, Duration of Ventilation, ICU length of Stay.*

Oral Presentation Session

Progress in Valvular Surgery: Techniques and Follow-up

Date: 14.03.2020 Time: 14:45 – 16:00 Hall: 6

ID: **173**

Topic: **Cardiovascular Surgery » Minimally Invasive and Robotic Cardiac Surgery**

Presentation Type: **Oral**

TOTALLY ENDOSCOPIC STENTED AORTIC VALVE REPLACEMENT

Maxim Peeters, Abdullah Kaya, Pascal Starinieri, Silke Van Genechten, Alaaddin Yilmaz

Jessa Hospital, Hasselt, Belgium

**Corresponding Author (maxim.peeters@jessazh.be)*

BACKGROUND
Cardiac surgery is looking for new minimally invasive techniques while it is important to maintain the same efficacy, quality and safety as the conventional approach. A minimal invasive, non-sternotomy approach for aortic valve replacement by means of a totally endoscopic surgical technique is introduced. In this report we present our initial experience.

METHODS
From October 2017 to October 2019, 201 patients (59,7% males, mean age: 71.6 ± 11.7 years) underwent a totally endoscopic aortic valve replacement of whom 30.7% were octogenarians. The mean EuroSCORE II was 2.35 ± 3.82. All patients underwent the procedure due to severe aortic valve stenosis. With the patient in the supine position, the aorta was accessed through a 20 mm working port in the right 2nd intercostal space and additional three 5 mm trocars were placed. Standard zero-degree optics were used in all cases. Cardiopulmonary bypass was initiated after femoral cannulation. Transthoracic aortic cross-clamping followed by antegrade administration of a single shot cold mixed blood cardioplegia was assessed. After aortotomy, the stenotic aortic valve was excised, and a stented aortic valve was implanted in supra-annular position. Closure of the aorta was followed by placement of external pacemaker wire.

RESULTS
A total endoscopic approach was successful in all cases without conversion to sternotomy. Mean cross-clamp and cardiopulmonary bypass times were 62 ± 14 and 94 ± 25 minutes, respectively. The mean length of stay at the intensive care unit was 69.4 ± 149.6 hours while patients spend 9.6 ± 10 days at the hospital. In contrast the mean hospital stay in the last two months was 6.1 days (26 patients, 12.9%), due to our new fast track protocol. The average postoperative blood loss (24h) was 251 ± 298 mL. Re-exploration in endoscopic way was needed in 10 patients (4.9%). None of them had a surgical bleeding focus. At discharge no paravalvular leakages was detected. In addition, 10 patients (4.9%) underwent a pacemaker implantation postoperatively whereas 4 patients (1.9%) suffered from a stroke. Finally, the 30-day mortality was 2.0%.

CONCLUSIONS
Our results of the first patients undergoing totally endoscopic aortic valve replacement are promising, with acceptable aortic cross clamp times and low morbidity and mortality rates. This report shows that this technique is safe and feasible. We are aware that our hospital admission results in our institution might be long but with the introduction of the fast track protocol this could be improved. Long term results are to be awaited.

ID: **155**

Topic: **Cardiovascular Surgery » Pregnancy and Hearth Valve Disease**

Presentation Type: **Oral**

THROMBOSIS OF HEART VALVE PROSTHESIS IN PREGNANT WOMEN: WHAT TO DO?: ABOUT 31 CASES

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Pregnancy in carrier women of prosthesis mechanical heart is a high-risk pregnancy. Indeed, the risk of accidents thromoemboliques even on well led anti-coagulation therapy remains high due to the presence of the state of hypercoagulability, mechanical prosthesis and the peri-partum hemorrhage. Multidisciplinary follow-up is essential.

The prescription of anticoagulant therapy must comply with the principles and consensual indications in order to minimize maternal and fetal complications.
The aim is to define treatment modalities and to maintain optimal obstricale in a patient with mechanical heart valve prosthesis.

Methods: It is a monocentric and retrospective study from January 2000 to October 2019. Among230 cardiac prosthesis thrombosis census, there are 31 pregnant women. 25 have been operated under cardiopulmonary bypass with four abortion and 06 receiving anticoagulant therapy with two abortions.

Results: We deplore no death for the second group and 02 deaths in the first group with 02 abortions in each group.

Conclusion: Pregnancy in carrier women of cardiac prosthesis should remain exceptional domain from the point of view of cardiac surgeons. For the obstretiens it is sometime difficult to ban the grosses in nullipara. The discussion will be on a case by case basis taking into account the cultural and social level of the patient.

ID: **405**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

RESULTS OF MITRAL VALVE SURGERY WITH PULMONARY ARTERIAL HYPERTENSION: ANALYSIS OF A RETROSPECTIVE STUDY

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction: Rheumatic heart diseases are redoubtable complication of acute articular rheumatic. Without treatment, pulmonary hypertension and right heart failure may occur. This pulmonary hypertension was admitted as predictor of worse outcome after surgery. The aim of our study is to value the results after mitral surgery in patients with moderate and severe pulmonary hypertension.

Methods: This is an observational descriptive retrospective study between January 2006 and December 2012; a total of 201 patients were operated for mitral or mitro-tricuspid disease with pulmonary arterial hypertension in "Djeghri Mokhtar" hospital. These patients are divided into two groups according to preoperative pulmonary hypertension (PAH) degree: (Group A: 102 patients in moderate PAH, 40 ≤ sPAP<60 mmHg; Group B: 99 patients in severe PAH, Spap ≥ 60 mmHg). In our study, sPAP was measured with doppler echocardiography. Preoperative, operative and postoperative data collection included age, sex, functional class, type of surgery and cardiopulmonary bypass. Pulmonary arterial systolic pressure, left atrial diameter, left ventricular end-diastolic diameter, and left ventricular ejection fraction were recorded and compared.

Results: The follow up is in mean of 61.73 months (from 30 to 108 months). The functional class was improved in majority of patients. There is a significant decrease in mean sPAP during follow up:(48.72 ± 5.85 versus 29.12 ± 8.29 mmHg in group A;77.90 ± 15.62 versus 28.87 ± 10.61 mmHg in group B). Global hospital mortality is 0.49% (0% in group A, 0.98% in group B). Late mortality is 2.48%(3.92% in group A; 1.01% in group B). Survival at 05 years is 96.5%.

Conclusion: Pulmonary arterial systolic pressure decreased near normal value in most patients after surgery. Severe pulmonary hypertension must not be an absolute contraindication for mitral surgery, the out improved by developing cardiopulmonary bypass, myocardial protection and anesthetic technique.

ID: **343**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

SURGICAL OUTCOMES OF CONCOMITANT CABG AND MITRAL VALVE SURGERY IN PATIENTS WITH MODERATE ISCHEMIC MITRAL REGURGITATION

Seymur Musayev

Baku Health Center, Baku, Azerbaijan

**Corresponding Author (emin405@hotmail.com)*

BACKGROUND: We retrospectively evaluated perioperative and midterm outcomes of patients undergoing concomitant CABG and mitral valve surgery in patients with moderate ischemic mitral regurgitation.

METHODS: This study enrolled 35 patients (63.4+/-9.5 years) with moderate ischemic MR undergoing CABG with concomitant mitral valve surgery between October 2015 and December 2018. Of these, 27 (77.1%) patients underwent a concomitant MV repair (MVP) and 8 (22.9%) had a concomitant MV replacement (MVR). We evaluated clinical and echocardiographic outcomes of these patients before and after the surgery.

RESULTS: Except 1 patient, all the patients survived to discharge. Mean aortic cross clamping time was 43 ± 7 minutes; mean cardiopulmonary bypass time was 55 ± 9 minutes. 29 patients had mild inotrope support while weaning off CPB. IABP was implanted in 1 patient whose CPB time was 190 minutes, whose weaning off CPB was possible with high inotrope support. Intensive care unit stay 34± 8 hours in 29 patients and 72 ± 38 hours in 6 patients. 1 patient had dialysis due to acute renal failure, which relieved after 3 days. There was decrease in left ventricle dimension and increase in NYHA function compared to preoperative data ($p<0.001$). Recurrent (3+ or above) mitral regurgitation was found in 3 patients (8.6%) at late follow-up.

CONCLUSIONS: The addition of concomitant mitral valve surgery to coronary artery bypass grafting may improve long-term durability of surgery in patients with moderate ischemic mitral regurgitation. Taking into account the disadvantages of anticoagulation therapy and improvement benefits in cardiac remodeling the mitral valve repair should be the surgery of choice preferable in well experienced center.

Keywords: ischemic mitral regurgitation, coronary artery bypass grafting, cardiac remodeling.

ID: **276**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

SURGICAL OUTCOMES AND MORTALITY FACTORS OF ACTIVE INFECTIVE ENDOCARDITIS

Emjed Khalil

Ordu University Research and Training Hospital, Ordu, Turkey

**Corresponding Author (emjedkhalil@gmail.com)*

Background: We analysed the early and long-term outcomes of patients who had active infective endocarditis (AIE).

Patients and methods: We operated totally 113 patients (89 male) upon between 2006 and 2019. Valve repair or replacement were performed. The primary endpoint was postoperative survival at the early period. Secondary endpoints were postoperative recurrence and complication rate. Results: 14 patients died in the early after procedures (12.3%). The main reasons of mortality were intractable heart failure, low out put syndrome, and septic shock. The mean age of patients was 51,8 years. The mean follow-up was 57.8 months. Postoperative survival was 83.6 % at 30 days. 78.4 % at 1 year, 69.6 % at 3 years, and 63.3% at 5 years. Older age (p=0.01), higher logystic euroscore and NYHA Class (p=0.002), preoperative right heart failure (p=0.001), postoperative acute renal failure (p=0.022) were independent risk factors of mortality. Preoperative liver disease, diabetes, and urgent surgery were not mortality risk factors. Non-survivors had longer duration of CPB, and aortic cross-clamping times (p<0.001, p<0.002). Multivariate logistic regression analysis showed real impairment (OR 4.128, 95-CI: 1..074–19.227, p=0.0020) and longer CPB time (OR 1.011, 95-CI 1.001-1.042, p=0.0034) as independent predictors of 30-day mortality. Conclusion: Timely surgical treatment provides good early, midterm, and long-term results in patients with infective endocarditis. Valvular repair may be the choice in appropriate patients using biologyc materials in the procedure. Multivariate logistic regression analysis revealed acute renal failure, longer CPB and aortic cross clamp time were independent predictors of 30-day mortality.

ID: **26**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

SURGERY FOR TRICUSPID VALVE ENDOCARDITIS WITHOUT INVOLVEMENT OF THE LEFT HEART: TEN-YEAR CLINICAL EXPERIENCE

Ömer Faruk Doğan[1], Ahmet Feyzi Abacılar[2], Tural Terzi[3], Ali Vahip Temamoğulları[4]

[1]*Kafkas University School of Medicine, Kars, Turkey*

[2]*The Private Izmir Su Hospital, İzmir, Turkey*

[3]*The private hatay hospital, Hatay, Turkey*

[4]*Balıklıgöl Goverment Hospital, Sanliurfa, Turkey*

[*]*Corresponding Author (ofdogan@hacettepe.edu.tr)*

Background: Isolated infective endocarditis of the right heart is a rare clinical entity. We review our twelve-year experiences of the perioperative features and surgical treatment of isolated right sided infective endocarditis (IRSIE), and long-term outcomes.

Patients and Methods: Between January 2005 and June 2017, a total of 58 patients have been were operated for an IRSIE in two tertiary centers. Congenital heart defects were the main reasons of IRSIE. Previous pacemaker leads insertion, cardiac catheterization, use of central vein catheters for hemodialysis, and intravenous drug abuse were another risk factors. Seven patients have had a history of active intravenous drug use (12 %). The patients' mean follow-up was 24.7±6.1 months.

Results: 3 patients died after surgery (5.1 %) due to postoperative low cardiac out-put syndrome (LOS), and uncontrolled septic shock after surgery. Two patients had chronic kidney disease, and one have had IVDU. Tricuspid valve repair or replacement was performed in 29 patients (50%). Mechanical and bioprosthetic heart valves were replaced in eight patients (13.7 %). De Vega, Kay's annuloplaty, or bicuspudisation was performed in 21 patients (36.2%). Coagulase-negative staphylococci, S. epidermidis, Streptococcus viridans, Staphylococcus epidermidis, and Meticiline Resistance Staphylococcus aureus (MRSA) were the most common microorganisms in preoperative blood cultures in patients with congenital heart defects. The patients who have a history of central venous catheter, intravenous drug abuse, or pace-maker lead insertion, Enterococcus and fungus were the most common cause of IRSIE Enterococcus and fungus were the most common causes of IRSIE in the patients who had a history of central venous catheter, intravenous drug abuse, or pacemaker lead insertion. Two patients required reoperation because of the recurrence of endocarditis within one year after the first operation. The survival rate after operation was 30 day, and 1-, 2-, 5-, and 10 year 94.2 %, 88.9 %, 82.5 %, 81 %, and 80 %, respectively.

Conclusions: Surgical outcomes of patients with IRSIE who underwent surgery in the early time is favorable. We suggest extensive and an aggressive intervention when the patient had hemodynamic instability or the right heart failure which resistant to medical treatment or large vegetation. Postoperative antibiotic treatment, and medication are the key factors to avoid mortality and morbidity.

ID: **311**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

ASSESSING THE LONG-TERM OUTCOMES OF TRICUSPID VALVE REGURGITATION AFTER DOUBLE VALVE REPLACEMENT ACCORDING TO PRESENCE OF TRICUSPID ANNULOPLASTY

Rezan Aksoy[1], Deniz Cevirme[2], Mehmet Dedemoğlu[3], Hakan Hancer[4], Alev Kiliçgedik[4], Murat Bulent Rabus[4]

[1]*Kartal Kosuyolu Heart Training and Research Hospital, ISTANBUL, United States*

[2]*Kartal Kosuyolu Heart Training and Research Hospital, Istanbul, Turkey*

[3]*Mersin State Hospital, Mersin, Turkey*

[4]*Kartal Kosuyolu Heart Training and Research Hospital, ISTANBUL, Turkey*

[*]*Corresponding Author (rezanaksoy@gmail.com)*

Background: The aims of this study are to determine the hemodynamic performance of double valve prostheses and effects of long-term outcomes of functional TR following DVR.

Methods: Between January 2014 and September 2017, all patients DVR with or without concomitant tricuspid valve repair in our department were reviewed retrospectively. A total of 179 consecutive patients were included into the study. All patients were divided three groups in terms of tricuspid valve intervention. The groups were defined as no-tricuspid annuloplasty (TAP), tricuspid ring annuloplasty and tricuspid de vega annuloplasty (TDVA). All patients had an echocardiographic examination before and after the operation. The severity of tricuspid regurgitation (TR) was defined as 0 for no-TR, as 1 for trivial TR, as 2 for mild TR, as 3 for moderate TR and as 4 for severe TR.

Results: Mean age was 51.7±13.7 years and there was female dominancy (52%). Of the 179 patients, 100 patients were in the no-TAP group, whereas, 39 patients in the ring annuloplasty group and 40 patients in TDVA group. There was no significance difference among the groups with regard to potential complications and in-hospital mortality. The degree of TR did not decrease significantly in the no-TAP group ($P = 0.1$). The degree of TR decreased significantly both ring annuloplasty and TDVA groups ($P < 0.001$ for both). In addition to this, female gender (OR = 4.0, 95%CI: 1.0-15.5, $p = 0.05$) and preoperative TR degree (OR = 2.9, 95%CI: 1.1-7.3, $p = 0.01$) were independent predictors for the development of postoperative severe TR.

Conclusion: We found no significant difference among the groups according to potential complications and in hospital mortality. However postoperative degree of TR was observed difference according to tricuspid intervention. On long term follow up, the rates of moderate and severe TR were significantly lower in ring annuloplasty group. The degree of TR did not decrease significantly in the no-TAP group.

ID: **283**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

NEUROLOGICAL PRESENTATIONS IN ENDOCARDITIS, EFFECT ON MORTALITY AND TIME TO SURGERY

Abdul Badran, Henry Rowe, Sunil Ohri

University Hospital Southampton, Southampton, United Kingdom

**Corresponding Author (ilm376@hotmail.com)*

Introduction: Endocarditis is associated with significant comorbidity including cerebral emboli. Timing of surgery in patients with endocarditis who have suffered an embolic stroke remains a matter of debate.

Methods: We collected data retrospectively between 2012 and 2015 from patients diagnosed with Infective Endocarditis. This data was collected from 198 patients over the 4 year period. Demographic and clinical details were gathered from the patient medical records.

Results: In our cohort 8.6% (n=17) presented with neurological symptoms of which 82% (n=14) were male, 18% female with a mean age of 55.4 (21-79) years old. Of patients presenting with neurological symptoms, 35% (n=6) died and 65% (11) survived all of which were operated. The mean length of time waited before an operation was 17 days (0-51) Vs 11 days (0-62) in other presentations. Of the patients with neurological symptoms that had an operation, 27% (n=3) died compared to 50% (n=3) of those that did not have an operation. The survival rates for differing lengths of wait time for surgery were 80% for £7 days, 85.7% for £14 days, 75% for £28 days and 70% for £ 42 days.

Conclusion: Our findings suggest surgery within 14 days of admission provides the best outcomes for patients in terms of survival. It also shows that surgical treatment has a better survival rate

ID: **617**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

A COMPARISON OF POSTOPERATIVE GRADIENT BIOPROSTHESIS AND PERCEVAL AORTIC VALVE REPLACEMENT

Şahin Karakılıç[1], Reha Topak[2], Tuğra Gençpınar[1], Bihter Şentürk[1], Mehmet Birhan Yılmaz[1], Öztekin Oto[1]

[1]*Dokuz Eylül Üniversitesi, Izmir, Turkey*

[2] *Dokuz Eylül Üniversitesi, Izmir, Turkey*

[*]*Corresponding Author (sahinkarakilic@gmail.com)*

Introduction: Aortic valve replacement (AVR) is the treatment of choice for aortic valve stenosis when it is a symptomatic severe aortic stenosis (≤1 cm2/m2) or an asymptomatic with left ventricular dysfunction or combined with other cardiac surgery procedure. The aim of this study is to compare preoperative and postoperative transaortic gradients in patients undergoing perceval and bioprosthetic AVR.

Methods: Patients who underwent AVR between 2014 and 2019 in our clinic for aortic valve disease were evaluated within the scope of the study. Patients using bioprosthetic aortic valve or Perceval were included in the study. Patients who needed other valve operations with aortic valve replacement were excluded from the study. A total of 37 patients were included in the study.

Results: Bioprosthetic aortic valves were used in 35.1% (n = 13) of the patients included in the study and Perceval aortic valves were used in 64.9% (n = 24). CABG operation was performed in 18.9% (n=7) of the patients in the same session. CABG was performed in 1 patient in the group using bioprosthetic aortic valve and 6 patients in the group using Perceval. The mortality rate was 16.2% (n = 6) in all study groups and 15.4% (n = 2) in the group using the Bioprosthetic aortic valve, and 16.7% (n = 4) in the group using Perceval. There was no statistically significant difference between the groups in terms of mortality.

The mean of transaortic gradient values measured in the echocardiography examination performed in the preoperative period was 71 + 1.41 / 39 + 4.24 mmHg in patients using a bioprosthetic valve and 63 + 3.80 / 40.8 + 2.68 mmHg in patients using Perceval. Transaortic gradients measured in the echocardiographic evaluation performed in the postoperative period were 54 + 18,38 / 25,50 + 2,12 mmHg in the group using the Bioprosthetic aortic valve, and 18,20 + 8,4 / 10,40 + 6,02 mmHg in the group using Perceval. In the statistical evaluation for transaortic gradients measured in echocardiographic evaluations performed in the preoperative and postoperative period, both max. transaortic gradient and mean transaortic gradient were significantly lower in patients using Perceval ($p = 0.02$).

Discussion: This study showed that the Perceval sutureless bioprosthesis is safe. The use of the Perceval valve allowed for implantation of larger diameter prostheses, resulting in lower transvalvular gradient, and there was no difference in the mortality between groups.

Oral Presentation Session

Surgery for Aortic Dissection: Dissemination of Experiences

Date: 14.03.2020 Time: 16:15 – 17:30 Hall: 6

ID: **261**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

THE EFFICIENCY OF THE CELL SAVER USAGE FOR BLOOD CONSERVATION IN OPEN REPAIR OF AORTIC ANEURYSM AND AORTIC DISSECTION AND AORTOBIFEMORAL BYPASS GRAFTING

Dilşad Amanvermez Şenarslan[1], Funda Yıldırım[2], Adnan Taner Kurdal[2], Abdülkerim Damar[2], Tülün Öztürk[2], Omer Tetik[2]

[1]*Manisa Celal Bayar University Medical Faculty, İzmir, Turkey*

[2]*Manisa Celal Bayar University Medical Faculty, Manisa, Turkey*

[*]*Corresponding Author (damanvermez@yahoo.com)*

Objective: During the open surgical treatment of aortic aneurysm or aortic dissection, substantial amount of blood loss occurs. The aim of the study is to determine the efficiency of the cell saver device usage for blood conservation in open surgical repair of aortic aneurysms, aortic dissections and aortobifemoral bypass grafting.
Methods: Fifty patients were enrolled to the study and they were divided into two subgroups. The Group 1 involves twenty-five patients who were operated by using cell saver and their datas collected prospectively. The second group (Group 2) involves 25 patients who were operated without cell saver and their datas obtained retrospectively from the hospital records.
The local ethical committee approved the study. Statistical analyses were performed using the SPSS software version 22. Descriptive analyses were presented using means and standart deviation. A p value of less than 0.05 was considered statistically significant. In the comparison of patients' characteristics and the other cathegorical variables x2 test was used. The Student's t-test was used to compare the transfusion amounts and the costs.

Results: The patients' characteristics and risk factors in the groups were similar. The total amount of allojenic red blood cell ($p<0.01$) and total blood products ($p=0.02$) transfusions were significantly lower in the first group. Also, the cost of red blood cell ($p <0.01$) and total transfusions ($p=0.04$) were lower in the first group. In-hospital morbidity and mortality rates of the groups were similar.

Conclusions: As a result, we showed a significant association between the use of cell saver and reduced need for red blood cell and total blood product transfusion amounts. When considering the price of the cell saver set, total costs are comparable between groups. The use of cell saver is safe and efficient in reducing allogenic blood transfusions in major vascular surgeries related to the aorta.

ID: **230**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

NEW TECHNICAL SOLUTIONS IN CUSTOM-MADE AORTIC STENT GRAFT DEVICE. A STEP FORWARD FOR EASIER ENDOVASCULAR REPAIR OF COMPLEX THORACOABDOMINAL ANEURYSMS? FIRST EXPERIENCE IN EUROPE

Gaetano La Barbera[1], Fabrizio Valentino[2], Gianfranco Filippone[2], Gabriele Ferro[2], Rosario Lipari[2], Francesco Talarico[2]

[1]*Vascular Surgery, Palermo, Italy*

[2]*Vascular Surgery, Palermo, Italy*

[*]*Corresponding Author (gaetano.labarbera@yahoo.com)*

Background: In Complex Aortic Anatomy, surgical debranchings, fenestrations, branched devices or parallel grafts, are needed for anchoring, sealing and visceral arteries perfusion, but these techniques are time and skills demanding, with increase of morbidity and mortality. We present our preliminary experience with a new custom-made Aortic Stent Graft device, 18 – 22 Fr external for up to 50 mm in diameter.

Methods: The variable disposition of the stents, Dacron collars and patches interconnecting the areas of uncovered stents, modulate the radial force and adapt the ASG to the aortic anatomy with effective sealing and anchoring. The Circumferential Fenestrations preserve the patency of the collateral branches (Fig. 1). Internal or external branch are available when visceral arteries take off from the aneurysmal sac. In the last 24 months, this new ASG was employed in 7 pts thoraco-abdominal aortic aneurysm: 1 type I, 2 type II, one of which post type B dissection, 2 type IV, one of which post type B dissection and abdominal aortic aneurysm: 2 pararenal). The anatomic complexity features were as follow: 2 Aortic Arch type 3, 2 radius of curvature < 28 mm, 2 angle < 78°, 1 proximal landing zone 0 and 1 zone 2, 2 proximal aortic neck length < 28 mm, 2 descending thoracic aorta tortuosity index > 1.5, 1 α angle of 90°, 4 distal landing zone length < 95 mm, 1 distal landing zone diameter > 39 mm. The primary end-point was defined as the absence of proximal type 1 endoleak, the effective perfusion of the collateral vessels and the absence of any major adverse event.

Results of the study: We obtained 86% postoperative technical success. All the side branches were patent but 1 branched left renal artery that irreversibly thrombosed because a technical procedural failure. The angio-CT showed the good patency of the ASG reconstruction and the absence of type 1 endoleak. At the 8 months mean follow up all the pts are alive, with absence of type 1 endoleak and correct patency of collateral vessels.

Conclusions: This preliminary experience, with a new custom-made ASG for the treatment of CAA, shows that the modulation of the radial force by the particular uncovered stents and the free-flow, allow an efficient anchoring and sealing; the large fenestrations assure the side branches patency reducing the need of debranching. These innovative technical features could simplify the TEVAR procedure.

ID: **251**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

FATE OF DILATED AORTIC ROOT AFTER REPAIR OF ACUTE TYPE-A AORTIC DISSECTION

Igor Vendramin, Andrea Lechiancole, Daniela Piani, Giovanni Benedetti, Sandro Sponga, Ugolino Livi

University Hospital of Udine, Udine, Italy

**Corresponding Author (igor.vendramin@asuiud.sanita.fvg.it)*

Purpose: Management of the aortic root in type-A acute aortic dissection is still an open debate. This study evaluated the long-term outcome of patients treated with aortic root replacement compared to those who underwent conservative approach for acute type-A aortic dissection (ATAAD).

Methods: Between 1990 and 2015, out of 213 patients discharged after repair for ATAAD, 95 showed aortic root diameter ≥40mm. Among them, aortic root was replaced in 37 (group A, 35 received mechanical valved conduit) and preserved in 58 patients (group B).

Patients in group A were younger (median age 55.5 vs 60 years, p=0,079). Median aortic root diameter and incidence of ≥moderate aortic regurgitation was 47.5 mm vs 45 mm and 62% vs 41% in A and B groups, respectively. Survival, causes of death and re-operations were analyzed during a median follow-up of 10 years (min 6 months, max 23 years).

Results: The survival rates after discharge were 86±6, 66±8 and 61±9 in group A vs 95±3, 76±6 and 68±9% in group B at 5, 10 and 15 years, respectively (p=0.75).

Aortic related deaths were 3 vs 2 (21% vs 13%, p=0.56) and deaths due to congestive heart failure were 1 vs 5 (7% vs 33%, p= 0.08) in group A vs group B, respectively. Major bleeding-related death was 1 for both groups. 6 patients of group A (16%) required re-operations, with no operative deaths: 2 for pseudo-aneurysm of the proximal anastomosis and 4 due to progression of distal dissection. In group B, 12 (21%, p= 0.7 vs group A) patients required re-operations: 10 for progression of aortic root or aortic valve disease (58% of those with ≥moderate aortic regurgitation at discharge, p= 0.001 vs others), with 1 death, 1 for pseudo-aneurysm of the distal suture line, and 1 for expansion of distal false lumen.

Conclusions: conservative aortic root repair of acute type -A aortic dissection shows acceptable long-term outcomes. Nevertheless, a more aggressive approach seems to be justified in younger patients in presence of a moderate aortic regurgitation.

ID: **412**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Oral**

THE EXPERIENCE OF "DR. DJAGHRI MOKHATR HOSPITAL" IN ASCENDING AORTA ANEURYSMS SURGERY AND / OR AORTIC ARCH: ABOUT 160 PATIENTS

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction:

The aortic aneurysm corresponds to a localized dilation with loss of parallelism of the edges. of various etiologies (atheromatous, congenital, dystrophic, inflammatory, even infectious). Aortic aneurysm is the 13th leading cause of death in Western countries. The incidence of aneurysms of the thoracic aorta is estimated at 4.5 cases per 100,000.

The aim of this work is to present the epidemiological, clinical, paraclinical and therapeutic characteristics of 160 patients operated for aneurysms of the ascending aorta and or aortic arch.

Methods:

This is a retrospective mono-centric study between 2001 and 2019 concerning 160 patients operated for thoracic aortic aneurysm (ascending and / or arch) collected in the Ehs Djaghri Mokhtar Constantine / Algeria cardiac surgery department. The age from 06 to 78 years with a mal majority. The atheromatous etiology is the most frequent with 40 cases of hypertensive patients and 11 cases with Marfan disease. The operative procedure consisted in replacing the ascending aorta with or without valve replacement with or without replacing the aortic root.

Results:

cardiopulmonary bypass surgery: Deep hypothermic circulatory arrest: 15; Moderate hypothermia: 41; Normothermia: 104; axillary cannulation: 06. CBP exit under hemodynamic support drugs in 65 patients, ICU stay> 48 hours: 81 patients, Post-operative stay> 07 days in 118 patients. The follow-up was simple in 131 patients. Conclusion:

Conclusion:
The diagnosis of aortic aneurysms is based on medical imaging. Treatment is based on surgery, the indications of which depend on several parameters. with good postoperative results.

ID: **400**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

SURGERY OF AORTIC DISSECTION: RESULTS ABOUT 96 PATIENTS

Redha Lakehal, Bendjaballah Soumaya, Aziza Baya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Aortic dissection is a life-threatening emergency, the incidence of which is not well understood. Currently, medical imaging allows for increasingly precise and early diagnosis. The aim of this work is to present the epidemiological, clinical, paraclinical and therapeutic characteristics of 96 cases operated for Stanford type A aortic dissections.

Methods: Between January 2000 and December 2019, 96 patients operated for aortic dissection Stanford class A. These were 39 women and 57 men with ages ranging from 16 to 81 years. 65 patients were hypertensive.

The evolution of symptoms varies from less than 24 hours to 4 months. Functional class varies from I to IV of NYHA. The diagnosis was clinically suspected and confirmed by echocardiography and / or thoracic angio TDM. All patients were operated under CPB with open distal repair in 14 cases. The most practical gesture is the replacement of the ascending aorta with a supracoronary tube in 78 cases associated with gesture on the aortic valve in 15 cases.

Results: Hospital morbidity: 14 cases of various complication: Tamponade, rhythm disorders, left ventricular dysfunction and restless awakening. Hospital mortality in the order of 24 cases of various causes.

Conclusion: Serious affection. Its management calls for multidisciplinary skills. It requires early diagnosis and urgent surgical management.

Key words: Dissection, aortic surgery, cardio-pulmonary bypass.

ID: **258**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

TIMING OF ENDOVASCULAR INTERVENTION IN BLUNT THORACIC AORTIC INJURY

Dilşad Amanvermez Senarslan, **Funda Yıldırım**, Ömer Tetik

Manisa Celal Bayar University, Manisa, Turkey

**Corresponding Author (damanvermez@yahoo.com)*

Objective:

Timing of the endovascular intervention is undetermined issue in Blunt thoracic aortic injury (BTAI).
Priority of the endovascular intervention generally effected by coexisting trauma induced organ damage. In this abstract, we shared our two years experience of the aortic injury in multitrauma patients.

Methods:

This study analysed the early and mid-term results of patients with BTAI in the last two years. The study involves 15 patients (13 male and 2 woman) who applied to our tertiary healthcare service with BTAI. The data is retrospectively collected from the hospital records. According to Society for Vascular Surgery grading system of BTAI, we performed close surveillance and best medical therapy in grade I patients. We chose delayed intervention according to priority of the associated injuries in grade II and III patients. For grade IV BTAI or free rupture of the thoracic aorta we performed emergency repair.

Results:

The mean age of the patients was 48±17 year-old. The most common cause of the trauma was motor vehicle accident (66%). The other reasons were falling from high (6%), landslide (6%) and acceleration and deceleration injuries related to other traumas. Eleven patients were treated by thoracic endovascular aneurysm repair (TEVAR) and four patients with minor BTAI were treated with best medical therapy and close surveillance. Mean duration of stay in intensive care unit was 4±3 days and hospitalization was 9±5 days. There was no in hospital mortality. Two endoleaks occurred in two patients treated by TEVAR. Three patients subclavian artery had to be closed because of inadequate proximal landing zones. Low-dose heparin was used for the patients who have intracranial or other visceral organ damage, in the TEVAR procedure. The oversizing of the stent graft was below 10%.

Conclusions:
Blunt thoracic aortic injury (BTAI) is a rarely encountered, lethal injury. It has 75% mortality rate and is the second most common cause of dead in trauma patients after intracranial hemorrage. TEVAR is the optimal, less invasive and rapid treatment modality for patients with blunt aortic injuries. It has lower mortality and morbidity rates than open surgery and enables a quick hemodynamic stabilization of polytrauma patients. The timing of the intervention should be decided acording to severity of the aortic injury and the other organ damages.

ID: **107**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

SURGERY OF TRAUMATIC RUPTURE OF THE AORTIC ISTHMUS: ABOUT 03 CASES

Redha Lakehal, Bendjaballah Soumaya

Ehs Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The traumatic rupture of the aortic isthmus represents major problems in the assumption of responsibility of the polytraumatized patient; in 90% of the cases, deceleration is the principal mechanism of the lesions of the isthmus. It is fatal on the spot of the accident in 50 to 80% of the cases and 8 to 10% die in the six hours following the accident .In 80% of the cases, it is associated with other lesions ; often it is about a complete rupture bringing into play the vital prognosis; It happen that the rupture is of insidious evolution (rupture), it is discovered at the stage of aneurism, the natural trend of these false aneurysms being expandre gradually until the rupture. The early surgical treatment a long time remained the rule in spite of rightening operational complications perished. The emergency and the development of the endovascular treatment of these lesions up set the assumption of responsibility, we report 03 clinical cases.

Methods: Between 2001et 2019, three patients (34, 29 and 43 year old) operated in our establishment. A patient had an acute traumatic aortic rupture; two had a chronic traumatic aneurism of the aortic isthmus. The diagnosis was raised at a patient by the appearance of raucous way, with the radiological examination at a patient and in the continuations of the trauma for the last in front of the observation of a pleural outpouring and widening of the mediastin. The diagnosis was confirmed by the practice of an angiothoracic CT. Repair was practiced under femoro-femoral assistance circulation, the aneurysm was approached by left thoracotomy posterolaterale. Repair consisted in a resection of the aneurism and retablissement of continuity by prosthetic tube.

Result: No hospital death, no neurological complications and no patient were taken again for haemorrhage. A patient developed a secondary acute renal insufficiency with one rhabdomyolyse of the lower extremity.

Conclusion: The traumatic rupture of the aortic isthmus is a serious complication bringing into play the vital prognosis often on the spot of the accident, with the passing of the various authors, for certain category of patients the surgical treatment can be delayed in the guise of a medical care, this under medical supervision strict. The advent of the endovascular technique changed the forecast of these patients (operational mortality and neurological complications).

Keywords: Rupture, traumatic, isthmus, aorta, surgery, endovascular.

ID: **496**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

A RARE CATASTROPHE: THREE CASES OF AORTIC ROOT DEHISCENCE AFTER SURGERY AND REVIEW OF THE LITERATURE

Barış Timur, Taner Iyigün

İstanbul Mehmet Akif Ersoy Göğüs Kalp ve Damar Cerrahisi Eğitim ve Araştırma Hastanesi, İstanbul, Turkey

**Corresponding Author (dr.baristimur@gmail.com)*

Background

Ascending aorta pathologies may be life threatening. Aneurysms have a tendency to rupture or dissect Emergency surgery may decrease the mortality rate of acute aortic dissection -which is 50 if left untreated- to %15-26. However, cases undergone elective surgery have lower mortality rate (%3-5). Here we present three cases of aortic root dehiscence that we managed in our clinic.

Methods

We experienced 3 different cases on the matter. First patient was a 51-year-old male patient was administered to our hospital with the diagnosis of type 1 aortic dissection. After the primary surgery, he was successfully discharged at postoperative 12th day. The patient applied to emergency service suffering from acute severe dyspnea after a symptom free period of 6 months. Root was dehiscenced. Redo Bentall was performed, he died due to intracranial hemorrhage.

Second patient was 45-yearl-old male patient treated for thoracic aorta aneurysm. He was successfully discharged. 2 weeks later he admitted to the emergency room with mild fever. Contrasted thorax computed tomography revealed dehiscence. He was operated and successfully discharged.

Third patient was 69-year-old male patient, he was operated for ascending aorta aneurysm and coronary artery disease. He was discharged uneventfully. 2 months later he admitted to a neurological clinic with hemiplegia. Later on, he was diagnosed as infective endocarditis with aortic root dehiscence. His history revealed dental abscess. Redo Bentall procedure was performed, he was successfully discharged and now under physical therapy.

Result

The time interval of dehiscence after the surgery may differ. Two of our cases presented within 2 months after the surgery. One of them was due to infection. One of them was a chronic steroid user and the other one was with connective tissue disorder.

All three patients underwent reoperation Bentall procedure. We used Cevat Yakut's flanged modification of Bentall procedure. Dr. Yakut showed this new modification of his enables the aortic root to enlarge. Also, you can repair iatrogenic subvalvular defects.

Conclusion

Aortic root dehiscence after aortic root surgeries is an extremely rare but mortal complication. Redo surgery is mandatory due to high risk of spontaneous rupture. We prefer use of flanged technique of Bentall procedure for reoperations after root dehiscence, because it's more physiologic than the other modified Bentall procedures. This phenomenon should be considered in case of vague complaints or suspicious echocardiography findings.

ID: **606**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Oral**

ANTEGRADE CEREBRAL PERFUSION IN COMPLEX THORACIC AORTIC SURGERY: UNILATERAL OR BILATERAL?

Ayhan Müdüroğlu[1], Ahmet Yüksel[2]

[1]*Bursa Yıldırım Doruk Hospital, Bursa, Turkey*

[2]*Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey*

[*]*Corresponding Author (ayhanmuduroglu@gmail.com)*

BACKGROUND: Circulatory arrest is an essential method for distal surgical repair in aortic dissection and complex arcus pathologies. In the meantime, the damages in visceral organs and central nervous system might occur depending on the duration. The most important approaches to prevent these adverse events are antegrade cerebral perfusion (ACP) and systemic hypothermia. Although there is an ongoing debate on the topic, for the management the opinion of the majority is unilateral antegrade cerebral perfusion (u-ACP) in cases of cerebral perfusion time less than 45 minutes or bilateral antegrade cerebral perfusion (b-ACP) for prolonged cerebral perfusion times, along with 26-28 C hypothermia. In this report, we aimed to present our experience in patients who received unilateral or bilateral antegrade cerebral perfusion during the surgery of complex thoracic aortic pathologies.

METHODS: Our cannulation strategy mainly included right axillary artery cannulation via 8 mm PTFE graft anastomosis. If there was a problem with the innominate, axillary or carotid artery, femoral plus right carotid artery cannulation was preferred. Other surgical approaches included systemic hypothermia, intravenous sodium tiyopental and steroid administration, aortic cross-clamping, and then proximal procedures, total circulatory arrest and antegrade cerebral perfusion (10 mL/kg, usually 1 lt/min). In addition, if distal open anastomosis procedure is not too short and bilateral antegrade cerebral perfusion with the foley catheter to the left main carotid artery if the medium is appropriate. In addition, if the time of distal open anastomosis procedure was not too short and the conditions was appropriate, bilateral antegrade cerebral perfusion with using foley catheter was also applied through left carotid artery.

RESULTS: A total of 65 patients including thoracic aortic aneurysm in 22 patients, acute type A dissection in 34, subacute type A dissection in 2, and chronic type A dissection in 7 patients were enrolled to the study. b-ACP was used for 37 patients with an average time of 54 min (range: 16-117 min) whereas u-ACP was used for 28 patients with an average time of 31 min (range: 12-77 min). Initial 40 patients were operated at 18 C whereas the following 25 patients were operated at 28-32 C. During the perioperative period, mortality occurred in five patients, major cerebrovascular event (stroke) in two patient and severe pneumonia in one patient.

CONCLUSION: In our recent operations, we prefer 28-32 C hypothermia as well as b-ACP due to incomplete Willis polygon, carotid stenosis or occlusion, aberrant right subclavian artery and unplanned prolongation of the surgery.

Oral Presentation Session

Surgical Techniques in Complex Cardiac Anomalies: An Expert View

Date: 14.03.2020 Time: 17:30 - 18:45 Hall: 6

ID: **96**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

DUCT DEPENDENT CYANOTIC NEONATES WITH PDA STENTING POSE A UNIQUE CHALLENGE ON NEXT STAGE SURGICAL INTERVENTION

Aıtızaz Uddın Syed

Madinah Cardiac Center, Madinah, Saudi Arabia

**Corresponding Author (aitizaz@hotmail.com)*

Objectives: Thirty consecutive neonates with cyanotic duct dependent lesions were initially palliated with PDA stenting in our center. Of these, 18 babies have undergone one or more surgical procedures. We assessed the pulmonary arteries indexed growth and requirement of further pulmonary arteries rehabilitation in this subset.

Methods: From January 2014 to December 2018 thirty consecutive neonates with cyanotic congenital heart disease had PDA stenting as initial palliation. Eighty percent were ventilated prior to the procedure. Procedural success was 100 %. Survival to discharge was 96 %. All patients were followed up prospectively. 18 patients of this group have undergone further surgical procedures

Results: 90 % of the neonates had origin stenosis of one of the branch pulmonary arteries before PDA stenting. The indexed branch Pulmonary artery size was significantly smaller which grew after stenting the PDA. At the time of surgical procedure (Glenn etc.) Stent division/ ligation required additional PA plasty in 90 % of the cases. The stents are embedded in the pulmonary artery wall at the time of surgery and require limited excision and splaying. Generous patch enlargement of the stented area is mandatory. However in two third of the surgical cases further pulmonary arties rehabilitation with stenting was required on midterm follow up.

Conclusions: PDA stent provide excellent palliation in cyanotic neonates. Despite an origin stenosis, the stent allowed growth in the size of both pulmonary arteries. However, majority required surgical augmentation and further stenting of pulmonary arteries in the midterm. Vigilant monitoring of pulmonary artery size is required during follow up imaging of these babies. Surgical procedures on the stented pulmonary arteries may be challenging and total explanation of the stents is not warranted.

ID: **317**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

BEDSIDE CLOSURE OF PATENT DUCTUS ARTERIOSUS THROUGH LEFT ANTERIOR MINI-THORACOTOMY IN PREMATURE INFANTS

Serkan Seçici, Cüneyt Eriş

Bursa Yüksek İhtisas Research and Training Hospital, Bursa, Turkey

**Corresponding Author (serkansecici@hotmail.com)*

Objective:

Patent ductus arteriosus (PDA) is commonly seen in premature infants which has a number of complications including chronic pulmonary disease (CPD), intraventricular hemorrhage, necrotizing enterocolitis (NEC), and renal failure. Medical agents have been the first choice of treatment in preterm infants with symptomatic PDA. If it fails, surgical ligation is the definitive therapy. However, the transport of premature neonates to the operating room (OR) has significant risks. These risks include inadequate monitoring, tracheal extubation, hypo/ hyperventilation, discontinuation of life-sustaining infusions, acute hemodynamic deterioration and hypothermia. In this study, we report our experience of surgical PDA closure in the neonatal intensive care unit (NICU) through left anterior mini-thoracotomy.

Materials and Methods:

From May 2017 to December 2019 17 premature infants, who underwent bedside PDA ligation were retrospectively analyzed. Transthoracic echocardiography studies were performed by pediatric cardiologists. All infants were on mechanical ventilators. To achieve ductal closure, ibuprofen or paracetamol was administered by neonatologists. In cases of failure or contraindication for medical treatment, bedside PDA ligation was performed. Operations were performed in neonatal incubators. The patient was placed in a supine position. The PDA was approached through left anterior mini-thoracotomy. In all cases, the PDA was clipped and the surgical incision was closed without a chest tube (Figure 1 and 2). No surgery-related mortalities occurred.

Results:

Median birth weight was 990 gr (645-2010 gr), median gestational birth age was 28 weeks (24-32 weeks). There were two mortalities. One patient (800 gr) died from renal failure and one patient (645 gr) died from sepsis.

Conclusion:

Bedside surgical PDA closure through left anterior mini-thoracotomy is a safe and effective therapeutic approach in premature infants, and it may eliminate the risks associated with transportation.

ID: **456**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

LEFT VENTRICULAR DYSFUNCTION POSTSURGICAL PATENT DUCTUS ARTERIOSUS LIGATION IN CHILDREN: PREDICTOR FACTORS ANALYSIS

Karam Mosallam

Qena Faculty of Medicine, Qena, Egypt

**Corresponding Author (me.karam@ymail.com)*

Objective: To identify the predictor factors of left ventricular (LV) dysfunction following patent ductus arteriosus (PDA) surgical ligation.

Background: PDA is viewed as a noticeable amongst the most widely recognized congenital heart defects in children and its closure is responsible for many hemodynamic changes that require intervention and care.

Methods: A retrospective study included fifty children with isolated PDA treated by surgical ligation from June 2015 to June 2018. The LV dimensions and systolic function were assessed by two-dimensional echocardiography pre and post PDA ligation. All cases were followed-up on the first-day, 1 month and 6 months post ligation.

Results: The mean age of cases was 15.78 ± 7.58 months and 72% were females. The mean duct size was 4.08 ±

1.25 mm. There was a marked decrease in LVEDd, LA/Ao, EF and FS in the first-day post ligation contrasted with pre ligation values. Moreover, an amazing decline in LVEDd and LA/Ao ratio was observed 1 month post ligation contrasted with the early post ligation status with asynchronous improvement of FS and EF at one and 6 months postoperatively.

Conclusion: PDA ligation is associated with a noteworthy LV systolic dysfunction within the first day post ligation; that in a significant number of patients may require anti-failure measures, prolong the hospital stay and necessitate a regular follow up and monitoring of LV function. PDA size, age, preoperative LVEDd and FS can be considered as predictor factors for suspicion of acute decrease in the LV systolic function early post PDA ligation.

Trial registration: ClinTrial.Gov NCT04018079.

Keywords: PDA ligation, Congenital heart disease, LV systolic function and dimensions, LA/Ao ratio

ID: **404**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

SURGICAL MANAGEMENT OF THE ARTERIAL DUCT IN THE ERA OF PERCUTANEOUS CLOSURE

Redha Lakehal, Bendjaballah Soumaya, Aziza Baya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Percutaneous closure of the patent ductus arteriosus is currently the method of choice; however, certain adverse socioeconomic conditions mean that surgery remains the only treatment. Aim. To evaluate the place of surgery versus percutaneous closure.

Materials: From January 2001 to January 2018, 254 patients were operated in Djeghri Mokhtar hospital. The age has varied between 1 and 48 years. Female sex is predominant. Surgical approach was left posterolateral thoracotomy in 252 patients and sternotomy in 2 patients.

Results: Treatment consisted of a suture-section of canal in 244 patients and a ligation in 10 patients. The total duration of hospitalization was on average 9.5 days. Early and late mortality is zero.

Discussion: Over the last 20 years, percutaneous closure has become the main approach to the treatment of arterial canals. However, not all patients are eligible for this type of treatment. In the presence of a high pulmonary arterial hypertension, many authors are in favor of surgery, the risk of embolization of the material is very high if percutaneous closure is considered. In preterm infants, the current therapeutic strategy is thoracotomy surgical ligation; percutaneous closure has recently been proposed as an alternative to surgery to avoid thoracotomy.

Conclusion:
Percutaneous closure of persistent arterial canals has overshadowed surgery; however, adverse socioeconomic conditions in some countries make the percutaneous closure of arterial canals often illusory and therefore, arterial canal surgery still holds its place.

Keywords: patent ductus arteriosus, percutaneous closure, surgery.

ID: **350**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

MORTALITY AND MORBIDITY OF VENTRICULAR SEPTAL DEFECT CLOSURE IN CHILDREN LESS THAN 1 YEAR OF AGE

Mustafa Güneş

Istanbul Mehmet Akif Ersoy Cardiology and Cardiovascular Surgery Training Hospital, Istanbul, Turkey

**Corresponding Author (drmustafagunes@hotmail.com)*

Objective: Ventricular septal defect (VSD) closure is the most common pediatric cardiac procedure performed. Various complications related to VSD closure can be seen. We reviewed the effects of body weight and age during the operation to mortality and morbidity.

Methods: We reviewed a consecutive series of patients who were admitted to our institution for surgical VSD closure who were under 1 year of age, between 2015 and 2019. Mechanical ventilation (MV) duration more than 24 hours, intensive care unit (ICU) stay longer than 3 days, and hospital stay longer than 7 days were defined as “extended”. Unplanned re-operation, complete heart block requiring a permanent pacemaker implantation, sudden circulatory arrest, and death were considered as significant major adverse events (MAE).

Results: VSD closure was performed in 245 patients. The median age was 6 (1-12) months. Prolonged MV was seen in 62 (25.3%) patients. Five patients (2%) required permanent pacemaker implantation. Extracorporeal membrane oxygenator-cardiopulmonary resuscitation (E-CPR) was performed in one (0.4%) patient. Mortality was seen in one (0.4%) patient. Small age (<6 months) ($p<0.01$) and prolonged CPB time ($p=0.03$) were found to prolong MV. Low body weight at the operation was associated with the MAE ($p=0.03$).

Conclusion: Small age and low body weight were found to adversely affect the results of VSD closure. As a conclusion for patients who are scheduled to undergo VSD closure, body weight and age during the operation should be taken into consideration.

ID: **345**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

DOES GRAFT SIZE MATTER IN FONTAN PROCEDURE?

Ahmet Bolukçu[1], Ahmet Can Topçu[2], Buğra Harmandar[3], Numan Aydemir[1]

[1]*Siyami Ersek Hastanesi, Istanbul, Turkey*

[2]*Kartal Lütfi Kırdar Hastanesi, Istanbul, Turkey*

[3]*Sıtkı Koçman Üniversitesi, Muğla, Turkey*

[*]*Corresponding Author (ahmetbolukcu@gmail.com)*

OBJECTIVES

With a substantial evolution from the beginning, today, Fontan procedure became one of the most performed operations in patients with single ventricle physiology. After the operation, the patients are prone to several complications such as pleural effusion, thrombosis, stroke, arrhythmias, failure of the systemic ventricle and protein losing enteropathy. In this study, we aimed to reveal the factors causing postoperative pleural effusion.

METHODS

67 patients, who were operated on using extracardiac graft technique, were enrolled in the study. The collected data comprised history, previous surgeries, echocardiographic findings, the duration of the cardiopulmonary bypass, extubation time, volume and duration of the chest tube drainage, length of intensive care unit and hospital stays, occurrence of pleural effusion. The graft size index was calculated as the ratio of the graft diameter in millimeters to the body surface area (BSA) in square meter.

RESULTS

Pleural effusion occurred in 34 (51%) patients. Figure 1 demonstrates the groups with and without pleural effusion. Mean pulmonary artery pressure of patients was 13,2 ± 2,8 mmHg postoperatively. In individuals who had a postoperative pulmonary artery pressure more than 13 mmHg (n=24, 36%), pleural effusion was encountered more frequently, compared to those with a postoperative pulmonary artery pressure less than 13 mmHg (n=43, 64%), significantly (p=0.002). Pleural effusion was more frequent in the non-fenestration group (26 of 43, 60% vs. 8 of 24, 33%), significantly (p=0.03). Postoperative pulmonary artery pressure of individuals, in whom the graft size index was greater than 25 mm/m2was significantly lower than those with a graft size index less than 25 mm/m2(12.45 ± 1.1 mmHg vs. 13.89 ± 0.8 mmHg, p=0.032). Pleural effusion was less frequent (p=0.06) and length of intensive care unit stay was shorter (p=0.99) in patients who had a higher graft size index. Length of hospital stay was significantly shorter in higher graft size index group (p=0.01). Figure 2 demonstrates the parameters in graft size index groups. Pleural effusion was more common in warfarin group (p=0.018). In logistic regression, pleural effusion was more frequent in fenestrated (p=0.04) and warfarin (p=0.02) group.

CONCLUSION

Fenestration reduced pleural effusion. Postoperative pulmonary artery pressure was lower, length of hospital stay was shorter, and pleural effusion rate was lower in patients with larger grafts. There is not any guideline or measurement for selecting the appropriate graft size. Graft size index may be a promising parameter for selecting graft size for patients undergoing an extracardiac Fontan procedure.

Figure 2. Observed parameters in groups according to graft size index			
Parameter	**Graft size index < 25 (n=36, % 54)**	**Graft size index≥ 25 (n=31, % 46)**	**p value**
Postoperative PAP (mmHg)	**13,89 ± 0,8**	**12,45 ± 1,1**	**0,032**
Pleural effusion (n(%))	22 (61)	12 (39)	0,06
Length of ICU stay (day) (median)	2 (1 - 5)	2 (1 - 4)	0,99
Length of hospital stay (day) (median)	**14 (11 - 22)**	**10 (6 - 14)**	**0,01**
PAP: Pulmonary artery pressure; **ICU:** Intensive care unit.			

Figure 1. Comparative analysis of groups with and without pleural effusion			
Parameter	**Pleural effusion (+) (n=34, 51%)**	**Pleural effusion (-) (n=33, 49%)**	**p value**
Systemic ventricle had LV morphology (%)	27 (84)	28 (85)	0.96
McGoon index	2 (2 - 2.1)	2 (2 - 2.1)	0.49
Antegrade pulmonary blood flow* (n(%))	23 (68)	20 (61)	0.55
Mild AV valve regurgitation*(n(%))	12 (35)	9 (27)	0.32
Systolic PAP* (mmHg) (median)	15 (14 - 18)	15 (14 - 20)	0.66
Mean PAP* (mmHg) (median)	12 (10 - 13)	12 (10 - 14)	0.78
Arterial oxygen saturation* (%)	83.74 ± 4.66	83.54 ± 3.49	0.11
Postoperative PAP (mmHg) (mean)	**14.2 ± 0.8**	**12.1 ± 1.0**	**0.002**
Fenestrated patients (n(%))	**8 (24)**	**16 (48)**	**0.033**
Duration of CPB (min) (median)	75 (56 - 110)	80 (73 - 113)	0.54
Graft size / BSA ratio (mm/m^2)	24.3 (22.2 - 29)	26 (23.3 - 29)	0.21
Warfarin use (n(%))	**19 (56)**	**9 (27)**	**0.018**
Length of ICU stay (day) (median)	2 (1 - 3)	3 (2 - 4)	0.88
Length of hospital stay (day) (median)	**15 (12 - 23)**	**9 (7 - 12)**	**<0.001**
LV: Left ventricle; **PAP:** Pulmonary artery pressure; **BSA:** Body surface area;			
AV: Atrioventricular; **CPB:** Cardiopulmonary bypass; *: Preoperative			

ID: **210**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

CONGENITAL MITRAL STENOSIS: REPORT OF 26 CASES

Bah Ali Rida[1], Zeine El Abasse[2], Abdenasser Drighil[2]

[1]*Hospital Ibn Rochd Casablanca, casblanca, Morocco*

[2]*Hospital Ibn Rochd Casablanca, casablanca, Morocco*

[*]*Corresponding Author (ridahmed7@gmail.com)*

INTRODUCTION: Congenital mitral stenosis is defined as any obstacle to diastolic filling of the left ventricle due to abnormal development of the structures that form the mitral apparatus (ring, immediately supravalvular area, cords and pillars).It is a rare congenital malformation, its prevalence is estimated at 4 in 1000 children diagnosed with congenital heart disease and it constitutes 0.6 to 1.2% of autopsied congenital heart defects.

OBJECTIVE: Clinical, epidemiological and prognostic aspect of CMS.

METHODS: We conducted a retrospective study collected in the cardiology department of CHU of Casablanca, between September 2009 and January 2018, involving 26 patients.

Inclusion Criteria: Included in the study were all children referred to our institution for cardiac evaluation and diagnosed with congenital mitral stenosis at echocardiography.

RESULTS: During the study period we diagnosed 2678 congenital heart defects. CMS was present in 26 patients, a prevalence of 0.97%. Population consisted of 13boys and 13girls, a sex ratio of 1 and the average age was 6 years. The symptomatology was dominated by dyspnea (17 cases) and recurrent bronchitis (8 cases). The echocardiography found an isolated RMC in 3 cases, the etiology were dominated by the supramitral ring (14cases) and parachute mitral valve (8cases). The CHD associated with RMC was VSD(9cas). The others associated with RMC were: coarctation of the aorta (6cases), TGA (4cases), pulmonary stenosis (4cases), aortic bicuspid (4cases), left superior vena cava (3cases), ASD (2cases), supra valvular aortic stenosis (2cases), PDA (2cases), Shon syndrome(1cases). Pulmonaryhypertension was present in 50% ,2 of which were in eisenmenger. Surgery was indicated in 13; 4 benefited from curative surgery; 4 are lost sight of; 4 patients with CMS considered to be unstiffened had no indication for surgery. 5 died, 1 of them inoperative, 3 refusing their parents surgery and one in extra hospital. Good surgical outcome in patients who received curative surgery

ID: **459**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Oral**

PULMONARY VALVE SPARING IN TOTAL CORRECTION OF TETRALOGY OF FALLOT: PERSPECTIVE OF RESOURCE CONSTRAINED MEDICAL ENVIRONMENT

Rwakaryebe Muhoozı, Muhoozi Rwakaryebe, Oketcho Michael Charles, Oketcho Michael Charles, Oketcho Michael Charles, Mwambu Tom Phillip, Magala John Paul, Ariaka Herbert, Ahabwe Kenneth, Nalule Miriam

UGANDA HEART INSTITUTE, Mulago National Referral Hospital Complex, KAMPALA, Uganda

**Corresponding Author (rwakaryebe@hotmail.com)*

Objectives: To study the postoperative outcomes of pulmonary valve sparing procedure in the total correction of tetralogy of Fallot, by examining the pre-operative patient factors, intra-operative management, the immediate postoperative outcomes and follow up data of patients that underwent pulmonary valve sparing techniques during the total correction of tetralogy of fallot.

Methods: From July 2015 to August 2019, 52 patients were operated for total correction of tetralogy of Fallot, 30 (57.7%) male and 22 (42.3%) female. Preoperative echocardiographic findings of the RVOT, pulmonary valve, Main Pulmonary artery and its branches were examined to evaluate the feasibility of a pulmonary valve sparing procedure preoperatively in patients that met the criteria. 32 (61.5%) patients that underwent Total correction for Tetralogy of fallot had a pulmonary valve sparing repair. Their pre-operative, peri-operative, post-operative and follow-up data were retrospectively examined.

Results: The median age at surgery for Total correction of tetralogy of Fallot was 46.4 months (range 22.5 – 192.6 months). Their mean BSA was 0.65 ± 0.3 m2. The mean pulmonary valve annulus was 11.9 ± 2.5 mm giving a mean pulmonary valve Z-score of -1.7 ± 1.6. The mean Prv/Plv ratio immediately after surgery was 0.58 ± 0.1.
3 patients (9.3 %) required reinitiating cardiopulmonary bypass for re-exploration. 4 patients (12.5%) had residual stenosis postoperatively of which 2 patients were re-operated during their follow up period. 2 patients (6.2%) died postoperatively, 30 patients (93.7%) that had a valve sparing procedure are alive. Long-term follow up has demonstrated good biventricular function post-surgery with normal RVEDD.

Conclusions: Pulmonary valve sparing for children undergoing total correction of tetralogy of Fallot in low income countries presents advantages to avoid late onset of complications associated with pulmonary valve regurgitation and future pulmonary valve replacement surgery. Pulmonary valve sparing should always be prioritized in patients that meet the criteria of adequate valve annulus and valvular apparatus.

Key words: Congenital Heart Disease, Tetralogy of Fallot, Pulmonary valve sparing.

ID: **618**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

BALLOON ANGIOPLASTY PERFORMED BY CORONARY BALLOONS IN FIVE NEWBORNS WITH SEVERE COARCTATION OF AORTA. A SINGLE CENTER EXPERIENCE

Nuh Yilmaz

Hatay Mustafa Kemal University, Hatay, Turkey

**Corresponding Author(nuhyilmas@gmail.com)*

BACKGROUND

Balloon angioplasty, which is an alternative intervention to surgical treatment in neonatal aortic coarctation, is applied despite the high rate of recoarctation. Especially in patients with marked left ventricular dysfunction and multiorgan failure, the number of procedures performed for palliative purposes is gradually increasing. Generally, transfemoral approach is used. Factors such as size of arterial sheath and balloon, duration of operation can cause anxiety in terms of complication of the intervention region.

METHODS

In this article, we aimed to present the results of angioplasty procedures performed by coronary balloon in 5 newborns with severe systemic circulatory disorders due to aortic coarctation, retrospectively.

RESULTS

All of the patients were termed, age 7, 16, 21, 15, 9 days old. Their body weights were 4100 gr, 3500 gr, 3850 gr, 3200 gr, 2450 gr, respectively. All patients had moderate left ventricular systolic dysfunction and pulmonary hypertension. Ejection fraction (EF) was 36, 45, 52, 50, 38, respectively. 4 F sheaths were introduced to all patients from the right femoral artery and coarctation balloon angioplasty was performed by monorail coronary balloons (5 mmx12-20 mm) over 0.014 coronary guide-wire. No complications were observed during and after the procedure. While 4 of the patients were discharged with normal cardiac functions in the first week after the procedure, one patient was given to the surgery on the 10th day without being discharged due to recoarctation. It was observed that the 4 patients were normal for left ventricular systolic function in the first week after discharge. Two weeks later two patients had an increased gradient in the coarctation region. In the one-month follow-up, two patients with good general condition, both of them had normal systolic function and no pulmonary hypertension, were given to surgery because of the coarctation gradient was 45 mmHg and 65 mmHg. The echo findings were completely normal in the postoperative controls.

CONCLUSIONS

Aortic coarctation is a life-threatening anomaly in the neonatal period and early intervention is important for survival. Unfortunately, newborn with coarctation of aorta, because of being the most missed congenital cardiovascular anomaly, can be diagnosed in critical condition. We think that balloon angioplasty in neonatal coarctation will be beneficial especially in such patients. Although the balloons used for coarctation need a smaller sheath day by day, but they couldn't be always available in an emergency. On the contrary, coronary balloons can be accessed at any time, it can work from smaller sheath, it can also be more economical. That's why coronary balloons can be used for palliative purposes in critically ill newborns who are not be able to undergo to early surgical correction of aortic coarctation.



Oral Presentation Session

Pearls from Cardiovascular Nursing Practice

Date: 15.03.2020 Time: 13:30 -14:30 Hall: 4

ID: **636**

Topic: **Cardiology » Cardiovascular Nursing**

Presentation Type: **Oral**

OPERATING ROOM PREPARATION AND FLOW IN MINIMAL INVASIVE DIRECT CORONARY ARTERY BYPASS SURGERY

Yasemin Dönmez, Ilhan Mavioğlu

Irmet Hospital, Cerkezkoy, Tekirdağ, Turkey

**Corresponding Author (yasemincanatan.deu@gmail.com)*

Avoiding sternotomy facilitates patients' acceptance of surgery, healing quickly and feeling of well-being after surgery. CABG via lateral thoracotomy can be performed safely even multivessel diseases by using full arterial grafts.

6-8 cm long, anterolateral thoracotomy starting below the nipple in males and under the breast in females was performed and thoracic cavity was accessed through fifth intercostal space. Set-up of retractor system and harvesting for skeletonised LITA has importance for good results. We here describe step by step preparation of operating room and surgical instrumentation.

ID: **249**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

CASE REPORT: NURSING MANAGEMENT OF THE DELIRIUM PATIENT UNDERGOING OPEN HEART SURGERY IN THE INTENSIVE CARE UNIT

Meltem Ulus[1], Aylin Durmaz Edeer[2], Fatma Vural[2]

[1] *Dokuz Eylül University Institute of Health Sciences Surgical Nursing Programme, Izmir, Turkey*

[2] *Dokuz Eylül University Faculty of Nursing, İzmir, Turkey*

[*] *Corresponding Author (meltemm.ulus@gmail.com)*

Delirium is a fluctuating course of consciousness, perception, thought, sleep-wake cycle that disrupts brain functions resulting from wide spread exposure of the brain due to an organic cause, that is acute brain syndrome is usually reversible mental functions (Pineand Engin 2014, Güner and Geenen 2007, Yuying et all 2012). Delirium; It is a condition that is often misdiagnosed, unrecognizedand mis-evaluated in a critical care setting associated with increased mortality and cognitive dysfunction (Boot 2012).

CASE: The patient was 72-year-old male and retired. The patient had warfarin sodium tablet 5 mg/day due to atrial fibrillation. The INR level was 2.8. The patient was diagnosed with aortic and mitral valves disease. The patient underwent aortic valve replacement (AVR) and mitral valve replacement (MVR) surgery with open-heart surgery.

Postoperative 0. day; the patient was applied electrolyte solution of 100cc/h and 5mcg /kg/min intravenous dopamine infusion treatment. The patient was followed in the mechanical ventilator in Adaptive Support Ventilation (ASV) mode (PEEP: 5cmH2O, 60% fiO2, mean tidal volume of 650 ml/min and frequency of 12/min). The patient had one mediastinum chest tube, drainage was 650 cc/2 hours, Hb: 8.4 gr/dl, Htc: 26.2%, arterial blood pressure: 80/50 mmHg, pulse rate 120 / min.

NURSING MANAGEMENT:

Delirium was diagnosed using Richmond Agitation and Sedation Scale and Intensive Care Delirium Scale. The patient was been diagnosed that delirium of risk factors. As the risk factors for delirium; having undergone open heart surgery, decreased hematocrit and hemoglobin levels due to hemorrhage, being in intensive care unit, not being close to relatives, not being mobilized due to inotropic support, the presence of pain and due to medical devices and materials(monitor, transducer, O2 mask, foleycatheter, central catheter, chesttube, SpO2 probe). Nursing interventions to prevent risk factors are planned. Nurse evaluated patient of daily life activities (cognitive skills, pain, mobilization, etc), safe environment protection, disturbance of sleep pattern, risk of trauma.

For these; consciousness was evaluated, was explanated before invasive and noninvasive procedures, bleeding was followed, life signs were monitored, night and day orientation was provided, noise reduction adjustments was provided in the intensive care unit. The patient was contacted with his wife.

RESULT: delirium symptoms were managed with nursing interventions and delirium complications were prevented. Delirium is a common condition in intensive care after open heart surgery. Early diagnosis and management is important for the patient's recovery process.

ID: **511**

Topic: **Cardiology » Cardiovascular Nursing**

Presentation Type: **Oral**

ARE THERE AN INNOVATIVE NURSING INTERVENTIONS FOR ADHERE TO ANTICOAGULANT TREATMENT AFTER CARDIOVASCULAR SURGERY?

Özlem Bilik[1], Aylin Durmaz Edeer[2], **Eda Ayten Kankaya**[3]

[1]*Dokuz Eylul University, Izmir , Turkey*

[2]*Dokuz Eylul University, İZMİR, Turkey*

[3]*Dokuz Eylül University, İZMİR, Turkey*

[*]*Corresponding Author (edayten@gmail.com)*

Objective: The aim of this literature review is to examine the innovative interventions for patients after cardiac surgery are included support behavior change for adhere to anticoagulant treatment, and change their behaviors.

Methods: This review was conducted in the Cochrane and PubMed dataset, and Google Academic between last 10 years related the innovative interventions for patients after cardiac surgery to adhere to anticoagulant treatment, and change their behaviors using by keywords such as innovative interventions, adhere to anticoagulant, cardiovascular nursing.

Results: No found any innovative interventions for patients with cardiac surgery related adhere to anticoagulant treatment, and change their behaviors. We reached few article about these topic in patients with atrial fibrillation, and myocardial infarction. Results of the study showed that an innovatively interventions' positive effects on outcomes of patients with atrial fibrillation. Randomised controlled trial of secondary prevention program for myocardial infarction patients ('ProActive Heart'). The results of randomised controlled trial of secondary prevention program for myocardial infarction patients (ProActive Heart) provided valuable new information about an innovative telephone-delivered cost-effective secondary prevention program for patients. Cardiovascular surgery nurses play a major role in assisting patients with cardiac surgery manage adhere to anticoagulant treatment, and change their behaviors. Basic innovative behavioral inerventions for patients are included support behavior change as well as educate the participants. The goals for these innovative interventions can be develop a comprehensive program for management of patients' status that addressed advanced functional disturbances, complications due to anticoagulant drugs especially bleeding, focused on self-management methods such as controls of INR, limiting greens, and increased motivation.

Conclusion: The results of researches state that innovative interventions play an important role in improving outcomes of patients with cardiac problems. There is a gap in the literature related to innovative behavioral inerventions effects on the adherent to antiocagulant treatment and their behavior change for patients after cardiac surgery. For these reasons, we need to develop an innovative nursing interventions for patients after cardiovascular surgery and evaluate their effects on improving outcomes in this patient groups.

Key words: Innovative nursing interventions, cardiac surgery, adhere to anticoagulant treatment

ID: **380**

Topic: **Cardiology » Cardiovascular Nursing**

Presentation Type: **Oral**

EXAMINATION OF THE STUDIES UPON THE PATIENTS WHO WERE APPLIED CARDIOVASCULAR SURGERY İN THE AIM OF POSTOPERATIVE MOBILIZATION BETWEEN THE YEARS OF 2009-2019

Yağmur Ahmetoğlu [1], Aylin Durmaz Edeer [2]

[1]*Dokuz Eylül University Institute of Health Sciences Surgical Nursing Programme, İzmir, Turkey*

[2]*Dokuz Eylül University Faculty of Nursing, İzmir, Turkey*

[*]*Corresponding Author(yagmurahmetoglu@gmail.com)*

Purpose: This systematically examination has been made with the purpose of examination of the studies upon the national and international patients who were applied cardiovascular in the aim of postoperative mobilization between the years of 2009-2019.

Method: The datas, MEDLİNE Complete, CINAHL Complete, Academic Search Complete, PubMed, Science Direct, which were available ULAKBIM, has been optained through Google Academic Scan Databases. In this examination studies whose published language Turkish and english using the key words 'early mobilization', 'cardiovascular surgery', 'mobilization and nursing', 'ambulation and nursing', postoperative care', 'nursing', 'surgery', 'postoperative complication' which are published in the last decade (august 2009- august 2019) has been chosen. It has been attained 10 compilation and sistematic examination national and international studies which include researches who are nurses, physician or physiotherapist and this studies constitute the sample of the research.

Results: The studies consisted of 70.0% (n: 7) research articles, 30.0% (n: 3) review articles. 71.5% (n:5) of the research articles were experimental and 28.5% (n:2) were descriptive. 66.6% of the review articles consist of systematic reviews and 33.3% of them are classic reviews. The sample group of the research consists of individuals who have undergone cardiovascular surgery and heart valve surgery. 30% (n: 3) of these studies were in the field of nursing, 70% (n: 7) were multidisciplinary publications and all studies were published in English. In the experimental studies, the effects of early mobilization attempts and mobilization protocols were examined. It has been shown that early mobilization prevents respiratory complications, improves ventilation and oxygenation parameters, decreases pleural effusion and atelectasis rates, and improved recovery, faster discharge and postoperative late complications are better than those in the control group. Systematic examinations (n: 3) focused on the safety of mobilization, appropriate mobilization steps, and the effectiveness of protocols in patients after cardiac surgery, and concluded that they prevent postoperative complications, increase functional capacity and reduce hospital stay. Looking at the researches by years; there was no study conducted in 2009; it is seen that the studies have increased in recent years, especially after 2012.

Conclusion: As a result of this review; it has been seen that the studies were limited upon the patients who were applied cardiovascular surgery in the aim of postoperative mobilization. Through these studies we can find the results that postoperative mobilization of cardiovascular surgery has an effect on healing proses of the patient. Although this proses, postoperative mobilization is limited or delay because of the pain and difficulties the patients is going through and it occur as a problem in the practice. This requires the preparation and evaluation of training for mobilization, the development of mobilization protocols, and the studies to demonstrate the opinions of nurses for mobilization.

Key words: cardiovascular surgery, early mobilization

ID: **510**

Topic: **Cardiology » Cardiovascular Nursing**

Presentation Type: **Oral**

EXAMINATION OF NURSING THESES USING THE EDUCATION METHOD RELATED TO CARDIAC SURGERY

Aylin Durmaz Edeer [1], **Eda Ayten Kankaya**[2], Özlem Bilik [2]

[1]*Dokuz Eylul University, Izmir, Turkey*

[2]*Dokuz Eylul University, IZMİR, Turkey*

[*]*Corresponding Author (edayten@gmail.com)*

Objective: The aim of this study is to examine the education methods used by the nursing thesis related to heart surgery in Turkey.

Methods: This review was conducted in the council of higher education thesis center (Yöktez). Nursing was chosen in the field knowledge. Scans were performed with the keywords of “heart surgery, coronary artery bypass grafting, education”.

Results: According to the results, 12 theses were reached. Theses were published between 1998-2016. 83% of the theses are master's thesis and 17% (n = 2) of them are doctoral thesis. 92% (n = 11) of the studies were experimental type. 75% of the training material (n = 9) brochure / booklet was used. Video was used in only one study and the demonstration method was used together with the training booklet in two studies. Verbal information was used in two studies. Technological methods are not used in theses. Anxiety (n = 6) was the most frequently studied subject and 66.6% (n = 8) of the trainings were performed in the preoperative period. It was determined that education showed positive effects in all studies.

Conclusion: The performed heart surgery-related training method used by nursing theses in Turkey shows that education plays an important role in improving patient outcomes. It may be suggested to use different training methods in this field.

Key words: Patient education, nursing, heart surgery

Oral Presentation Session

Clinical and Therapeutic Approaches in Valvular Heart Diseases

Date: 15.03.2020 Time: 08:00 - 09:00 Hall: 5

ID: **167**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

THE COMPARISON OF EARLY AND LONG-TERM FOLLOW-UP RESULTS OF PERCUTANEOUS MITRAL BALLOON VALVULOPLASTY AND MITRAL VALVE REPLACEMENT

Emrah Usta[1], **Refik Erdim**[2], Ali Dogan[1], Mehmet Ezelsoy[1], Serkan Kahraman[1], Muhammed Bayram[1], Nuran Yazicioglu[3]

[1]*Demiroglu Bilim University, Faculty of Medicine, Istanbul, Turkey*

[2]*Acıbadem Mehmet Ali Aydınlar University, Kadıkoy Hospital, Istabul, Turkey*

[3]*Sisli Florence Nightingale Hospital, Istanbul, Turkey*

[*]*Corresponding Author (dremustr@gmail.com)*

Objective: Percutaneous mitral balloon valvuloplasty (PMBV) and mitral valve replacement (MVR) are the treatment options in mitral stenosis for several years, however studies that compare these two modalities are very rare in literature. We aimed to investigate the comparison of clinical results of PMBV and MVR.

Methods: 527 patients with rheumatic mitral stenosis treating with PMBV or MVR (276 patients with PMBV and 251 patients with MVR) from 1991 to 2012 were evaluated. The demographic characteristics, clinical, echocardiographic and catheterization data of patients were evaluated retrospectively. The result of early and late clinical follow-up of patients after PMBV and MVR were also evaluated.

Results: Mean follow-up time of PMBV-group was 4.7 years and 5.45 years for MVR-group. The hospital stay of PMBV-group was shorter than MVR (2.02 days vs 10.62 days, p<0.001). In hospital mortality of PMBV and MVR were %0 and %2 respectively (p=0.024). In PMBV-group early postprocedural success rate was %92.1. The event-free survival of PMBV and MVR was found to be similar. While re-intervention was higher in PMBV-group (p<0.001), mortality rate was higher in MVR-group (p<0.001).

Conclusions: PMBV seems to be more advantageous than MVR due to low mortality rates, easy application of the procedure and lacking the need of general anesthesia.

ID: **124**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN MONOCYTE-LYMPHOCYTE RATIO AND BICUSPID AORTA IN YOUNG ADULTS

Saadet Demirtas Inci

Diskapi Yildirim Beyazit Education and Research Hospital, Ankara, Turkey

**Corresponding Author (saadet_demirtas@yahoo.com)*

BACKGROUND: Bicuspid aorta is associated with various cardiovascular complications such as heart valve dysfunction, endocarditis, thoracic aortic dilatation and aortic dissection. Inflammation plays an important role in the pathophysiology of many cardiovascular diseases. The aim of this study was to evaluate the rate of monocyte lymphocyte (MLR), a new inflammatory biomarker, in young adults with bicuspid aortic valve who had no other cardiac anomalies.

MATERIALS-METHODS: In this retrospective study, 54 (5 female, 49 male; mean age 26 ± 9) patients with bicuspid aorta and 37 (7 female, 30 male; mean age 26 ± 6) healthy subjects were included. Demographic, clinical, laboratory parameters, transthoracic and transesophageal echocardiography were performed in all patients. MLR was calculated by evaluating whole blood count.

RESULTS: MLR was significantly higher in the study group than the controls (0.30 ± 0.13 and 0.24 ± 0.08, P = 0.01). There was a positive correlation between the presence of bicuspid aorta and MLR (r = 0.30 p = 0.004).When we compared the groups in terms of echocardiographic parameters, a positive correlation was found between the presence of bicuspid aorta and aortic velocity, aortic root and ascending aortic dilatation (r = 0.44 p = 0.006, r = 0.76 p = 0.004, r = 0.40 p = 0.007).

DISCUSSION: In this study, we found that patients with bicuspid aortic valve had high MLR and the presence of bicuspid aortic valve was significantly correlated with MLR.

ID: **281**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

REVIEW OF INFECTIVE ENDOCARDITIS DIAGNOSIS AND MANAGEMENT A 4 YEAR EXPERIENCE

Abdul Badran, Henry Rowe, Sunil Ohri

University Hospital Southampton, Southampton, United Kingdom

**Corresponding Author (ilm376@hotmail.com)*

Objectives: Infective Endocarditis (IE) remains a disease associated with significant morbidity and mortality. Surgical management is reserved in failed medical therapy and from serious complications related to valve destruction or embolic phenomena. We reviewed the assessment and management of patients with endocarditis in our busy cardiothoracic surgical centre.

Method: We retrospectively reviewed patient data from 2012 and 2015 including demographics, clinical and follow-up details from patient notes. 199 were included over the 4 year period.

Results: Of the 199 patients 156 (78%) underwent an operation at UHS. 128 (64%) were males, 28 were females (14%) and mean age was 59 (19-86). Of the patients that underwent surgery, 112 (72%) were alive at discharge Vs 20 (47%) in the non-surgical group. Of the organisms isolated on culture 47(24%) were Staphylococcus Aureus, 63(32%) had variants of Streptococcus, 31(16%). Of the patients that did not have surgery 19 (42.2%) were discharged with antibiotics and of these 17 had recovered well, although 3 had further admissions with IE and 4 were having further cardiac investigations for recurrence.

Conclusion: In our unit we operate on more patients with endocarditis than previously reported in the literature. Of the patients that were operated they had higher survival than those unoperated. This may be due to referral practices in our unit but does bear favorably for surgery in endocarditis.

ID: **57**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

RADIOLOGICAL AND CLINICAL FINDINGS OF INFECTIVE ENDOCARDITIS PATIENTS WITH CENTRAL NERVOUS SYSTEM INVOLVEMENT

Mustafa Yılmaz, Aylin Güneşli

Baskent University, Adana, Turkey

**Corresponding Author (yilmazmustafa2001@yahoo.com)*

Objective: Central nervous system (CNS) involvement can lead to high morbidity and mortality in infective endocarditis (IE). The aim of this study was to investigate the clinical and radiological findings of IE patients with CNS involvement.

Methods: In this retrospective, single-center study, the records of patients with CNS involvement followed up with the diagnosis of IE between 2013-2019 were examined. The clinical and radiological findings of the patients were recorded and investigated.

Results: The records of 176 patients diagnosed with IE were evaluated. A total of 32 (18.18%) of these patients had CNS involvement. The mean age of the patients was 64.25±14.2 years and 17 (53.1%) were female. Four (12.5%) patients had prosthetic aorta and mitral valve, 2 (6.25%) patients had only prosthetic aorta, and 2 (6.25%) patients had only prosthetic mitral valve. Native heart valves were present in 24 (75%) patients. Stroke was observed in 24 (75%) patients, spondylodiscitis in 9 (28,12%) and brain abscess in 3 (9.3%) patients. A total of 21 (%65.62) patients had only mitral, 5 patients (%15.62) had only aorta and 6 patients (%18.75) had both aortic and mitral valve vegetation. Additional vegetation in the tricuspid valve was observed in 3 (9.3%) patients. The most common comorbid condition was end-stage chronic renal failure in 9 (28.12%) patients. The causative agent was staphylococci in 14 (43.75%) patients. Mortality from endocarditis-related complications was determined in 17 (53.12%) patients at the 1-year follow-up during diagnosis and treatment.

Conclusions: CNS involvement can be seen in 15-30% of IE. In this series, neurological complications were determined at the rate of 18%. Neurological complications are mostly cerebral infarction, transient ischemic attack, intracerebral hemorrhage, brain abscess, seizures, meningitis and spondylodiscitis. Mitral valve vegetations were seen to be the most common source of cerebral infarcts and aortic valve vegetations were the second source. Staphylococci were determined as the agent most responsible in patients with neurological complications. The data of this study are consistent with findings in the literature. Mortality rates in neurological complications of IE have been reported in literature to be between 30-40%. The higher mortality rate in the current series can be explained by the fact that our center is a tertiary center and accepts more patients with a high comorbid status and a higher risk profile. In conclusion, neurological complications are common and can result in high mortality in IE. Typical clinical findings and magnetic resonance imaging are often sufficient for diagnosis.

ID: **22**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Oral**

MANAGEMENT OF WARFARIN COMPLICATIONS IN THE EMERGENCY DEPARTMENT

Emin Asoglu[1], Nesim Aladağ

[1]*Mardin State Hospital,Cardiology Department, Mardin, Turkey*

[2]*Van Training and Research Hospital, Van, Turkey*

[*]*Corresponding Author (dragit56@hotmail.com)*

Background: Bleeding is the risk related to long-term warfarin therapy and rises significantly at INR values above 4.5. The goal of warfarin reversal is to elevate vitamin K-dependent clotting factors. The aim of this study was to evaluate the management of the warfarin related bleeding complications in acute care patients.

Material and Method: A totally of 74 patients with on warfarin treatment, who admitted to our acute care clinic were enrolled to the study. The patients were grouped into three groups based on International normalized ratio (INR) levels. INR levels of the groups were <3.0 for Group-I, 3.0≤INR ≤5.0 for Group-II and INR>5.0 for Group-III. Patients' medical history, medications and warfarin related complications were recorded throughout examination.

Results: In hematological analysis, platelet count and mean platelet volume were similar between groups. Plateletcrit and hemoglobin levels were significantly higher in group-I than group-III (p=0.01). There was no significance difference between groups in blood group analysis. Group-I and group-II were evaluated without medical intervention yet fresh frozen plasma (FFP) and erythrocyte suspension (ES) were given significantly in group-III. Patients in group-I and group-II were discharged usually, and group-III subjects were followed-up in the hospital.

Conclusion: This study demonstrated that warfarin anticoagulation at higher INR levels and without bleeding complication was managed by conservatively. Intravenous vitamin K was administered at minor bleeding complications in patients with warfarin anticoagulation. FFP and vitamin K was administered at the high INR levels with major bleeding complications in patients with warfarin anticoagulation.

ID: **79**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

YOUNG MALE PATIENT WITH SUBAORTIC MEMBRANOUS STENOSIS AND LEFT VENTRICULAR NON-COMPACTION

Said Abdirahman[1], Mohamed Abdullahı[2], Yahya Içen[3]

[1]*Mogadishu Somali Recep Tayyip Erdogan Education and Research Hospital, Mogadishu, Somalia*

[2]*Mogadishu Somali Recep Tayyip Erdogan Education and Research Hospital, Mogadishıu, Somalia*

[3]*Sağlık Bilimleri Üniversitesi Adana Sağlık Uygulama Ve Araştırma Merkezi,Mogadishu Somali Recep Tayyip Erdogan Education and Re, Adana, Turkey*

[*]*Corresponding Author (saciidcabdi114@gmail.com)*

A 19-year-old male patient presented to the cardiology outpatient clinic with dyspnea. The patient stated that dyspnea started and increased in the last 1 month. Effort capacity was observed in class 2-3. Physical examination revealed tachycardia and auscultation revealed a third heart sound. Complete left bundle branch block was detected on electrocardiography. As a result of echocardiographic evaluation; The left ventricle showed a non-compact layer, hypertrabeculation and subaortic membranous stenosis (Figures 2a and 2b). Ejection fraction was observed to be 25%. The patient was diagnosed as left ventricular non-compact and subaortic stenosis and was admitted to the cardiology department. Heart failure treatment was started. Shortness of breath regressed. Improvement in exercise capacity (class 1-2) was detected. It was decided to perform cardiac resynchronization therapy as bridging therapy to transplantation.

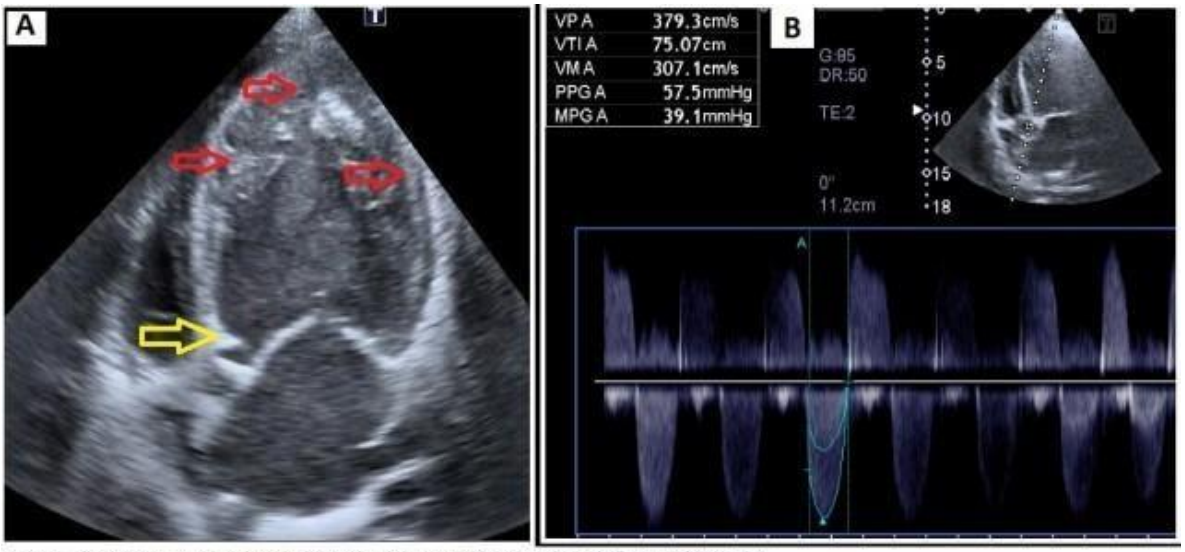


Figure 1. Showing non-compaction layer (red arrows) and showing subaortic membrane (yellow arrow) in panel A. Showing severe aortic stenosis due to subaortic membrane in panel B.

ID: **313**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

GENDER DIFFERENCES IN TRANSCATHETER AORTIC VALVE IMPLANTATION

Bilge Duran Karaduman

Ankara Yıldırım Beyazıt University, Department of Cardiology, Ankara City Hospital, Ankara, Turkey

**Corresponding Author (bilge_dr@yahoo.com)*

Objectives: Transcatheter Aortic Valve Implantation (TAVI) is now a widespread procedure and it becomes a treatment option for with severe aortic stenosis (AS) patients who are not at low risk for surgery in the recently published guidelines. In randomized studies and registries, female and male patients are at a similar rate of half. Although some studies indicate that female patients have lower mortality and complication rates, the gender effect of TAVI has not been fully elucidated. In this study, we wanted to evaluate the difference between the genders in TAVI in our preliminary results.

Methods: A total of 416 patients with severe symptomatic AS, and high or prohibitive operative risk underwent TAVI at our institution between June 2011 and December 2017. TAVI patients were grouped as male and female.

Results: Of 416 TAVI patients, 58% of the patients were female and the mean age of women was 78.6±7.5 years and the mean age of men was 60 76.3±8.2 years and there was a statistically significant difference. Baseline characteristics and procedural details of groups which are shown in Table. BMI, STS scores, LVEF, aortic mean gradient and left ventricular hypertrophy were significantly higher in females and CABG, CAD rates and aortic valve area were significantly higher in males (p<0.001). In 30-day and one-year follow-up, patients have improvement in functional capacity with no moderate or severe PVL seen in two genders but the increase in LVEF was statistically higher in females. Permanent pacemaker rates were similar in both genders and major vascular complications were significantly higher in women. While in-hospital mortality was statistically higher in females (p=0.003), 1-month and 1-year mortality rates were similar in both genders.

Conclusion: The main finding of this study is that although mortality and complications rates are higher in women post TAVI, similar rates are observed in both genders in the medium and long term.

Parameters	**Malen=175 (42%)**	**Femalen=241 (58%)**	**p value**
Age (years)	76.3±8.2	78.6±7.5	0.004
BMI (kg/m2)	26.0±3.7	28.6±7.1	<0.001
NYHA (%)			
- 2	28.5	23.6	
- 3	58.3	55.1	0.075
- 4	12.6	17.4	
- Pulmonary edema	0.5	3.7	
DM (%)	31.9	28.6	0.53
HT (%)	79.4	84.6	0.23
CABG (%)	37.7	15.3	<0.001
AF (%)	23.4	24.4	0.80
STS score	5.2±2.9	6.6±3.8	0.001
CAD			
- Normal	14.8	26.9	
- Non-obstructive	46.2	39.4	0.01
- Obstructive	38.8	33.6	

Echocardiographic parameters			
LVEF (%)	48.2±15.3	54.3±12.5	<0.001
Aortic mean gradient (mm Hg)	48.8±14.1	54.0±15.7	0.001
AVA (cm^2)	0.7±0.16	0.6±0.15	<0.001
LVH (%)	80.3	89.7	0.007
RWT	0.51±0.11	0.59±0.12	<0.001
LA (cm)	4.67±0.6	4.65±0.6	0.77
sPAB (mmHg)	43.2±17.1	45.1±15.5	0.26
Procedural characteristics			
Edwards Sapien XT (%)	88.0	86.6	0.68
Edwards Sapien 3 (%)	1.1	3.75	0.002
Lotus (%)	0.5	9.5	<0.001
Prosthesis size ≥29mm (%)	26.8	1.7	<0.001
Pace Maker (%)	7.4	8.3	0.90
Major vascular complication (%)	8.5	13.2	0.04
In-hospital mortality (%)	1.1	7.4	0.003
First month mortality (%)	2.9	4.4	0.42
First year mortality (%)	15.6	11.1	0.19

ID: **300**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

EFFECT OF TRANSCATHETER AORTIC VALVE IMPLANTATION IN LIVER CIRRHOSIS

Hüseyin Ayhan, Bilge Duran Karaduman

Ankara Yıldırım Beyazıt University, Faculty of Medicine, Ankara, Turkey

**Corresponding Author (huseyinayhan44@yahoo.com)*

Background and Aim: The treatment of choice for severe Aortic Stenosis (AS) has been surgical aortic valve replacement (SAVR) for most patients with acceptable surgical risks. Transcatheter aortic valve implantation (TAVI) has emerged as an alternative to intermediate or high-risk surgery in patients with comorbid conditions. Liver cirrhosis, which is not included in the traditional risk scoring system, associated with increased perioperative mortality and morbidity in cardiothoracic surgeries. Also, the effect and outcomes of TAVI in patients with hepatic cirrhosis are limited. We report our TAVI experience in patients with cirrhosis and want to point out the feasibility and safety of performing TAVI.

Method: A total of 9 of 480 (5.3%) patients treated at our institution with TAVI had liver cirrhosis. Before TAVI, coronary angiography, multi-slice computed tomography and transthoracic echocardiography (TTE) were performed in all of the patients to determine the operation feasibility and procedural technique. Transesophageal echocardiography (TEE) could not be performed because all patients had esophageal varices. Survival was evaluated for all patients and TAVI was applied to patients with a probability of survival of more than 1 year.

Results: Baseline characteristics and procedural features are shown in table. The mean age of the patients were 64.7±8.8 years. There was 1 woman and 8 men. The mean STS score was 3.9±2.3. Childs–Pugh–Turcotte (CPT) score scores ranged from 5 to 11 with a mean of 6.8±1.8. There were 5 patients who were CTP class A, there were 3 patients who were CTP class B and one patient was CTP class C. All transcatheter balloon expandable aortic valves were successfully implanted. Post procedure echocardiographic evaluation was performed and it revealed that all of the implanted valves had successful results with only mild paravalvular leak in three cases at discharge. There were no life-threatening or major bleeding complications. In one year follow-up, patients have improvement in functional capacity with no regurgitation seen on TTE. No deaths were observed in the hospital and 1 year follow-up.

Conclusion: This study demonstrates that the TAVI with a balloon expandable valves can be performed safely and effectively in liver cirrhosis patients.

Age [years]	62	46	73	66	65	66	69	59	77
Gender	M	M	M	M	F	M	M	M	M
STS score (%)	2.2	2.7	1.7	5.5	8.4	4.2	2.5	4.4	3.2
NYHA	3	3	4	4	3	3	3	3	2
Liver Cirrhosis etiology	Cryptogenic	Hepatit B viruses	Cryptogenic	Cryptogenic	Hepatit C viruses	Hepatit B viruses	Hepatit B viruses	Toxic	Autoimmune

Childs–Pugh–Turcotte score	6	5	8	7	5	6	11	7	6
Childs–Pugh–Turcotte class	A	A	B	B	A	A	C	B	A
LVEF (%)	65	65	65	30	60	48	65	23	60
Aortic mean gr [mm Hg]	53	73	54	42	55	67	73	42	75
AVA [cm²]	0.90	0.40	0.70	0.50	0.59	0.42	0.67	0.80	0.54
Edwards Sapien XT size mm	26	23	26	26	23	26	29	29	26

Oral Presentation Session

New Perspectives in Acute Coronary Pulmonary Embolism

Date: 15.03.2020 Time: 09:00 – 10:00 Hall: 5

ID: **73**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

A NOVEL PROGNOSTIC MARKER IN ACUTE PULMONARY EMBOLISM: SYSTOLIC AORTIC REGURGITATION

Tahir Bezgin

Gebze Fatih devlet hastanesi , Kocaeli, Turkey

**Corresponding Author (bezgintahir3@yahoo.com)*

Background: Aortic regurgitation usually occurs in diastole but systolic aortic regurgitation (SAR) is caused by the inability of ventricular contraction to overcome the aortic pressure in systole. The present study aimed to investigate the prevalence and SAR in acute pulmonary embolism.

Methods: We enrolled 208 consecutive patients (mean age of 71.3±9.5 years, 50% women) with acute pulmonary embolism and prospectively followed up for 1 year. Demographic, clinical, echocardiographic, and laboratory data were obtained at study entry. The primary endpoint of the study was cardiovascular mortality at one year.

Results: SAR was noted in 12 (5.8%) of the patients, and 20 patients (9.6%) died due to cardiovascular reasons at the end of the first year. The 1-year mortality rate was higher for patients with SAR (58.3 %) compared to those without SAR (6.6 %, p<0.001). After adjusting for important covariates, SAR remained independently associated with mortality (OR 3.657; 95 % CI 1.674–8.567; p < 0.001).

Conclusions: This is the first study to demonstrate that the presence of SAR is associated with adverse events in acute pulmonary embolism.

ID: **349**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

THE ASSOCIATION BETWEEN BLOOD VISCOSITY AND PULMONARY EMBOLISM SEVERITY INDEX IN ACUTE PULMONARY EMBOLISM

Bahar Tekin Tak, Firdevs Ayşenur Ekizler

Ankara City Hospital, Ankara, Turkey

**Corresponding Author (tekinbahar@yahoo.com)*

Introduction: Acute pulmonary embolism (APE) is a life-threatening disease associated with significant short- and long-term complications. Therefore, identifying clinical prognostic markers for the disease is important. In this study, we aimed to investigate the value of whole blood viscosity (WBV) for predicting disease severity based on simplified Pulmonary Embolism Severity Index (sPESI), as well as inhospital mortality in patients with acute pulmonary embolism (APE).

Materials and methods: A total of 210 patients with the diagnosis of acute PE were enrolled in this study. WBV was calculated according to the Simone's formula. The sPESI scores of the patients were calculated using the data obtained from the electronic patient database. The patients with a sPESI risk score 0 were regarded to have low sPESI scores, and those with a sPESI score 1 were regarded to have high sPESI scores.

Results: Univariate logistic regression analysis showed that WBV at high shear rate (HSR) and WBV at low shear rate (LSR) were significantly correlated with a high sPESI score in patients with APE ($p < 0.001$). In addition, PASP, RV dysfunction, the D-dimer level were significantly correlated with a high sPESI score in patients with APE.

Conclusion: WBV values at both shear rates were significantly correlated with higher in-hospital mortality rate and sPESI score. To the best of our knowledge, this is the first study in the literature that investigated the prognostic utility of WBV in patients with APE.

ID: **139**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Oral**

APPLYING A NEW DIAGNOSTIC MARKER IN PATIENTS WITH PULMONARY EMBOLISM: R PEAK TIME

Elif Ijlal Cekirdekci[1], Cagatay Onar[2], Erkan Yıldırım[3], Baris Bugan[1]

[1]*University of Kyrenia, Kyrenia, Turkish Republic of Northern Cyprus*

[2]*Corlu Government Hospital, Tekirdag, Turkey*

[3]*Gulhane Training and Research Hospital, Ankara, Turkey*

[*]*Corresponding Author (elifcekirdekci@hotmail.com)*

Objective: Pulmonary embolism (PE) accounts for considerable number of morbidity and mortality events. Most of patients die due to the diagnostic failure not for the insufficient treatment. We aimed to evaluate diagnostic value of R-peak time (ventricular activation time) in patients with acute pulmonary embolism.

Methods: A total of 123 PE patients (a median of 39 (29 to49) years), and 145 healthy controls (a median of 35 (25 to 51) years), were selected in this study. R-peak time was measured in all derivations from the12-lead electrocardiogram.

Results: Among the ECG parameters, R-peak time (β-coefficient, SE=0.473, CI 3.55-23.41; $p < 0.001$) and T-wave inversion in all leads V1-V3, (SE=0.421, CI 1.10-5.49; $p < 0.001$) were the independent predictor of PE. The ROC curve analyses showed that the cut-off value of mean R-peak time in acute PE was 29.3±3.1 ms with a sensitivity of 87.1% and a specificity of 79.8 % (AUC: 0.881, 95%CI: 0.765–0.993; $p < 0.001$). In the correlation analyses; the R-peak time was correlated with RV end-diastolic diameter ($r = 0.446$; $p < 0.001$), RV/left ventricle (LV) ratio ($r = 0.556$; $p < 0.001$), systolic pulmonary artery pressure (SPAP) ($r = 0.538$; $p < 0.001$), and negatively correlated with TAPSE ($r = -0.523$; $p < 0.001$).

Conclusions: This study revealed that R-peak time was prolonged and correlated to the severity of the disease in patients with acute pulmonary embolism. Therefore, prolonged R-peak time may be measured for diagnosing acute PE and used as a predictor for future events.

Key words: Electrocardiography; Pulmonary Embolism; R-peak time

ID: **356**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

AHO INDEX: A NEW PARAMETER FOR THE DETERMINATION OF NORMAL RIGHT VENTRICULAR FUNCTION IN PATIENTS WITH ACUTE PULMONARY EMBOLISM

Oguzhan Yücel

Yakın Doğu Üniversitesi, Lefkoşe, Turkish Republic of Northern Cyprus

**Corresponding Author (drhakangunes83@hotmail)*

Objective: In this study, we sought to bring out which parameters were helpful in predicting a normal right ventricular (RV) function in patients with acute pulmonary embolism (PE).

Methods: Consecutive 100 acute PE patients, who were hospitalized and confirmed by CT angiography, were enrolled for the study. All patients' demographics, symptoms on admission, risk factors, electrocardiography and laboratory findings, and hemodynamic parameters were assessed. Echocardiography was done in first 24 hours. Baseline characteristics of patients classified into two categories according to their right RV functions

Results: Mean age of patients was 63±16 years and 48 (48%) of them were male. Twenty three patients (%23) had normal RV functions. Multiple logistic regression analysis showed that age (p: 0,041, OR: 1,174, 95% CI: 1,007 to 1,368), oxygen saturation (p: 0,026, OR: 1,372, 95% CI: 1,039 to 1,812) and heart rate (p: 0,049, OR: 1,160, 95% CI: 1,001 to 1,346) were independent predictors of normal RV function. ROC analysis brought out cut off values of these parameters for normal RV function: for age it was ≤ 53 (sensitivity 65,2%, specifity 88,3%), for saturation it was > 90% (sensitivity 60%, specifity 86,2%) and for heart rate it was ≤ 118 bpm (sensitivity 100%, specifity 51,6%). The setting in which all three parameters were positive was named as AHO index=1, positive predictive value for normal RV function was 100% and sensitivity was 44%, negative predictive value was 85,6% and specifity was 100% (AUC: 0,717, 95% CI: 0,619 to 0,803).

Conclusion: In acute PE patients who were younger than 53 years and had heart rate ≤ 118 bpm and oxygen saturation > 90% (AHO index=1), RV functions were found to be normal. Accordingly, without the need of CT angiography or echocardiography, clinican may predict normal RV function with available demographic and noninvasive hemodynamic parameters.

Keywords: Acute pulmonary embolism; right ventricular function; AHO index; age; heart rate; oxygen saturation

ID: **272**

Topic: **Cardiology » Diagnosis and treatment of Pulmonary Hypertension**

Presentation Type: **Oral**

IMPROVEMENTS OF RIGHT VENTRICULAR FUNCTION AND HEMODYNAMICS AFTER BALLOON PULMONARY ANGIOPLASTY IN PATIENTS WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Batur Kanar[1], Bülent Mutlu[2], Halil Ataş[2], Dursun Akaslan[2], Bedrettin Yıldızeli[2]

[1]*Marmara University, Istanbul, Turkey*

[2]*Marmara University, Istanbul, Turkey*

[*]*Corresponding Author (baturkanar@gmail.com)*

RV peak systolic strain dispersion index Purpose: Right ventricular (RV) function is an important factor in the prognosis of chronic thromboembolic pulmonary hypertension (CTEPH) in patients. In our study, we aimed to evaluate the timing and magnitude of regional RV function before and after balloon pulmonary angioplasty (BPA) using speckle tracking echocardiography (STE) and their relation to clinical and hemodynamic parameters in patients with CTEPH.

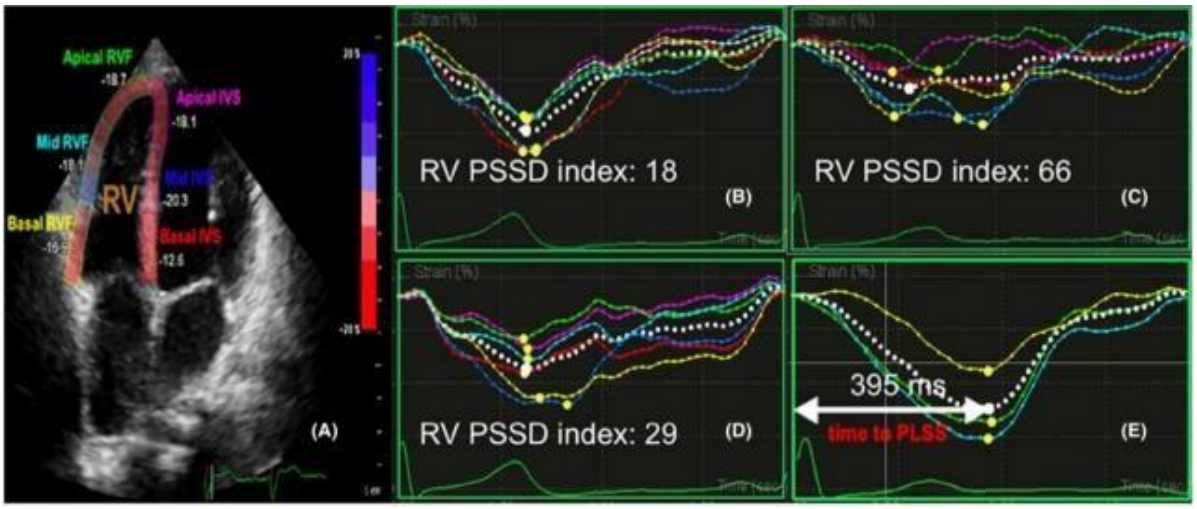
Material and Method: We enrolled 20 CTEPH patients and 19 healthy subjects in our study. Enrolled patients underwent echocardiography, right heart catheterization (RHC), and 6-minute walk distance (6MWD) test at baseline and after the BPA. We performed 2.6±1.5 BPA sections for patients with CTEPH. In STE analysis,

RV peak systolic strain dispersion (PSSD) index, which presented RV mechanical dispersion, was derived from the standard deviation of the times from QRS beginning to peak longitudinal systolic strain (PLSS) of the RV 6 segments. The RV mechanical contraction was evaluated as the time needed to reach peak strain (time to PLSS) using the beginning of the QRS complex as a reference point. RV electromechanical delay (EMD) was defined as the maximum difference in time to PLSS among IVS, LVL, and the free RV wall.

Results: Our study enrolled 20 patients (mean age: 48.1±11.2 years; male/ female: 8/12) with CTEPH undergoing BPA and 19 healthy subjects (mean age: 47.3±10.4 years; male/female: 8/11). After BPA, mean PAP (53.5±16.6 mmHg vs 37±5.9 mmHg and PVR (12±4.1 vs 7±3.4 Wood units [WU], $P < 0.001$) decreased, and the cardiac output (3.61±2.0 vs 5.0±2.9 L/min, $P = .002$) and cardiac index (2.19±0.9 vs 2.840.8L/min/m^2, $P = .003$) increased. In clinical and laboratory evaluations, the pro-brain natriuretic peptide (BNP) (1324±212 vs 198±36 pg/mL, $P < 0.001$) level decreased and 6MWD (300±112m vs 450±246m,$P < 0.001$) increased after BPA.

There was no significant difference between before and after the BPA sessions in conventional echocardiographic measurements. Before the BPA, CTEPH patients had lower RVF PLSS and LVL PLSS and higher RV PSSDI as compared with these parameters in the healthy controls. Both RVF PLSS and LVL PLSS increased after BPA, but the increases failed to reach statistical significance. After BPA, RV PSSDI (52 ms [IQR: 44-65] vs 29 ms [IQR: 22-34], $P = 0.001$) decreased.However, the value was still higher than that in the healthy controls. Both the time differences between RVF–LVL and RVF–IVS PLSS were higher in the CTEPH patients as compared with those in the healthy controls. After BPA, these indices decreased (both $P = 0.001$), with no statistically significant difference in the indices observed in the CTEPH patients versus those in the healthy controls.There was a statistically significant correlation between RV PSSDI and mean PAP which measured using RHC before the BPA sessions ($r:0.71$, $P < 0.001$). In addition, there was a significant correlation between time differences between RVF–LVL PLSS and 6MWD ($r: 0.69$, $P = 0.003$).

Conclusion: Chronic thromboembolic pulmonary hypertension was associated with RV EMD and dispersion. BPA had an important effect on the improvement of the RV EMD and dispersion, as well as clinical and RHC hemodynamic parameters. Assessments of RV EMD and dispersion play an important role in evaluating ventricular interactions and the prognosis of CTEPH patients.



	Before BPA (n = 20) median (per. 25–75)	After BPA (n = 20) median (per. 25–75)	Healthy controls (n = 19) median (per. 25–75)	P^a	P^b	P^c
RV end-diastolic basal diameter (mm)	45 (43–52)	40 (39–49)	29 (24–34)	.65	**<.001**	**<.001**
RA end-systolic area (mm^2)	24 (22–32)	21.5 (18–26)	12 (9–14)	.07	**<.001**	**<.001**
TAPSE (mm)	13 (12–18)	15 (13–17)	22 (18–24)	.67	**<.001**	**<.001**
RV TDI S' (mm)	9.5 (7.8–11.7)	9.10 (8.2–12.3)	13.4 (11.2–16.7)	.11	**<.001**	**<.001**
RV fractional area change (%)	32 (24–38)	34 (27–37)	44 (38–51)	.15	**<.001**	**<.001**
LV ejection fraction (%)	58 (52–66)	59 (54–67)	61 (57–65	.23	.15	.09
Peak systolic velocity of tricuspid valve regurgitation (m/s)	4.8 (3.4–6.9)	4.5 (3.3–6.5)	2.0 (1.7–2.5)	.14	**<.001**	**<.001**
Speckle tracking echocardiographic measurements						
RV free wall longitudinal strain (%)	15 (14–17)	17 (15–19)	26 (22–31)	.42	**<.001**	**<.001**
LV global longitudinal strain (%)	21 (16–26)	22 (17–25)	25 (21–30)	.22	**<.001**	**.001**
RV peak systolic strain dispersion index	52 (44–65)	29 (22–34)	9 (6–12)	**.001**	**<.001**	**<.001**
Time to peak longitudinal systolic strain difference (ms)						
RVF–LVL[d]	65 (36–172)	47.5 (21–123)	24 (20–30)	**.01**	**<.001**	.07
RVF–IVS[e]	41.5 (9–93)	24 (4–37)	16 (10–19)	**.01**	**<.001**	.19
IVS–LVL[f]	37 (23–79)	28 (23–148)	13 (8–17)	.09	**<.001**	.14

Note: Data are presented as median (percentile 25–75).
Bold values indicate statistical significance $P < .05$.
Abbreviations: LV, left ventricle; LVL, left ventricle lateral wall; RA, right atrium; RV, right ventricle; RVF, right ventricle free wall; S', systolic velocity; TAPSE, tricuspid annular plane systolic excursion; TDI, tissue Doppler imaging.
[a] *P* statistical difference between before and after BPA.
[b] *P* statistical difference between CETPH patients before BPA and healthy subjects.
[c] *P* statistical difference between CETPH patients after BPA and healthy subjects.

ID: **24**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

ACUTE INFERIOR MYOCARDIAL INFARCTION ASSOCIATED WITH SILDENAFIL IN AN ASYMPTOMATIC PATIENT WITHOUT CORONARY ARTERY DISEASE

Mustafa Kaplangoray[1], Yusuf Cekici[2]

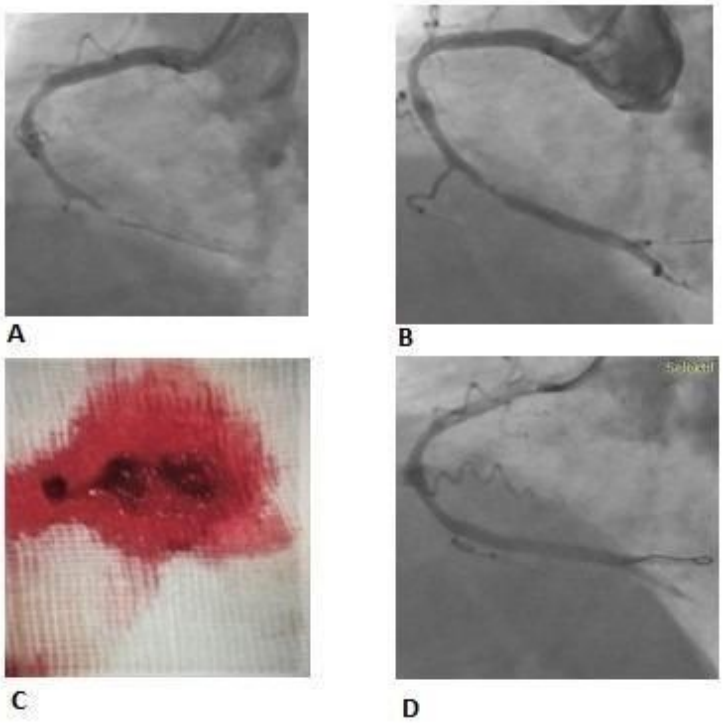
[1]*SBU Mehmet Akif İnan E.A.H., Şanlıurfa, Turkey*

[2]*SBU Mehmet Akif İnan E.A.H., Şanlırfa, Turkey*

[*]*Corresponding Author (mkaplangoray@gmail.com)*

In this case report, the relation was investigated between sildenafil and MI in a nitrate-free patient who developed acute myocardial infarction (MI) after taking sildenafil and without any history of coronary artery disease (CAD). A 59-year-old patient that presented with chest pain that appeared 2 hours after taking 100 mg oral sildenafil without attempting any sexual intercourse, and was hospitalized with the diagnosis of acute inferior MI.
The coronary angiography revealed total occlusion of in the mid-region of the right coronary artery (RCA). The total stenosis was treated firstly with thrombus aspiration and then with stent implantation (Figure 1 A, B, C, D). Sildenafil-related MI is seen very rarely in without any history of CAD; therefore, we believe that it might be important to discuss our case in this respect.

Figure 1 A: Intense thrombosed total occlusion of right coronary artery from the mid region, B: Residual stenosis after thrombus aspiration, C: Thrombosed aspiration material, D: Right coronary artery after successful stenting.



Oral Presentation Session

Coronary Artery Ectasia and Slow-Flow: Confusion Must Be Cleared

Date: 15.03.2020 Time: 10:30 – 12:00 Hall: 5

ID: **256**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN ELEVATED MAGNESIUM LEVELS AND CORONARY ARTERY ECTASIA

Mustafa Yolcu[1], Emrah Ipek[2], Serdar Türkmen[3], Yücel Özen[4], Erkan Yıldırım[2], Alper Sertçelik[3], Fatih Rıfat Ulusoy[2]

[1]*Arel Universty, Private Medicana Camlica Hospital, İstanbul, Turkey*

[2]*Erzurum Region Training and Research Hospital, Erzurum, Turkey*

[3]*Sani Konukoğlu Medical Centre, Gaziantep, Turkey*

[4]*Kartal Kosuyolu High Specialty Education and Research Hospital, İstanbul, Turkey*

[*]*Corresponding Author (yolcudoctor@gmail.com)*

OBJECTIVE: Coronary artery ectasia (CAE) without specific symptoms is the localised or diffuse swelling of the epicardial coronary arteries to at least 1.5 times the adjacent normal coronary segment. It is congenital or acquired and several studies have reported its incidence at 0.3–5%. Magnesium, the second most abundant intracellular cation, is an essential element that plays a crucial role in cardiac and vascular functions. Magnessium (Mg) plays an important role in cardiac excitability, vascular tonus, contractibility, reactivity and vasodilatation. In our study, we aimed to study the vasodilatory effect of Mg in the aetiopathogenesis of ectasia, and the long-term effects of elevated Mg levels on the vascular structure, leading to abnormal coronary dilatation.

METHODS: A total of 4800 patients identified during routine coronary angiograms in our clinic between January 2010 and 2013 were included in the study. Sixty-two patients with isolated CAE, 57 with normal coronary angiograms (NCA), 73 with severe coronary artery disease (CAD), and 95 with stenosis of at least one coronary artery and CAE (CAD + CAE) were included in the study. Routine biochemical and haematological laboratory tests were done. Isolated CAE was defined as dilatation of at least one epicardial coronary artery to 1.5 times the reference vessel diameter and absence of critical stenosis (> 50%) in any of the coronary arteries. NCA were defined as the absence of angiographic atherosclerosis during routine coronary angiography; 60% or greater stenosis in at least one epicardial coronary artery was defined as CAD. CAD + CAE was defined as 60% or greater stenosis in at least one epicardial coronary artery and the presence of ectasia in any of the coronary arteries. Serum Mg levels were measured in mg/dl after 12 hours of fasting.

RESULTS: The mean age was 62 ± 10 years in the CAE patients, 61 ± 11 years in CAD patients, 64 ± 8 years in those with CEA + CAD, and 59 ± 8 years in the NCA patients. Serum Mg levels were 1.90 ± 0.19 mg/dl in isolated CAE patients, 1.75 ± 0.19 mg/dl in those with CAD, 1.83 ± 0.20 mg/ dl in those with CAD + CAE, and 1.80 ± 0.16 mg/dl in the NCA group. These results showed that Mg levels were higher in the ectasia patients with or without CAD.

CONCLUSIONS: The histopathological characteristics of patients with CAE were similar to those with CAD. The specific mechanism of abnormal luminal dilatation seen in CAE however remains to be elucidated. Mg is a divalent cation with powerful vasodilatory effects. In our study, serum Mg levels were found to be statistically higher in ectasia patients with or without CAD.

Keywords: Coronary artery ectasia, magnessium, pathophysiology

Comparisons of clinical parameters and magnessium

Clinical parameters	Isolated CAE (n = 62)	CAD (n = 73)	CAD + CAE (n = 95)	NCA (n = 57)	p-value
Fasting blood glucose (mg/dl)	109 ± 28	113 ± 25	118 ± 39	108 ± 25	0,197
Serum creatinine (mg/dl)	0.91 ± 0.20	0.88 ± 0.22	0.92 ± 0.31	0.80 ± 0.15	0,024
Triglycerides (mg/dl)	146 ± 79	171 ± 112	151 ± 82	136 ± 59	0,133
Total cholesterol (mg/dl)	192 ± 43	188 ± 35	180 ± 39	179 ± 36	0,142
LDL cholesterol (mg/dl)	118 ± 36	114 ± 27	108 ± 34	105 ± 29	0,095
HDL cholesterol (mg/dl)	46 ± 12	39 ± 8.8	42 ± 9.5	44 ± 10	0,003
Calcium (mg/dl)	9.69±0.32	9.64±0.28	9.67±0.33	9.58±0.41	0,103
Magnesium (mg/dl)	1.90±0.19	1.75±0.19	1.83±0.20	1.80±0.16	0,000

ID: **68**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN WHOLE BLOOD VISCOSITY AND CORONARY ARTERY ECTASIA

Mevlüt Serdar Kuyumcu[1], **Yasin Özen**[2]

[1]Isparta Süleyman Demirel Medical Faculty Training and Research Hospital, Isparta, Turkey

[2]Ankara City Hospital, Ankara, Turkey

[*]Corresponding Author (ysnozn70@gmail.com)

Objective: Coronary artery ectasia (CAE) is a relatively rare finding diagnosed by coronary angiography. It is generally defined as localized or widespread expansion of the coronary arteries by more than 1.5 times the diameter of the adjacent normal artery. CAE is considered a variant of coronary atherosclerosis. As a primary indicator of shear stress, blood viscosity has not been utilized as a common practice in the cardiovascular evaluation despite having close relationship with multiple cardiovascular diseases. In addition, hyperviscosity has similar important pathophysiologic effects on cardiovascular system with conventional risk factors such as hypertension, hypercholesterolemia, diabetes mellitus, male gender, cigarette smoking. Measuring whole blood viscosity (WBV) as a routine may be too difficult because of not having standardized methods, the must of sophisticated devices and rare research data. But, a validated equation can be used to calculate WBV by using hematocrit and total plasma protein levels (for low and high shear rate). Calculating an estimated value about WBV with this basic formula, can provide clinicians a new tool for bedside evaluation of patients. According to De Simone et al., WBV could be extrapolated from its major determinants, which are red blood cells and total plasma protein. The first study extrapolating viscometer derived whole blood viscosity from total protein and hematocrit level. These extrapolation formulas have been used in formerly performed studies in different populations but have not been studied at firstly diagnosed ACS patients. WBV has the potential to have a role in the pathophysiology of coronary artery ectasia. In this study, we aimed to investigate the relationship between WBV and coronary artery ectasia.

Methods: In this cross - sectional study, a total of 452 consecutive selective coronary angiograms performed between January 2016 - January 2019 in our hospital were evaluated retrospectively. Two groups consisted of 190 patients with CAE and 262 randomly selected individuals with normal coronary artery. Ectasia type was categorized according to Markis classification. All data and WBV at low and high blood shear rate were compared between groups. [High shear rate (HSR) WBV = (0.12× hematocrit) + 0.17 (total protein -2.07), low shear rate LSR) WBV = (1.89× hematocrit + 3.76 (total protein -78.42)].

Results: When the clinical features were evaluated, the rate of hypertension ($p < 0.001$) was higher in the CAE group. When biochemical and hematological parameters were examined, creatinine ($p = 0.002$), hemoglobin ($p = 0.048$), hematocrit ($p = 0.010$), total protein ($p = 0.044$) and platelet ($p = 0.031$) levels were found to be high in CAE group. LSRWBV ($p = 0.003$) and HSRWBV ($p < 0.001$) levels were higher in CAE group. In multivariate logistic regression analysis, hypertension ($p = 0.005$), creatinine ($p < 0.001$), hematocrit ($p = 0.037$), DKAGTKV ($p = 0.013$) and YKAGTKV ($p < 0.001$) were identified as independent risk factors for CAE.

Conclusions: In our study, WBV was found to be higher in patients with CAE than subjects with normal coronary artery. It was found that the WBV values increased with increasing CAE. This study has the potential to be useful in understanding the pathophysiology of CAE and developing therapies for it.

Keywords: coronary artery ectasia, whole blood viscosity, atherosclerosis.

Table 1. Characteristics and laboratory parameters of the study groups.

Variables	Control (n=262)	Coronary Artery Ectasia (n=190)	p value
Age, year	61.0 ± 11.22	62.2 ± 11.49	0.231
Female, n(%)	125 (47.7%)	80 (42.1%)	0.237
BMI, kg/m²	26.49 ± 4.80	27.02 ± 5.26	0.287
Diabetes Mellitus, n(%)	84 (32.1)	56 (29.5)	0.557
Hypertension, n(%)	94 (34.8%)	80 (49.5%)	**0.002**
Hyperlipidemia, n(%)	112 (42. %)	84 (44.2%)	0.757
Smoking, n(%)	72 (27.5%)	50 (26.3%)	0.783
LVEF, %	60.3 ± 5.9	59.0 ± 6.9	0.083
Ectasia type Type I Type II Type III Type IV	-	 35 32 30 93	-
Diameter of ectasia (mm)	-	4.91 (4.00-5.79)	-
Glucose, mg/dL	113.3 ± 42.6	112.1 ± 44.1	0.674
Creatinine , mg/dL	0.91 ± 0.18	1.07 ± 0.31	**0.003**
White blood cell, $10^3/mm^3$	7.6 ± 2.2	7.7 ± 2.2	0.782
Hemoglobin, g/dL	13.4 ± 1.7	13.8 ± 1.4	**0.048**
Hematocrit, (%)	39 .8± 4.8	41.6 ± 4.1	**0.010**
Total protein, g/dL	71.1± 8.2	72.2 ± 7.6	**0.044**
Platelet, $10^3/mm^3$	262.5 ± 67.2	279.4 ± 97.6	**0.031**
CRP,mg/L	3.8 ± 3.3	4.1 ± 3.0	0.635
Total cholesterol, mg/dL	184.1 ± 60.0	185.4 ± 49.7	0.875
LDL-C, mg/dL	109.1 ± 47.3	108.3 ± 40.0	0.803
HDL-C, mg/dL	46.2 ± 13.2	47.3 ± 11.0	0.296
Trigliserid, mg/dL	162.1± 79.1	160.6 ± 83.3	0.905
WBV at LSR	46.4 ± 32.9	55.3 ± 28.7	**0.003**
WBV at HSR	16.5 ± 1.5	16.9 ± 1.3	<**0.001**

Data are given as mean ± SD, n, as a percentage [n (%)]. BMI, Body mass index; CRP, C-reactive protein; HDL, high density lipoprotein; LDL, low density lipoprotein; LVEF, left ventricular ejection fraction; WBV at HSR: Whole blood viscosity at high shear rate; WBV at LSR: Whole blood viscosity at low shear rate.

Table 2. Multivariate linear regression analysis showing the predictors for the coronary artery ectasia

Variables	Univariable Beta (95% CI)	p value	Multivariable Beta (95% CI)	p value
Hypertension	0.545 (0.368- 0.807)	**0.002**	0.488 (0.317-0.750)	**0.005**
Creatinine	1.037 (0.544-1.974)	<**0.001**	0.099 (0.037-0.268)	<**0.001**
Hemoglobin	0.866 (0.771-0.973)	**0.015**	2.259 (1.456-3.506)	0.061
Hematocrit	0.923 (0.884-0.963)	**0.00**7	0.701 (0.600-0.820)	**0.03**7
Total protein	0.786 (0.622-0.994)	0.076	-	-
Platelet	0.983 (0.822-1.144)	0.123	-	-
WBV at LSR	0.991 (0.985-0.997)	**0.003**	0.991 (0.984-0.998)	**0.013**
WBV at HSR	0.807 (0.708-0.919)	<**0.001**	1.258 (1.071-1.445)	<**0.001**

WBV at HSR: Whole blood viscosity at high shear rate; WBV at LSR: Whole blood viscosity at low shear rate.

ID: **632**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

TRIGLYCERIDE/HDL RATIO IS ASSOCIATED WITH CORONARY ARTERY ECTASIA

Mehmet Sertaç Alpaydın

Health Sciences University Konya Training and Research Hospital, Konya, Turkey, KONYA, Turkey

**Corresponding Author (sertacalpaydin@hotmail.com)*

Objective: Coronary artery ectasia (CAE) is characterized by abnormal dilatation of a coronary artery segment and disturbed coronary flow. Previous studies have suggested a possible association between atherogenic lipid profile and CAE. In this study, we aimed to assess the association between triglycerides to HDL-cholesterol ratio (TG/HDL-C) and CAE.

Methods: In this retrospective analysis, 43 patients diagnosed with CAE (58.41±11.06 years, 51.16% male) were included. CAE was diagnosed if at least one coronary artery segment was enlarged 1.5-fold or greater than the adjacent normal coronary artery segment. Detailed medical history, laboratory and transthoracic echocardiography findings were obtained from medical records of the patients. 43 age and gender matched subjects (57.44±9.63 years, 51.16% male) with normal coronary arteries and normal coronary flow were involved as control group.

Results: Patients with CAE had higher hemoglobin level (14.80±1.65 vs. 13.88±1.32 g/dL, p=0.006), neutrophil count [5.33 (4.15) vs. 4.07 (1.65) x103/ml, p=0.001] and TG level [170.00 (88.00) vs. 142.00 (89.00) mg/dL, p=0.049] compared to controls. TG/HDL-C ratio [4.54 (2.59) vs. 3.20 (2.51), p=0.001] was also significantly higher in the CAE group. On the other hand, HDL-C level [39.00 (13.00) vs. 44.00 (20.00) mg/dL, p=0.001] was significantly lower in the CAE group. In the multivariate regression analysis, hemoglobin level (OR: 1.550, 95% CI: 1.060-2.266, p=0.024), neutrophil count (OR: 1.632, 95% CI: 1.165-2.286, p=0.004) and TG/HDL-C ratio (OR: 1.519, 95% CI: 1.168-1.976, p=0.002) were found to be independently associated with the presence of CAE. A TG/HDL-C ratio ≥3.76 predicted the presence of CAE with a sensitivity of 62.8% and specificity of 60.5% (AUC: 0.704, 95% CI: 0.595-0.813, p=0.001).

Conclusions: TG/HDL-C ratio was independently associated with the presence of CAE but predicted the presence of CAE with a low sensitivity and specificity.

ID: **82**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

MEDITERRANEAN DIET MAY BE PROTECTIVE AGAINST CORONARY ARTERY ECTASIA

Aliye Kuyumcu[1], **Mustafa Bilal Özbay**[2]

[1]*Süleyman Demirel University, Faculty of Health Sciences, Isaprta, Turkey*

[2]*Ankara City Hospital, Ankara, Turkey*

[*]*Corresponding Author (mbozbaymd@gmail.com)*

Mediterranean diet may be protective against coronary artery ectasia Objective: Coronary artery ectasia (CAE) is a relatively rare finding diagnosed by coronary angiography. It is generally defined as localized or widespread expansion of the coronary arteries by more than 1.5 times the diameter of the adjacent normal artery. CAE is considered a variant of coronary atherosclerosis. Markis et al. performed an anatomical classification of CAE and determined a two-year mortality rate of 15%, which is similar to the mortality rate of 3-vessel coronary artery stenosis.

A style of diet that represents the typical nutritional habits of populations surrounding the Mediterranean includes consumption of high rates of fruits, vegetables, monounsaturated fats, fish, whole-wheat grains, legumes and nuts, as well as low amounts of red meat. Such styles of healthy nutrition have an antiarrhythmic effect potential with their anti-inflammatory, antioxidant and cytoprotective effects. Previous studies have determined the protective effect of the Mediterranean diet from atrial fibrillation. While the antiarrhythmic effects associated with some components of the Mediterranean diet (fruits, walnuts and olive oil) have been determined the number of studies that have examined the antiarrhythmic effects of the Mediterranean diet as a whole are still limited.

Mediterranean diet has the potential effect prevent from coronary artery ectasia. In this study, we aimed to investigate the relationship between Mediterranean diet and coronary artery ectasia.

Methods: In this cross - sectional study, a total of 452 consecutive selective coronary angiograms performed between January 2016 - January 2019 in our hospital were evaluated. Two groups consisted of 190 patients with CAE and 262 randomly selected individuals with normal coronary artery. Mediterranean diet score questionnaire was performed to all patients. Ectasia type was categorized according to Markis classification. All data and Mediterranean diet score were compared between groups.

Results: When the clinical features were evaluated, the rate of hypertension ($p < 0.001$) was higher in the CAE group. When biochemical and hematological parameters were examined, creatinine ($p = 0.002$), hemoglobin ($p = 0.048$), hematocrit ($p = 0.010$), total protein ($p = 0.044$) and platelet ($p = 0.031$) levels were found to be high in CAE group. Mediterranean diet score levels were lower in CAE group. In multivariate logistic regression analysis, hypertension ($p = 0.009$), creatinine ($p < 0.001$), hematocrit ($p = 0.045$), Mediterranean diet score ($p < 0.001$) were identified as independent risk factors for CAE.

Conclusions: The protective role of Mediterranean diet type nutrition on CAE was clearly observed in our study. This study, which is one of the limited number of studies examining the relationship between Mediterranean diet and CAE, may be helpful in understanding the pathophysiology of CAE.

Keywords: Coronary artery ectasia, Mediterranean diet, atherosclerosis.

Table 1. Characteristics and laboratory parameters of the study groups.

Variables	Control (n=262)	Coronary Artery Ectasia (n=190)	p value
Age, year	61.0 ± 11.22	62.2 ± 11.49	0.231
Female, n(%)	125 (47.7%)	80 (42.1%)	0.237
BMI, kg/m^2	26.49 ± 4.80	27.02 ± 5.26	0.287
Diabetes Mellitus, n(%)	84 (32.1)	56 (29.5)	0.557
Hypertension, n(%)	94 (34.8%)	80 (49.5%)	**0.002**
Hyperlipidemia, n(%)	112 (42. %)	84 (44.2%)	0.757
Smoking, n(%)	72 (27.5%)	50 (26.3%)	0.783
LVEF, %	60.3 ± 5.9	59.0 ± 6.9	0.083
Ectasia type Type I Type II Type III Type IV	-	 35 32 30 93	-
Diameter of ectasia (mm)	-	4.91 (4.00-5.79)	-
Glucose, mg/dL	113.3 ± 42.6	112.1 ± 44.1	0.674
Creatinine , mg/dL	0.91 ± 0.18	1.07 ± 0.31	**0.003**
White blood cell, 10^3/mm^3	7.6 ± 2.2	7.7 ± 2.2	0.782
Hemoglobin, g/dL	13.4 ± 1.7	13.8 ± 1.4	**0.048**
Hematocrit, (%)	39 .8± 4.8	41.6 ± 4.1	**0.010**
Total protein, g/dL	71.1± 8.2	72.2 ± 7.6	**0.044**
Platelet, 10^3/mm^3	262.5 ± 67.2	279.4 ± 97.6	**0.031**
CRP,mg/L	3.8 ± 3.3	4.1 ± 3.0	0.635
Total cholesterol, mg/dL	184.1 ± 60.0	185.4 ± 49.7	0.875
LDL-C, mg/dL	109.1 ± 47.3	108.3 ± 40.0	0.803
HDL-C, mg/dL	46.2 ± 13.2	47.3 ± 11.0	0.296
Trigliserid, mg/dL	162.1± 79.1	160.6 ± 83.3	0.905
Mediterranean Diet Score	7.2 ± 1.3	5.1 ± 1.5	<**0.001**

Data are given as mean ± SD, n, as a percentage [n (%)]. BMI, Body mass index; CRP, C-reactive protein; HDL, high density lipoprotein; LDL, low density lipoprotein; LVEF, left ventricular ejection fraction;

Table 2. Multivariate linear regression analysis showing the predictors for the coronary artery ectasia

Variables	Univariable Beta (95% CI)	p value	Multivariable Beta (95% CI)	p value
Hypertension	0.545 (0.368- 0.807)	**0.002**	0.555 (0.449-0.661)	**0.009**
Creatinine	1.037 (0.544-1.974)	<**0.001**	1.013 (0.751-1.274)	<**0.001**
Hemoglobin	0.866 (0.771-0.973)	**0.015**	1.753 (1.321-2.183)	0.074
Hematocrit	0.923 (0.884-0.963)	**0.007**	0.722 (0.600-0.820)	**0.045**
Total protein	0.786 (0.622-0.994)	0.076	-	-
Platelet	0.983 (0.822-1.144)	0.123	-	-
Mediterranean Diet Score	1.001 (0.980-1.023)	<**0.001**	1.005 (0.994-1.014)	<**0.001**

ID: **277**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

EVALUATION OF HEMOGRAM PARAMETERS IN SMOKING PATIENTS WITH MYOCARDIAL BRIDGES

Mehmet Inanır

Abant Izzet Baysal University, bolu, Turkey

**Corresponding Author (mdmehmetinanir@yahoo.com)*

OBJECTIVE: The myocardial bridge (MB) described since 1737 is known to accelerate atherosclerosis in modern medicine and MB is more common in patients with coronary artery disease. MB is associated with coronary endothelial dysfunction, an early stage of atherosclerosis. Smoking causes atherosclerosis by accelerating the process of endothelial dysfunction. We aimed to evaluate hemogram parameters in smoking patients with myocardial bridges.

METHODS: The records of 7287 patients who underwent coronary angiography between January 2017 and October 2019 were reviewed. After appropriate exclusions, patients were divided into myocardial bridges and normal coronary artery groups. A total of 200 patients were included in the study and hemogram and other biochemical parameters of these two groups were compared.

RESULTS: Triglyceride cholesterol, CRP (C-reactive protein), RDW (red cell distribution width), Neutrophil count, Eosinophil count, MPV (Mean platelet volume) and PCT (plateletcrit) were significantly higher in smoking patients with the myocardial bridge. There was no significant difference between the two groups in terms of other biochemical and hemogram values.

CONCLUSIONS: In patients with myocardial bridges, common, simple and inexpensive hemogram parameters have increased. Increased inflammatory parameters and platelet indices are thought to be important for the clinical course and pathogenesis of the disease.

KEYWORDS: Atherosclerosis, inflammation, hemogram parameters, myocardial bridges, smoking.

ID: **44**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

THE RELATIONSHIP BETWEEN FEMORAL ARTERY PSEUDOANEURYSM AND CORONARY ARTERY ECTASIA IN POATMENOPAUSAL FEMALE PATIENS

Bernas Altıntaş, Derya Deniz Altıntaş

Gazi Yaşargil Training and Research Hospital, Diyarbakır, Turkey

**Corresponding Author (drbernasemre@yahoo.com)*

Background: The aim of this study is to investigate relationship between the femoral artery pseudoaneurysm (FAP) and coronary artery ectasia (CAE) in postmenopausal female patients who underwent elective coronary angiography

Method: This single-center retrospective study included 411 patients who underwent elective coronary angiography and met the inclusion criterias were divided into two groups based on presence and absence of FAP on doppler ultrasonographic examination of femoral arteries.

Results: The study population comprised 411 postmenopausal patients with medaian age of 62 (56-69) years. CAE was detected in 41 (9.9%) patients and FAP was detected 15 (3.6%) patients. The subjects were divided into two groups according to presence of FAP; as patients with FAP (15), and those without FAP (396). Increased age, hypertension, smoking, BMI, trigliserid (TG), LDL-cholesterol and decreased glomerular filtration rate (eGFR) and education status were observed in patients with FAP as compared to those without FAP. To identify the independent predictors of FAP, multivariate logistic regression analyses with a stepwise backward model were performed using the variables in the univariate analyses including age, diabetes mellitus, hypertension, smoking, BMI, CAE, LDL-c, TG, HbA1c, glomerular filtration rate and education status. CAE (OR:1.21, 95% confidence interval [CI]: 1.10-1.36, p=0.012), and BMI (OR: 1.15, 95% CI 1.03-1.29, p=0.015) were found to be associated with FAP.

Conclusions: Our study demonstrated that CAE may associated with FAP after coronary angiography via transfemoral access in postmenopausal female patients.

Table. Traditional univariable and multivariable logistic regression analysis for femoral artery pseudoaneurysm

Variables		Univariable			Multivariable	
	Unadjusted OR	95 % CI	P value	Adjusted OR	95% CI	P value
Age	0.97	0.95-1.05	0.58			
Diabetes mellitus [n (%)]	1.16	1.02-1.28	0.09			
Hypertension [n (%)]	5.51	1.86-8.24	0.11			
BMI [kg /m2]	1.15	1.03-1.29	0.015	1.14	1.02-1.27	0.015
Smoking [n (%)]	1.21	1.09-1.34	0.41			
eGFR [mL/min/1.73m2]	1.03	1.00-1.07	0.06			
LDL-C [mg/dl]	1.12	1.05-1.18	0.56			
Coronary Artery Ectasia	1.21	1.10-1.36	0.012	1.28	1.12-1.41	0.029
HbA1c [%]	1.24	0.81-1.88	0.31			

ID: **325**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

NEW INDICATOR OF CELLULAR ISCHEMIA IN CORONARY SLOW FLOW PHENOMENON: CELL-FREE DNA

Mustafa Yolcu[1], Ali Doğan[1], Nuri Kurtoğlu[1], Veysel Sabri Hancer[2], Mehmet Gürbüzel[3]

[1]*Yeni Yüzyıl University School of Medicine, İstanbul, Turkey*

[2]*Istinye University, İstanbul, Turkey*

[3]*Erzincan Universty, Erzurum, Turkey*

[*]*Corresponding Author (yolcudoctor@gmail.com)*

Background: Coronary slow flow phenomenon (CSFP) is defined as the delayed arrival of coronary blood flow to distal vascular bed at least in one major epicardial coronary artery. Cell-free DNA (cfDNA) is a type of DNA that circulates freely in blood after being released from nucleated cells. CSFP is an angiographic observation defined by the delayed passage of contrast media in the epicardial vessels. Various studies have shown an increased risk of sudden cardiac death, life threatening arrhythmias and congestive heart failure in CSFP. These risks are increased without coronary ischemia-induced stenosis, suggesting different etiopathogenic conditions in these patients. cfDNA is an important parameter indicating cellular ischemia and may be an important indicator for demonstrating silent myocardial ischemia in these patients. The present study aims to demonstrate whether the level of cfDNA increases in CSFP, which is an indicator of ischemia at the cellular level.

Methods: The study included 23 patients with CSFP, 23 with normal coronary angio-grams (NCA). Patients with CSFP had slow flow in all 3 of their coronary arteries. The indication for coronary angiography was typical angina and a positive exercise test or perfusion defect in myocardial perfusion scintigraphy (MPS). The patients' clinical characteristics including age, sex, smoking status, dyslipidemia, hypertension and diabetes mellitus (DM) findings were recorded. Hemogram, kidney and liver function tests, troponin, C-reactive protein, lipid parameters and thyroid hormones were evaluated in all patients. cfDNA levels of all patients were measured.

Results: The mean age was 53,8±10,3 years for the CSFP patients and 56,6±9,4 years for the NCA patients. There was no statistically significant difference between the groups in terms of basal clinical charesterics and laboratory data of patients. Plasma cfDNA levels were 5,04±2,37 ng/µl in CSFP patients and 2,28±1,09 ng/µl in the NCA group (p=0,000).

Conclusions: CSFP actually contains subclinical findings as shown in our study although it was thought to be a benign phenomenon by many clinicians. High levels of cf-DNA in patients with the CSFP suggest that impaired myocardial perfusion and the resulting ischemia cause myocardial cell lysis or rapid apoptosis that leads to earlier programmed cell death. The high levels in cf DNA in these patients might be a sign of increased cardiovascular risk. As reported in recent studies, evidence of ischemia at cellular level indicates that this phenomenon cannot be considered as a totally benign condition.

Keywords: Coronary disease, Cell-Free Nucleic Acids, Myocardial ischemia, Coronary slow flow phenomenon

CSFP (n=23)	NCA (n=23)	p-value	
Positive treadmill exercise test (n)	1	11	
Ischemia in MPS (n)	10	12	
LAD corrected TFC	36,2±8,2	18,1±2,7	0,000
CX	33,2±6,96	17,9±2,9	0,000
RCA	32,9±7,5	18,0±2,7	0,000
Hs-Troponin T	7,83±3,83	7,96±3,23	0,902
cfDNA (ng/µl)	5,04±2,37	2,28±1,09	0,000

ID: **454**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

TRIGLYCERIDE/HDL-CHOLESTEROL RATIO IS ASSOCIATED WITH CORONARY SLOW FLOW

Zafer Büyükterzi[1], Kadri Murat Gürses[2]

[1]*Health Sciences University Konya Training and Research Hospital, Konya, Turkey, KONYA, Turkey*

[2]*Aydın Adnan Menderes University Faculty of Medicine, Aydın, Turkey, AYDIN, Turkey*

[*]*Corresponding Author (buyukterzizafer@hotmail.com)*

Objective: Coronary slow flow (CSF) is an angiographic phenomenon characterized by delayed opacification of distal coronary vessels in the absence of significant epicardial atherosclerotic lesion. Previous studies have suggested a possible association between atherogenic lipid profile and CSF. Herein, we aimed to investigate the association between triglyceride to HDL-cholesterol ratio (TG/HDL-C) and CSF.

Methods: In this retrospective analysis, 43 patients diagnosed with CSF (57.86±9.63 years, 51.16% male) were assessed. Thrombolysis in myocardial infarction (TIMI) frame count (TFC) was calculated for each coronary artery to detect CSF. Detailed medical history, laboratory and transthoracic echocardiography findings were obtained from medical records of the patients. 43 age and gender matched subjects (57.44±9.63 years, 51.16% male) with normal coronary arteries and normal coronary flow were involved as control group.

Results: Patients with CSF had higher haemoglobin (14.91±1.74 vs. 13.88±1.32 g/dL, p=0.003) and TG levels [146.00 (84.00-441.00) vs. 142.00 (38.00-307.00) mg/dL, p=0.030) compared to controls. TG/HDL-C ratio [4.33 (2.10-18.03) vs. 3.20 (1.10-8.48), p=0.002) was also significantly higher in the CSF group. On the other hand, HDL-C level [39.00 (24.00-60.00) vs. 44.00 (24.00-76.00) mg/dL, p=0.008) was significantly lower in the CSF group. In the multivariate regression analysis, both haemoglobin level (OR: 1.503, 95% CI: 1.054-2.143, p=0.025) and TG/HDL-C ratio (OR: 1.412, 95% CI: 1.080-1.847, p=0.012) were found to be independently associated with the presence of CSF. A TG/HDL-C ratio ≥3.76 predicted the presence of CSF with a sensitivity of 58.1% and specificity of 60.5% (AUC: 0.693, 95% CI: 0.583-0.803, p=0.002).

Conclusions: TG/HDL-C ratio was independently associated with the presence of CSF but predicted the presence of CSF with a low sensitivity and specificity.

ID: **42**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN ACUTE CORONARY SYNDROME AND SEVERITY OF CORONARY ARTERY ECTASIA

Ahmet Gürdal

University of Health Sciences Şişli Hamidiye Etfal Education and Research Hospital, İstanbul, Turkey

**Corresponding Author (gurdal27@hotmail.com)*

Objective: The relationship between acute coronary syndrome and severity of coronary artery ectasia were investigated.

Methods: A total of 10.320 coronary angiographies performed between June 2015 and August 2018 in our clinic were analyzed retrospectively. Coronary artery ectasia, defined as the enlargement of a coronary artery to 1.5 times or more than that of the local or commonly adjacent normal coronary artery segment and classified according to Markis classification. Coronary artery ectasia was divided into two groups as mild and severe according to the degree of ectasia.

Results: Of 189 patients (1.8%) with coronary ectasia, 143 were male (76%). One hundred and seven patients (57%) were smokers, 96 (51%) were dyslipidemic, 106 (56%) had hypertension and 43 (22%) had diabetes mellitus. In 92%, the symptoms were chest pain and dyspnea. Of 102 patients (54%) presenting with acute coronary syndrome, 43 (23%) were diagnosed as ST-segment elevation myocardial infarction, while 59 (31%) were diagnosed as non-ST segment elevation myocardial infarction or unstable angina pectoris. Type 3 ectasia was the most common (34.9%, n=66), while type 2 ectasia was the least common (10.6%). Hundred and twenty-nine (68.3%) of the patients had mild ectasia, while 60 (31.7%) had severe ectasia. There was no differ significantly between acute coronary syndrome and severity of coronary artery ectasia (p=0.170).

Conclusion: Although there were more frequent acute coronary syndromes in patients with ectasic coronary artery in this study to compare the others, there was no significant relationship between ectasia severity and acute coronary syndrome

Keywords: Coronary arteria ectasia; coronary angiography; coronary artery disease

Table 1: Basal clinical and laboratory characteristics of patients.

Clinical features	Ectasia (N=189)
Age	61±12
Male	143(%76)
Cigarette	107(%57)
Hypertension	106(%56)
Diabetes Mellitus	43(%22)
EF(%)	52±10
Acute coronary syndrome	102(%54)
STEMI	43(%23)
NSTEMI/USAP	59(%31)
Hemoglobin (g/dL)	13,8±2,1
Platelet (10^9 / L)	228±59
Total Cholesterol (mg /dL)	193±57
HDL-k (mg / dL)	40±9

LDL-k (mg / dL)	123±54
Triglyceride (mg / dL)	161±96
Creatinine (mg / dL)	1,1±0,9

EF: Ejection Fraction, STEMI: ST segment elevation myocardial infarction NSTEMI: Non-ST segment elevation myocardial infarction, USAP: Unstable Angina Pectoris

Table 2: Characteristics of ectatic coronary arteries

	N	%
Classification of Markis et al.		
Type 1	40	21.6
Type 2	20	10.6
Type 3	66	34.9
Type 4	63	33.3
Severity of ectasia		
Severe (type 1+type 2)	60	31.7
Mild (type 3+type 4)	129	68.3

Table 3: The relationship between ectasia severity and acute coronary syndrome

	Mild ectasia (n)	Severe ectasia (n)	P value
Acute coronary syndrome(-)(n)	32	55	0.170
Acute coronary syndrome(+) (n)	28	74	

Oral Presentation Session

Chronic Coronary Syndromes: Non - Invasive and Invasive Diagnosis

Date: 15.03.2020 Time: 12:00 - 13:15 Hall: 5

ID: **206**

Topic: **Cardiology » Diabetes Mellitus and Cardiovascular Disease**

Presentation Type: **Oral**

THE COMPARISON OF LEFT INTERNAL MAMARY ARTERY AND SAPHENA VEIN GRAFT DAMAGE IN CORONARY ARTERY DISEASE THAT EVAULATED WITH GENSINI SCORING

Mehmet Erin Tüysüz[1], Leyla Bahar[2]

[1]*MERSIN CITY TRAINING AND RESEARCH HOSPİTAL, MERSIN, Turkey*

[2]*Mersin University, Mersin, Turkey*

[*]*Corresponding Author (drmehmeterin@yahoo.com)*

BACKGROUND: The aim of this study is to compare the total damage and urotensin-II immunoreactivity in the grafts of diabetic and nondiabetic patients with Gensini scoring.

METHODS: In our study, Gensini Scores of the patients were calculated. During coronary bypass surgery, we obtained tissue materials from the grafts of 21 Coronary Artery patients. Routine tissue follow-up procedures were performed on the tissue samples of the study.

Group 1: LIMA and saphenous grafts from CAD Group 2: LIMA and saphenous grafts from CAD+Diabetes Mellitus.

We stained the tissues with Hemotoxylin-Eosin and evaluated the immune reactivity with U-II. We examined light tissue microscopically. We calculated total damage score and H score and analyzed statistically with Mann Whitney U test.

RESULTS: In patients with a high Gensini score, there was a strong correlation between the total damage score of the LIMA and the U-II immunoreactivity intensity in the Tunica Intima ($p = 0.005$). In patients with high Gensini score, there was a strong correlation between total damage score in saphenous vein and U-II immunoreactivity intensity in Tunica Media ($p = 0.005$). In patients with low Gensini score there was no significant relationship between the total damage score of the LIMA and the U-II immunoreactivity intensity in the Tunica Intima ($p > 0.05$). In patients with low Gensini score, there was no significant relationship between total damage score of saphenous vein and U-II immunoreactivity intensity in Tunica Media ($p > 0.05$).

CONCLUSIONS: U-II, which has been shown to play a role in atherosclerotic process, causes more damage to LIMA and saphenous grafts in patients with high Gensini score of Diabetes Mellitus.

KEYWORDS: Gensini score, graft damage, Urotensin II.

ID: **115**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

PALPATION OF THE RADIAL ARTERY OCCLUSION

Aslı Kurtar Mansıroğlu

abant izzet baysal üniversitesi eğitim ve araştırma hastanesi, bolu, Turkey

**Corresponding Author (dr.asli.kurtar@gmail.com)*

OBJECTIVE
Coronary angiography is performed in coronary artery disease (CAD) to monitor coronary anatomy, to evaluate treatment options and to predict prognosis. The rate of major complications that may occur in routine diagnostic catheterization is around 1-2% and the incidence of death, myocardial infarction (MI) and stroke is 0.1-0.2%. Radial artery occlusion is one of the minor complications.

METHODS
Forty patients who underwent radial coronary angiography between March 2018 and November 2019 were included in the study. In the routine polyclinic control performed on 10-14. days after angiography; radial, ulnar and brachial artery pulsations were checked and the presence of complaints about the procedure was questioned. Upper extremity arterial doppler was applied to patients who could not get pulses of radial artery in physical examination. Physical examination findings and doppler results were compared.

RESULTS
A total of 40 patients (26 male, 14 female) with diagnosed CAD (28 stable CAD,12 acute coronary syndrome) were enrolled in the study. The mean age of patients was 61.2 ± 9.2 years. 22 patients (%55) underwent medical follow-up, 10 patients (%25) underwent LAD artery stenting, 3 patients (%7.5) underwent CX artery stenting, and 5 (%12.5) patients underwent RCA stenting. 25 of the 40 patients (%62.5) whose pulse could not be palpated in the physical examination were compatible with occlusion as a result of doppler.

CONCLUSIONS
The use of the transradial approach for coronary angiography has become increasingly common in recent years. Advantages of the transradial cardiac catheterization such as lower entry complication rates, early mobilization, no hospitalization, cost, and patient comfort are the reasons for preference.

Major access site vascular complications of 0.59% with the transradial approach compared to 3.71% with the transfemoral approach.

However, there also are complications related to transradial access. Symptomatic radial artery occlusion, non-occlusive radial artery injury and radial artery spasms are commonly reported complications of this approach. Pseudoaneurysm formation, radial artery perforation, arteriovenous fistula, granuloma and nerve injury are rarely reported complications of transradial approach.

Radial artery occlusion is the most common complication with an incidence of 2–18%. Prolonged high-pressure compression, repeat entry and low radial artery to sheath ratio have been associated with the risk factors of this complication. Detection of acute radial artery occlusion is possible with high accuracy by palpation of pulses in outpatient clinics. In this way, early diagnosis and treatment of occlusion can be performed at low cost, easy, repeatable and with high accuracy.

ID: **279**

Topic: **Cardiology » Coronary Artery Disease - CABG Surgery**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN C-REACTIVE PROTEIN TO ALBUMIN RATIO AND SAPHENOUS VEIN GRAFT DISEASE IN PATIENTS WITH STABLE ANGINA PECTORIS

Nedret Ülvan, Bahar Tekin Tak, Firdevs Aysenur Ekizler

Ankara City Hospital, Ankara, Turkey

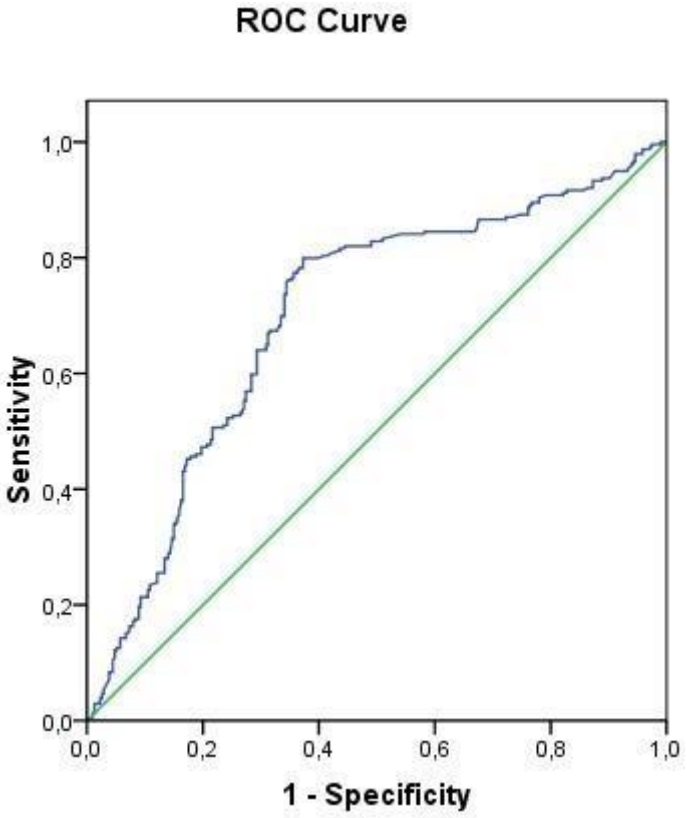
**Corresponding Author (nedret.ersoy@outlook.com)*

Objective:
The patency rates of saphenous vein grafts (SVGs) are lower compared with arterial grafts. The underlying mechanism for saphenous vein graft disease is still largely unknown. Different mechanisms have been proposed including atherosclerosis and thrombosis. The contribution of each mechanism may differ among patients. In recent years, studies showed the strong association between inflammation and atherosclerosis. Accordingly, decreased albumin and increased C-reactive protein (CRP) levels, as biomarkers for systemic inflammation, were found to be predictors for cardiovascular risk and indicators of atherosclerosis. Recently, it was suggested that novel CRP to albumin ratio (CAR) was more sensitive and specific for evaluating systemic inflammatory state in cardiac and noncardiac diseases when compared to predictive value of these markers separately. Therefore, we aimed to investigate the predictive value of CAR in SVG disease patients with stable angina pectoris in this study,

Methods:
A total of 544 patients (mean age; 60.3 ± 10.0, years) with SVG were included in the study and clinical, laboratory, and angiographic data of patients with SVG were evaluated retrospectively between March 2013 and June 2016. Patients were divided into 2 groups: n = 236 patients with SVG disease and n = 308 patients with patent (no stenosis) SVG. Coronary angiography indications were abnormal noninvasive test results or recurrent stable angina pectoris. All participants had received at least 1 SVG for bypass at least 1 year before. The effects of different variables on SVG disease were computed in logistic regression analysis.

Results:
There were no differences between the two groups for age, gender, left ventricular ejection fraction and conventional cardiovascular risk factors such as hypertension, dyslipidemia, diabetes mellitus and family history of coronary artery disease. Smoking, blood glucose, white blood cell count and higher CAR values were significantly associated with SVG disease in univariate analysis. Using a cut-off level of 10.8, the CAR predicted SVG disease with a sensitivity of 78.4 % and a specificity of 74.4 % (area under the curve: 0.755, 95% confidence interval [CI]: 0.71-0.79, P <.001; Figure 1).In multivariate logistic regression analyses, CAR (odds ratio, 4.24; 95% CI, 2.930–6.144, P <001) was a strong and independent predictor of SVG disease.

Conclusion:
This is the first study demonstrating the significant association of CAR with SVG disease. This study suggests that CAR can be used as a marker of SVG disease because it is a readily available and inexpensive test.


ROC Curve
Sensitivity
1 - Specificity
1,0
0,8
0,6
0,4
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0,0
0,0
0,2
0,4
0,6
0,8
1,0

ID: **428**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

COMPARISON OF TRANSRADIAL VERSUS TRANSFEMORAL DIAGNOSTIC CORONARY ANGIOGRAPHY IN TERMS OF OXIDATIVE STRESS: WHICH ONE IS MORE PHYSIOLOGICAL?

Veysel Oktay[1], Bengisu Keskin[2], Mert Sarılar[1], Dogac Oksen[1], Alev Arat Ozkan[1]

[1]*Istanbul University Cerrahpasa, Istanbul, Turkey*

[2]*Istanbul University Cerrahpasa, Istanbul, United States*

[*]*Corresponding Author (drvoktay@gmail.com)*

Background: Oxidative stress (OS) during diagnostic procedures is an important factor for the development of many complications. In this study, we aimed to compare the oxidative response in patients undergoing diagnostic transradial (TR) or transfemoral (TF) coronary angiography (CAG).

Methods: In this prospective, single-center study we randomised 60 patients with stable angina pectoris undergoing diagnostic CAG to either transradial (n=30) or transfemoral (n=30) approach. The levels of plasma total oxidative status (TOS) were measured just before and after the procedure.

Results: The clinical and laboratory findings were compatible between the two groups. In patients undergoing TR CAG, the percentage of patients with normal coronary arteries was significantly higher than the patients undergoing TF CAG (66% vs. 25% p=0.006). Although the levels of plasma TOS after CAG were increased in both groups, this was more pronounced in the TF group as compared with the TR group (20.09± 18.47; 34.40±21.05 vs. 18,98±10,39; 23,33±11,56 p <0.001).

Conclusions: In this study, we showed that oxidative stress response associated with heart catheterization is more evident in patients undergoing TF CAG.

ID: **431**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

RELATIONSHIP BETWEEN GERIATRIC NUTRITIONAL RISK INDEX AND ANGIOGRAPHIC CORONARY ARTERY DISEASE SEVERITY IN ELDERLY

Murat Eren, Ozge Kurmus, Turgay Aslan, Kürşat Akbuğa

Ufuk University, Ankara, Turkey

**Corresponding Author (mrteren@hotmail.com)*

Objective: The aim of this study is to evaluate association between Geriatric Nutritional Risk Index (GNRI), a simple tool to assess nutritional status, and coronary artery disease severity and complexity in elderly patients.

Methods: This study is a retrospective analysis of 366 patients undergoing coronary angiography. All patients were ≥65 years old age. Patients with previous revascularization were excluded. Gensini and SYNTAX scores were calculated according to the angiographic images to determine atherosclerosis severity. GNRI was calculated as follows: GNRI=[14.89 x serum albumin (g/dl)]+ [41.7 x (body weight/ body weight at body mass index of 22)]. Patients were then divided into two groups as previously reported: GNRI <92 and GNRI ≥ 92. Gensini and SYNTAX scores were compared between two groups.

Results: One hundred thirty- seven patients had GNRI lower than 92 and 229 patients had GNRI ≥ 92. Median age of patients in group with GNRI <92 was 72 years and 70 years in group with GNRI ≥ 92 (p=0.006). There was no difference regarding to gender, body mass index, smoking, hypertension and diabetes mellitus between two groups. Median SYNTAX score was 9 (0-80) in group with GNRI <92 and 6 (0-56.5) in group with GNRI ≥ 92 (p=0.198). Median Gensini score was 29 (0-188) in group with GNRI <92 and 21 (0-182) in group with GNRI ≥ 92 (p=0.353).

Conclusion: Previous studies have reported prognostic value of objective nutritional indices such as GNRI in patients with stable coronary artery disease. We found no association between GNRI and angiographic coronary artery severity and complexity in elderly.

ID: **360**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

ASSOCIATION OF RENAL IMPAIREMENT WITH SEVERITY OF CORONARY ARTERY DISEASE

Mizan Majumder

nicvd, dhaka, Bangladesh

**Corresponding Author (mizanmajumder23@gmail.com)*

Abstract

Background: This study evaluated the relationship between the patient of chronic kidney diseases in Acute Coronary Syndrome Patient and angiographic severity of coronary artery diseases.

Method: The cross-sectional observational study was carried out on a total 497 patients admitted in the department of cardiology, NICVD, Dhaka, from June 2015 to June 2017. Acute coronary syndrome patients were divided into two groups based on the renal function assessed by estimated GFR (eGFR); those with normal renal function (group-II: n=298) and those with impaired renal function (group-I: n=199). Coronary angiogram was done during index hospitalization and vessel score and Genseni score were adopted to assess the severity of the coronary artery disease. Conventional risk factors of CAD, diabetic patients were excluded from the study.

Results: The mean ages of patients in group I and Group II were 55.6±7.5 and 49.4±6.6 years respectively and the difference of age between two groups was statistically significant. Male female ratio of the study population was 10:1. Studied patients of two groups were well matched in terms of demographic variables like gender distribution, drugs used. Smoking & family history of CAD were found non-significant whereas hypertension, serum creatinine and TG were found significantly higher in impaired renal function group, i.e, group I. The mean eGFR was significantly lower (60.70 ±12.6 ml/min/1.73m2) in group I compared to group-II patients (100.40±8.4 ml/min/1.73m2).

Moreover, according to vessel score, the mean eGFR of subjects with insignificant coronary artery disease was found to be 100.1±14.5 ml/min/1.73m2 and that of single, double and triple vessel disease were found to be 81±21.3, 77.6± 22.3 and 71.2±24.7 ml/min/1.73m2 respectively. These results revealed that the mean eGFR was decreased with the increase in number of vessel involved and this association was statistically significant (p=0.005).

Furthermore, according to Gensini score CAD was mild in 9.1% (27) patients in group I and 21.1% (42) patients in group II and mild CAD was significantly low in group I (p=0.001). Moderate CAD was found in 59.7% (178) patients in (group-I) and 70.9% (141) patients in group II with insignificant difference (p=0.110). A severe CAD which was found markedly higher 31.2% (93) in group I patients compared to group II patients 8% (16) and the difference was statistically significant(p=0.001).

Univariate logistic regression analysis of variables of interest revealed that age (P=0.03), hypertension (P=0.007), dyslipidemias (P=0.004), serum creatinine (P=0.002) and eGFR (p=0.003) were independent predictor of severe coronary artery disease with odds ratio (OR) being 1.88, 3.93, 5.01, 5.54 and 5.70 respectively. In multivariate logistic regression analysis, after adjustment of factors eGFR remain independent predictors of severe CAD (P=0.004, OR -5.73). In subgroup study, mean Gensini score was 29.97±15.5 in mildly decreased GFR group and was 69.76±19.6 in moderately decreased GFR group and the difference was statistically significant. So from this study, it is evident that renal impairment is directly associated with coronary artery disease severity.

Conclusion: Impaired renal function is associated with Angiographic Severity of Coronary Artery Disease in Acute Coronary Syndrome Patients.

Key Words: Impaired renal function, eGFR, Acute Coronary Syndrome, Coronary Angiography, Vessel Score and Gensini score.

ID: **574**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

COMPARISION OF RADIATION EXPOSURE BETWEEN RIGHT RADIAL AND LEFT RADIAL ACCESS IN STEMI PATIENTS

Bihter Şentürk[1], Ilker Gül[2]

[1]*Dokuz Eylül University Faculty of Medicine, İzmir, Turkey*

[2]*Çiğli Bölge Eğitim Hastanesi, İzmir, Turkey*

[*]*Corresponding Author (drbihter@hotmail.com)*

OBJECTIVE: Radiation exposure is an important issue for interventional cardiologists. The right or left radial arteries are the access of choice in many catheterization laboratories around the world. The aim of this study was to compare the radiation exposure between right radial artery and left radial artery in STEMI patients

METHODS: The study design was prospective and observational, in which we measured the radiation exposure of the operator. It was carried out between September 2018 and January 2019. The operator radiation dose was evaluated using dedicated electronic dosimeters in 168 procedures: 98 right radial access and 70 left radial access. Eight experienced interventional cardiologist operators performed all the percutaneous coronary interventions (PCI) using a single-plane angiography unit via both right and left radial artery approaches.

RESULTS: Data from 168 primary percutaneous coronary interventions were recorded. Demographic, laboratory and basic variables were similar between groups. The mean physician radiation exposure levels from the right radial access site and left radial access site were 44.5 ± 17.1 µSv and 47.1 ± 16.7 µSv, respectively (p= 0.12). There were not any difference between groups according to the duration of fluoroscopy (242 ± 94 vs. 263 ± 106 s; p = 0.312).
CONCLUSİONS; The radiation exposure levels and duration of fluoroscopy does not differ significantly with the use of right or left radial artery access for primary percutaneous coronary intervention in STEMİ patients.

Key words: Radiation exposure, Radial percutaneous coronary intervention, ST elevation myocardial infarction

ID: **566**

Topic: **Cardiology » Chronic stable angına pectoris**

Presentation Type: **Oral**

RELATION OF SERUM THIOL LEVELS AND STABLE ANGINA PECTORIS

Şaban Keleşoğlu

KAYSERI CITY HOSPITAL, KAYSERI, Turkey

**Corresponding Author (dr.s.k@hotmail.com)*

Background: Coronary artery disease is the most common cause of mortality and morbidity all over the Word. Oxidative stress plays a role in the pathogenesis of many diseases such as atherosclerosis. Thiols are important elements for oxidation reactions and under oxidative stress. In this study, antioxidant differences were evaluated in volunteers with stable coronary artery disease and normal coronary artery.

Methods: One hundred-forty-six patients with stable angina pectoris patient and 41 patients with control patient were included in the study. Plasma total thiol levels, native thiol levels and disulfide levels were measured. These variables were evaluated between the groups.

Results: There was no significant difference between basal characteristics and blood biochemical and hematological parameters. Plasma native thiol levels (373.15 ±69.30 µmol/L vs. 403.62±62.36 µmol/L, p =0.009), total thiol levels (405.62± 72.09 µmol/L vs. 444.17 ±65.53 µmol/L, p=0.002) and disulfide levels (16.23 ± 7.03 vs. 20.27 ± 8.10, p = 0.02) were significantly lower in patients within in stable angina pectoris than control patients.

Conclusions: In this study, antioxidant markers thiol and disulfide were found to be lower instable angina. In our study, it can be concluded that antioxidant system may also change in stable coronary artery disease and contribute to atherosclerosis. In other words, it may be considered as another factor contributing to atherosclerosis.

Figure 1 . Native thiol values between two groups

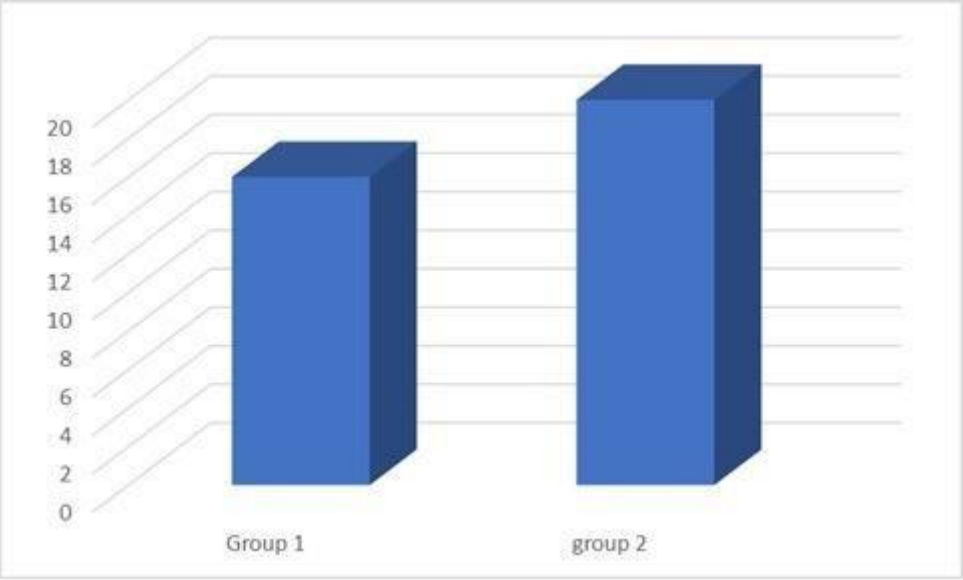


Figure 2. Total thiol values between two groups

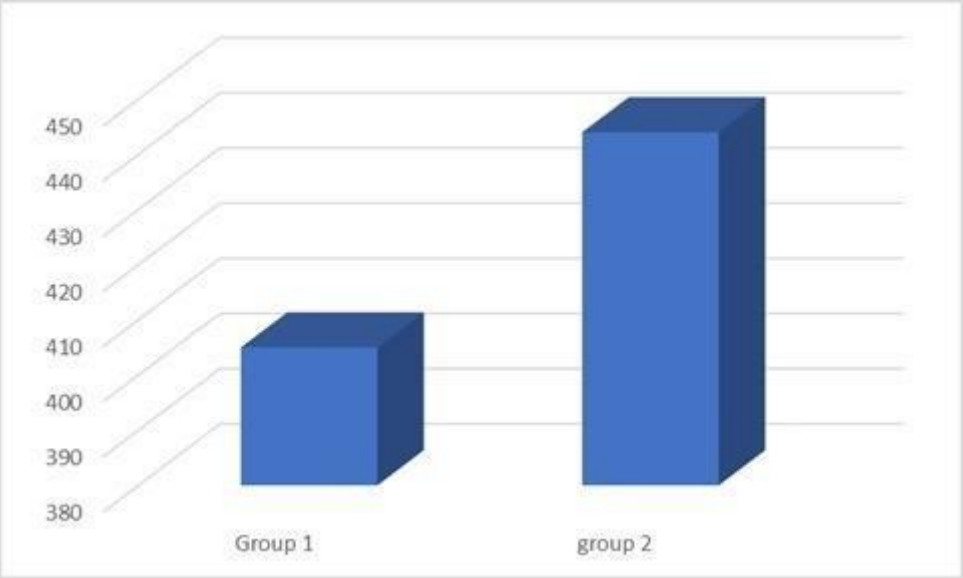
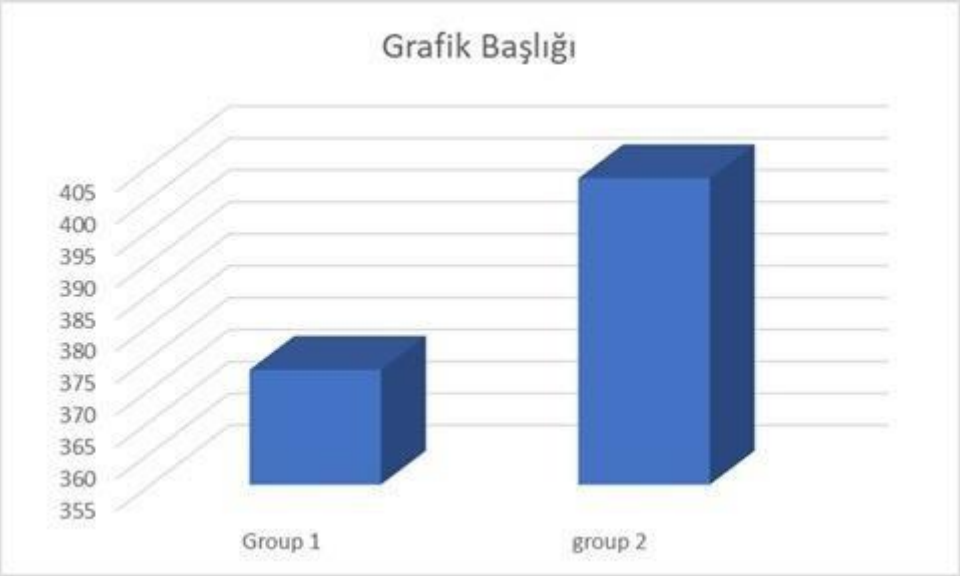


Figure 3. Disulfide values between two groups



Oral Presentation Session

My Worst Complications and Interesting Observations

Date: 15.03.2020 Time: 13:45 – 15:00 Hall: 5

ID: **539**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

CASEOUS CALCIFICATION OF THE MITRAL ANNULUS: SCARY IMAGE DURING ROBOTIC SURGERY

Serkan Asil[1], Ender Murat[1], Veysel Özgür Barış[2], Murat Kadan[1], Hasan Kutsi Kabul[1], Cengiz Bolcal[1]

[1]Gülhane Training and Research Hospital, Ankara, Turkey

[2]Gaziantep Dr Ersin Şahin Training and Research Hospital, Gaziantep, Turkey

[*]Corresponding Author (dr_serkanasil@hotmail.com)

Introduction

Caseous calcification of the mitral annulus is a very rare form of mitral annular calcification (MAC). Caseous calcification of the mitral annulus (CCMA) accounts for 0.63% of all cases and 0.06-0.07% of the total population. It is usually seen in elderly and female patients. It mostly affects the posterior leaflet of the mitral valve, thickens the valve, and may cause mild stenosis and / or insufficiency. CCMA is composed of a mixture of calcium, fatty acid and cholesterol, similar to soft periannular wide calcification, tumor-like, and has a toothpaste-like structure.

Case

A 67-year-old woman presented with dyspnea. TTE revealed a 27 * 21 mm mass on the mitral valve posterior leaflet. The patient underwent TEE and a lobulated 30 * 20 mm mass was detected on the mitral valve posterior leaflet ventricular surface. The mass on the mitral valve caused moderate MS and mild MR. The patient underwent cardiac MRI and CT, and a mass formation of 42*29*20 mm calcified amorphous tumor on the ventricle surface of the mitral valve posterior leaflet was revealed. The patient was discussed in the cardiovascular surgery council and the decision of mass resection was decided. In the patient who underwent a robotic mass resection, it was observed during the procedure that the mass that completely covered the mitral valve posterior leaflet was gelatinous, disintegrated uncontrolled. The surgeon changed his plan and decided to perform mitral valve replacement. The pathology report was reported as caseous calcification and the patient died due to ischemic stroke in the postoperative period.

Discussion

The pathogenesis of CCMA remains unclear. Hypercholesterolemia and the dissolution of lipid-laden macrophages may be implicated in liquefaction necrosis. The name “caseous” comes from the cheese-like or toothpaste-like consistency of the mass, which is sterile and composed of fatty acids, cholesterol, and calcium. Cardiac MRI may help in differentiating MAC from CCMA and should perform. The first treatment option should be conservative treatment because of surgical complications of the procedure. Surgical intervention may be considered for a patient with embolic phenomena, valvular dysfunction or to rule out the possibility of a tumor.

Conclusion

In summary, CCMA represents a rare, underappreciated variant of MAC that should be differentiated from an abscess or tumor. Although echocardiography is the mainstay imaging modality for diagnosis of CCMA, multimodality imaging, including TEE, cardiac CT, and CMR, can be used to confirm the diagnosis and avoid unnecessary surgery.

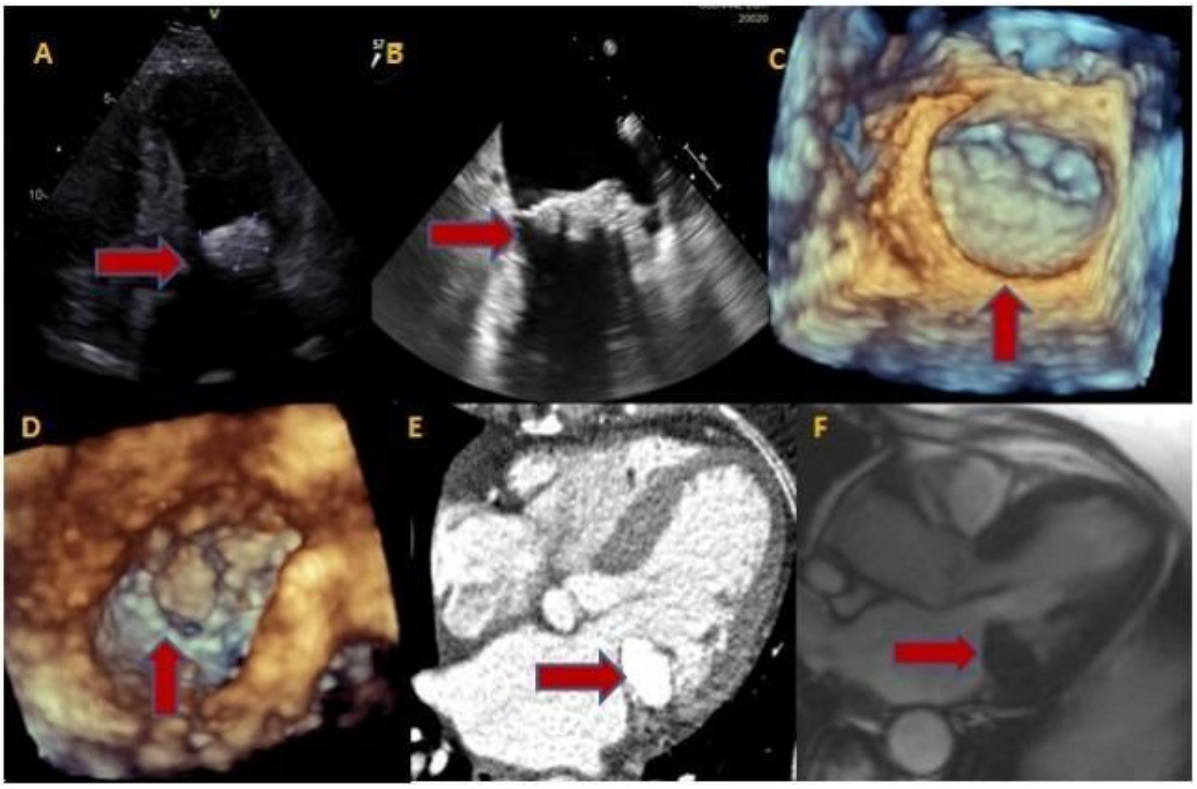


Figure 1: Multimodality imaging of the caseous calcification of the mitral annulus

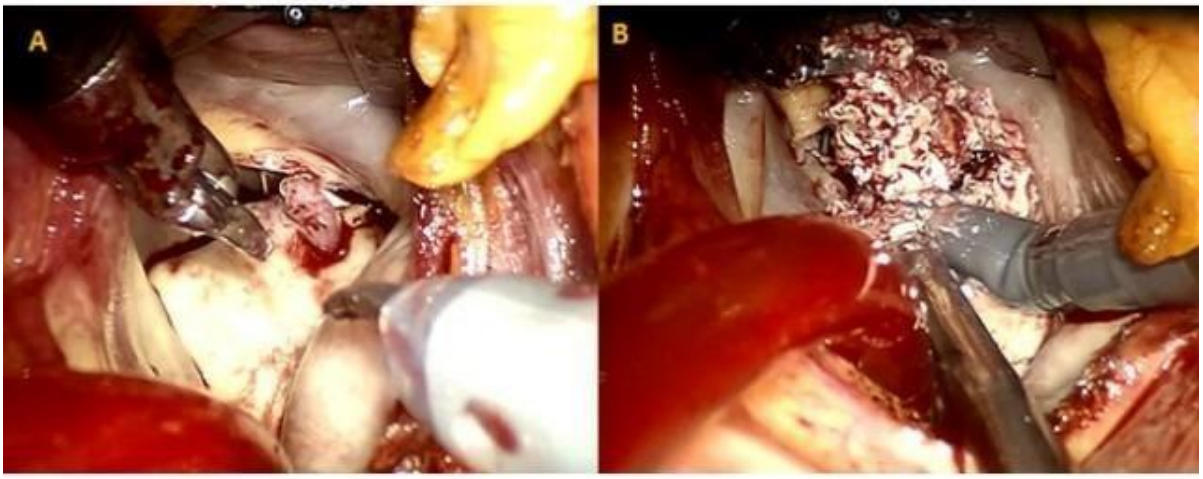


Figure 2: Toothpaste-like structure of caseous calcification of the mitral annulus in the robotic surgery image.

ID: **306**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Oral**

AN UNUSUAL PERIPHERIC VASCULAR COMPLICATION AFTER PCI: INTRAMUSCULAR HEMOTOMA AT LEFT ABDOMINAL WALL DUE TO DISTAL BRANCH OF EXTERNAL ILIAC ARTERY RUPTURE

Gokhan Cetinkal, **Betul Balaban Kocas**

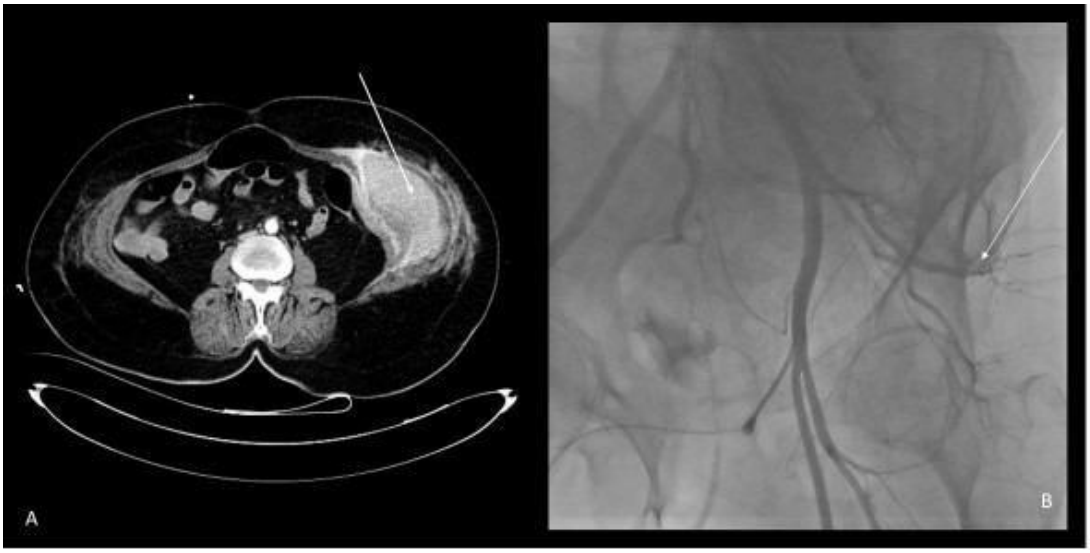
Sisli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey

**Corresponding Author (gokhancetinkal@yahoo.com)*

Introduction: Peripheric vascular complications after PCI performed by femoral route; such as hematoma, pseudoaneurysms or arteriovenous fistula were not rarely seen. But, some complications like retroperitoneal hematoma are more serious and life threatening that needs urgent recognization and intervention. Here we report an unusual peripheric complication occurred after PCI in which a left abdominal wall hematoma seen due to rupture of distal side branch of external iliac artery.

Case: 65 year-old female was admitted to our outpatient clinic complaining of effort dyspnea. She had a history of hypertension and hyperlipidemia. ECG and biochemistry were in normal limits. Myocardial perfusion scintigraphy revealed inferolateral and anterior ischemia. Coronary angiography (CAG) showed critical stenosis at LAD and Cx arteries and we planned PCI in a separate session. Because of the right femoral hematoma which occurred after previous CAG, we planned to perform PCI via left radial artery route. Due to diffuse radial artery spasm and filiform pulse at right radial artery, we had to carry on procedure via left femoral artery route. Control images showed that there was nothing unusual at bilateral iliac, femoral arteries, left brachial and radial arteries. After successful PCI to both LAD and Cx arteries patient was transferred to CCU. 3 hours after the procedure patient started complaining of left abdominal pain and she was also hemodynamically unstable. Due to suspected retroperitoneal hematoma, we immediately performed abdominal CT angiography. CTA showed that there was nothing at retroperitoneal area but there was a huge intramuscular hematoma image at left lateral abdominal wall. (Figure 1A) After that we immediately transferred patient to cath lab with IV inotropic support and performed peripheric angiography (PAG). PAG revealed a rupture at a distal side branch of left external iliac artery (EIA). (Figure 1B) This side branch of EIA was circumflex artery that was feeding left abdominal muscular wall. We planned to deploy covered stents to EIA to close ostium of this side branch. Immediately after we deployed two covered stents, her blood pressure raised quickly and came to normal limits. We stopped IV inotropic support and followed her in CCU. 5 days after the procedure, patient was discharged from hospital without any further complication.

Conclusion: Clinicians must be cautious about patients in whom deep hypotension or clinical signs of shock were developed after PCI. Bleeding complication sites other than retroperitoneal region, such as intramuscular area of abdominal wall, must be kept in mind as they may cause life threatening conditions.


A
B

ID: **171**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

A RARE COMPLICATION OF PRIMARY PERCUTANEOUS CORONARY ANGIOPLASTY: IATROGENIC RECTUS SHEAT HEMATOMA

Zeynep Ulutas[1], Siho Hidayet[2], Yakup Yigit[3], Salih Cirik[3]

[1]*elaziğ state hospital, elaziğ, Turkey*

[2]*inonu university medicine faculty, malatya , Turkey*

[3]*inonu university medicine faculty, malatya, Turkey*

[*]*Corresponding Author (drzeynepulutas@gmail.com)*

INTRODUCTION

Primary percutaneous coronary intervention (PCI) is an effective treatment modality for ST elevation myocardial infarction (STEMI). PCI can be safe and effective as well as procedure-related complications, as with any interventional treatment. Rectus sheath hematomas are rare abdominal wall hematomas due to trauma to the epigastric arteries of the rectus muscle. Common risk factors include anticoagulation, strenuous exercise, cough, coagulation disorders, and invasive procedures. We report a case with rectus sheath hematoma, a rare complication of primary percutaneous coronary angioplasty.

CASE REPORT

A 40-year-old female patient was admitted to the outpatient clinic with the complaint of chest pain, which started approximately 20 days ago, did not exceed 5 minutes, increased with effort, spread to the left arm, epigastric region and back, and had increased in severity over the last 1 week. After PCI, left anterior descending coronary artery (LAD) was totally occluded. Upon reperfusion failure, the patient was referred to our center. In our center, the primary intervention was passed without any problem with guidewire. When the distal flow was not achieved, the lesion was predilated with balloon support and TIMI 1-2 flow was provided. A stent (2.75x24 DES) was then placed. TIMI-3 flow is supplied. After the procedure, the patient complained of pain that started in the right hypogastric region and spread to the inguinal region. In the physical examination of the patient, defense and rebound were positive. There was a palpable mass about 3 cm in size in the same region. Superficial ultrasonography (USG) and abdominal tomography showed an appearance consistent with rectus sheath hematoma on the right side. When hemoglobin value decreased to 9 mg / dl on control hemogram, 2 units of erythrocyte suspension was given. complete blood count was monitored. Control hemoglobin level was 11.2 mg / dl. Conservative treatment was decided.

DISCUSSION

Rectus sheath hematoma occurs as a result of bleeding into the sheath that encircles the muscles of M. rectus abdominis and M. pyramidalis due to rupture of the epigastric artery or veins. Anticoagulant given before or during percutaneous coronary intervention can be seen as a result of antiaggregant treatment or as a rare complication of the intervention. Although ultrasonography is used as the first choice in diagnosis, tomography gives more meaningful results. Surgical or conservative methods are used for treatment.

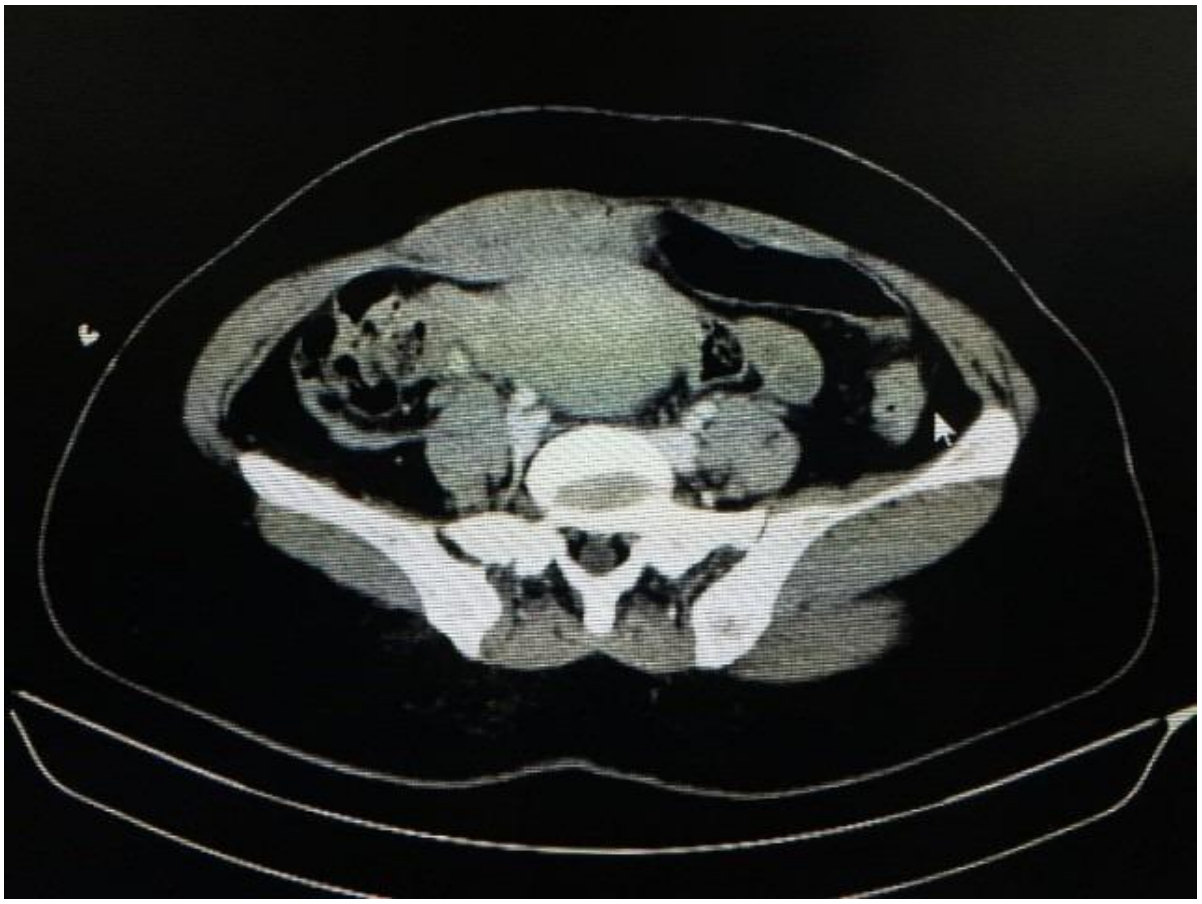


Figure: Rectus sheath hematoma in contrast-enhanced abdominal tomography section

ID: **506**

Topic: **Cardiology » PI for SHD - Others**

Presentation Type: **Oral**

PERCUTANEOUS AORTIC STENT IMPLANTATION IN PATIENT WITH AORTIC INTERRUPTION

Sıddık Erdoğan[1], Mustafa Demir[2], Ömer Faruk Keskin[3], Atila Iyisoy[1]

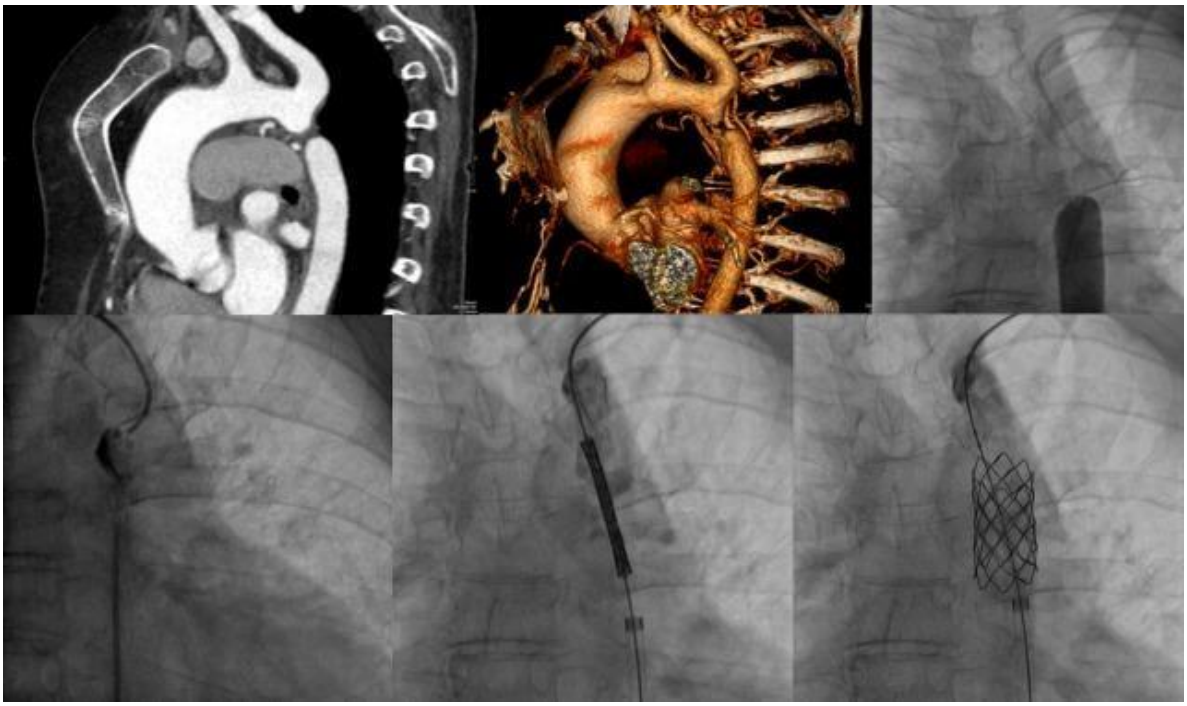
[1]*Gülhane Training and Research Hospital, Ankara, Turkey*

[2]*Private Denizli Tekden Hospital, Denizli, Turkey*

[3]*Gülhane Training and Research Hospital, Ankara, Turkey*

[*]*Corresponding Author (serdoganizmir@hotmail.com)*

A 55 -year- old woman presented with our cardiology clinic because of uncontrolled hypertension although she was taking 10 mg amlodipine, 10 mg perindopril, 2.5 mg indapamide and 25 mg carvedilol. On physical examination, systolic blood pressure was 210 mmHg in both upper extremities in addition to strong pulses, but lower extremity pulses and pressure were weak. ECG showed left ventricular hypertrophy Sokolow-Lyon Criteria (S wave in V1+ R wave in V5 greater than 35 mm). Echocardiogram revealed left ventricular hypertrophy as well as normal left ventricular systolic functions. We decided to perform, aortic CT angiography due to lower extremity arterial pulses. CT angiography showed interruption of the descending aorta just 8 mm distal to left subclavian artery. The intercostal arteries were enlarged to provide collateral flow to the descending aorta, distal to interruption. Because of the high surgical risk, we planned to perform percutaneous aortic intervention. 6F sheaths were inserted into left brachial and right femoral arteries. Right diagnostic catheter was advanced from left brachial and multipurpose catheter was advanced from right femoral artery. Trans-stenotic gradient was 70 mmHg. The images were taken both catheter but there was no anterograde and retrograde dye flow. First, we tried to cross the coarctation segment with 0.014 inch Hi- Torque Progress 120 wire and we successfully crossed the distal segment of the aorta. However, we observed that dissection in the control image after advancing to the coarctation segment of aorta. So then we advanced a more soft -second wire Hi-Torque Pilot 150 and we crossed the distal aorta without any problem. Then we passed the distal aorta with right diagnostic catheter. We exchanged the wire with 0,035 inch amplatzer 300 cm super-stiff wire. The 0,035 wire was snared from the right femoral artery and externalized from the right femoral sheath. 45X18 mm covered Cheatham Platinum (CP) stent was pre-mounted on NuMED Balloon-in-Balloon catheters. The stent was advanced over the wire into coarctation segment and stent was implanted without problem. After stent placement, control angiography was good and pressure gradient was 5 mmHg. There was no complications after procedure and the patients' blood pressure was dropped dramatically to normal pressures.



ID: **323**

Topic: **Cardiology » Cardiac pacing for bradyarrhythmias**

Presentation Type: **Oral**

IN A PATIENT WITH PROSTHETIC TRICUSPID VALVE AND COMPLETE HEART BLOCK: UNIVENTRICULAR BIFOCAL PACING

Mustafa Yolcu

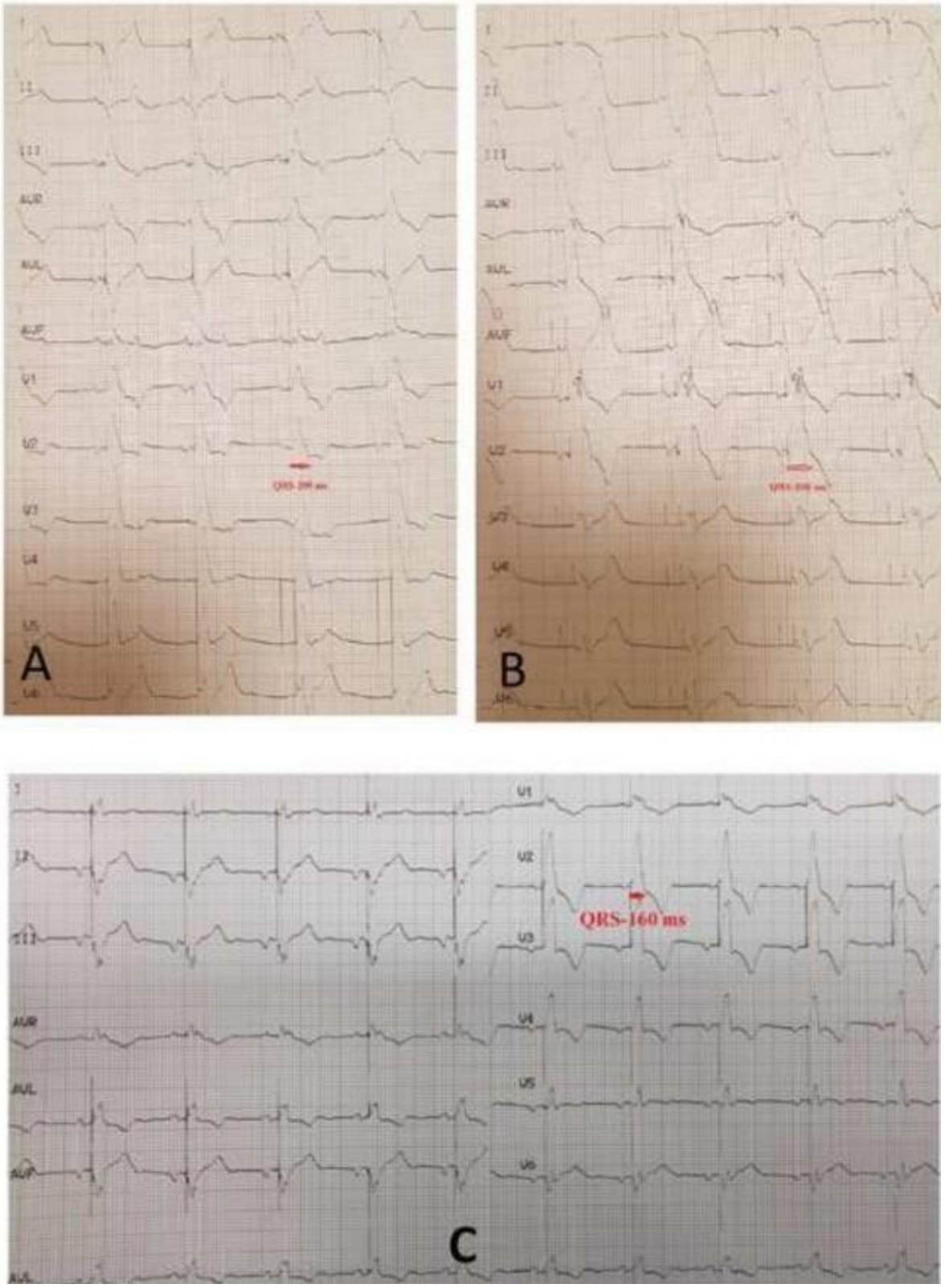
Yeni Yüzyıl University School of Medicine, İstanbul, Turkey

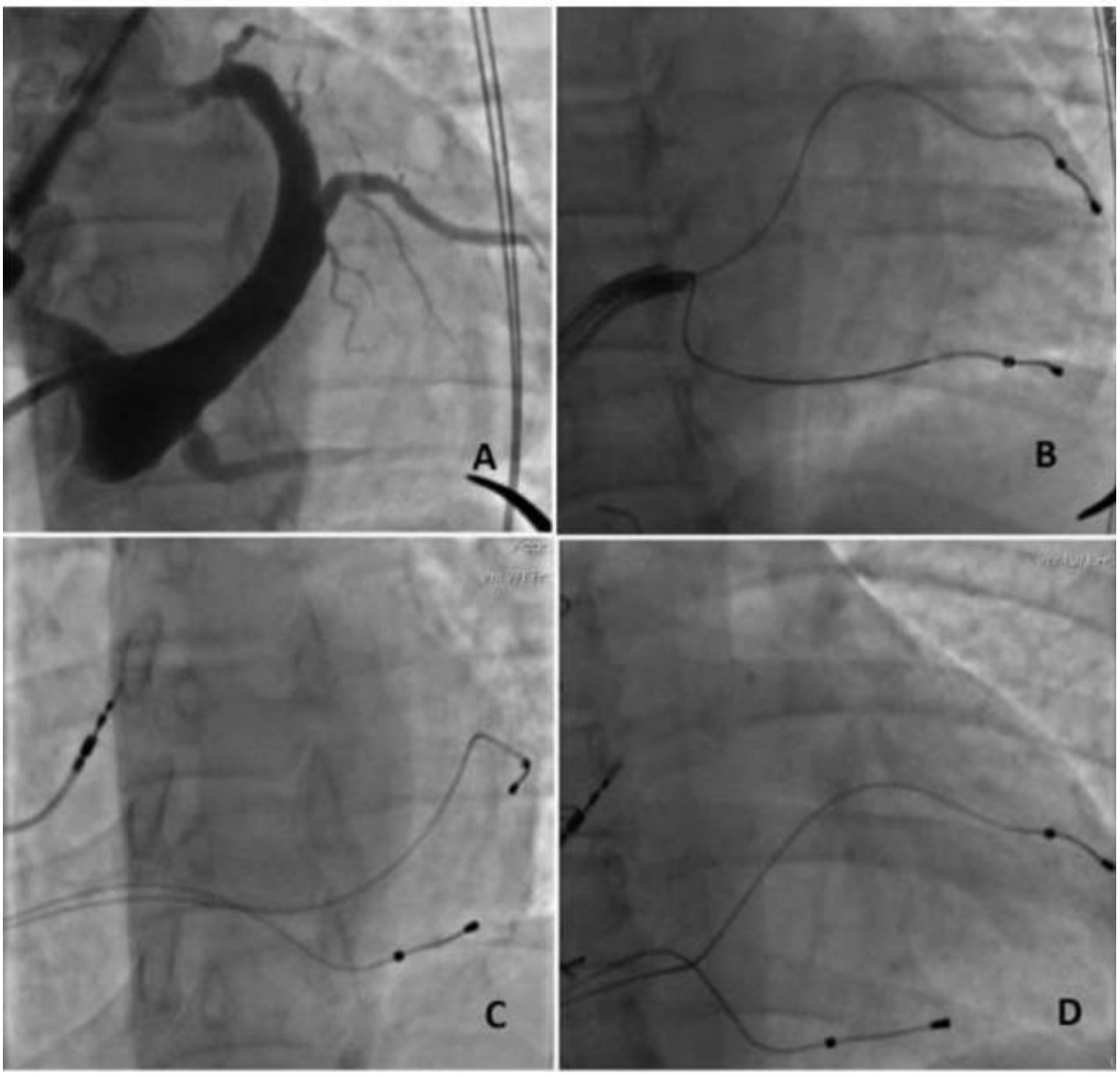
**Corresponding Author (yolcudoctor@gmail.com)*

Objective: Complete heart blocks underwent to permanent pacemaker placement are a common complication of tricuspid valve replacement (TVR). If indicated, endocardial placement of a right ventricular (RV) lead is precluded in the presence of mechanical TVR. For the procedure of endocardial lead placement, tilting disk valve prosthesis is the absolute contraindication due to the risk of acute valve failure, damage to the lead, and death. We present an univentricular bifocal pacemaker implantation in a patient who underwent tricuspid valve surgery twice and developed complete AV block after the second operation.

Case report: A 20-year-old female patient firstly underwent metallic prosthetic valve operation with tricuspid valve endocarditis in 2014. Three years after the operation, echocardiography revealed dysfunction of the prosthetic valve thus reoperation decision was made. In the second operation, the patient underwent a bioprosthesis valve and AV complete block developed in the postoperative period. Left ventricular ejection fraction (EF) was 45% was found on echocardiography Pacemaker dependence of the patient, it was aimed to place two electrodes into the left ventricle. Electrodes were placed the target two branches in coronary sinus (CS) and right atrium (Figure 1. A. Coronary sinus angiography, B. Two sheats in coronary sinus, CD. Right atrium and coronary sinus electrodes). Univentricular bifocal pacing was enabled to work (Figure 2. Electrocardiography, A-B. Separately lateral branch and middle cardiac vein coronary sinus pacing, C. Univentricular bifocal pacing).

Conclusions: Electrode placement in the CS is a very good alternative to epicardial surgical lead placement in cases where endocardial lead placement from the right atrium to the RV is contraindicated. In patients with lower left ventricular EF who will be pacemaker dependent, the insertion of two electrodes into the CS to prevent pacemaker is a safe and effective treatment.


A
B
C
QRS-160 ms


A
B
C
D

ID: **9**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Oral**

DEVELOPMENT OF ACUTE STROKE DURING TREATMENT OF PROSTHETIC AORTIC VALVE THROMBOSIS WITH LOW-DOSE THROMBOLYTIC AGENT AND TREATMENT OF STROKE WITH HIGH-DOSE THROMBOLYTIC AGENT

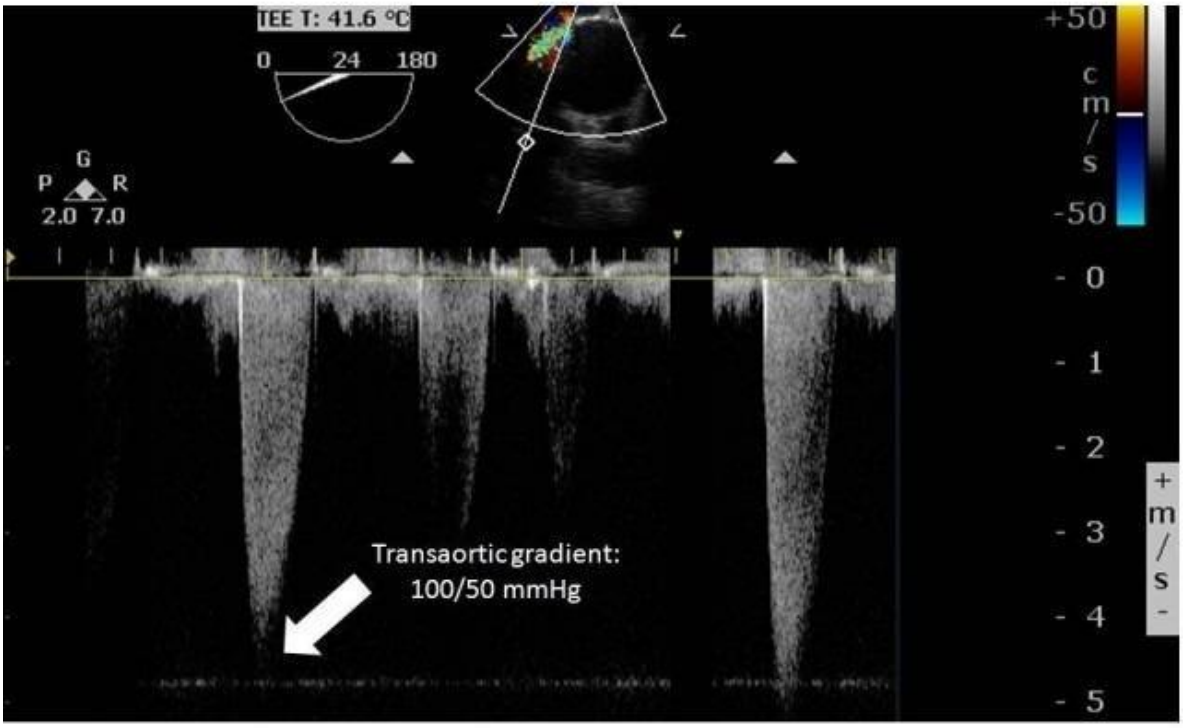
Sefa Gül[1], Asım Oktay Ergene[2]

[1]*University of Health Sciences, Samsun Training and Research Hospital, Samsun, Turkey*

[2]*Dokuz Eylül University, Faculty of Medicine, İzmir, United States*

[*]*Corresponding Author (sefagul.dr@gmail.com)*

Heart valve thrombosis is a rare but serious complication, associated with partial or complete disability of the prosthetic valve functions by a non-infective material. While prosthetic mitral valve thrombosis in left-sided heart valves is more frequently encountered, the incidence rate of prosthetic aortic valve thrombosis is 0.5-8% (4). As known, the most common reason of valve thrombosis is insufficient anticoagulant treatment. While the golden standard in valve thrombosis is surgery, thrombolytic therapy has also been effectively used in recent years. One of the most important complications that might occur in patients undergoing thrombolytic therapy is ischemic cerebrovascular event. Therefore, we aimed to present a case in which low-dose, slow-infusion of alteplase was initiated due to prosthetic aortic valve thrombosis, but high-dose thrombolytic therapy was administered after the development of acute ischemic cerebrovascular event during infusion, and recovery was observed without any sequelae. As far as we know, our case is one of the first in the literature where a high-dose thrombolytic therapy is used among patients that presented with stroke during treatment of prosthetic aortic valve thrombosis with thrombolytic agent.


TEE T: 41.6 °C
0 24 180
G
P R
2.0 7.0
+50
c
m
/
s
-50
- 0
- 1
- 2
- 3
- 4
- 5
+
m
/
s
-
Transaortic gradient:
100/50 mmHg

ID: **64**

Topic: **Cardiology » Coronary stents and advances in stent technology**

Presentation Type: **Oral**

CALCIFIC LEFT MAIN CORONARY ARTERY TRIFURCATION PROCESS

Fatih Öztürk

Van Yüzüncü Yıl Üniversitesi, van, Turkey

**Corresponding Author (fatihozturk2488@gmail.com)*

The left main coronary artery (LMCA) is one of the most important structures in the human body and provides blood flow to 75% or more of the myocardium. Severe LMCA obstruction has been defined by all experts as having a 50% or more narrowing of the lumen of this vessel. The equivalent of LMCA disease, which is equivalent to this definition, is defined by the presence of 70% or more proximal obstruction of both LAD and CX artery without obstruction in the LMCA.

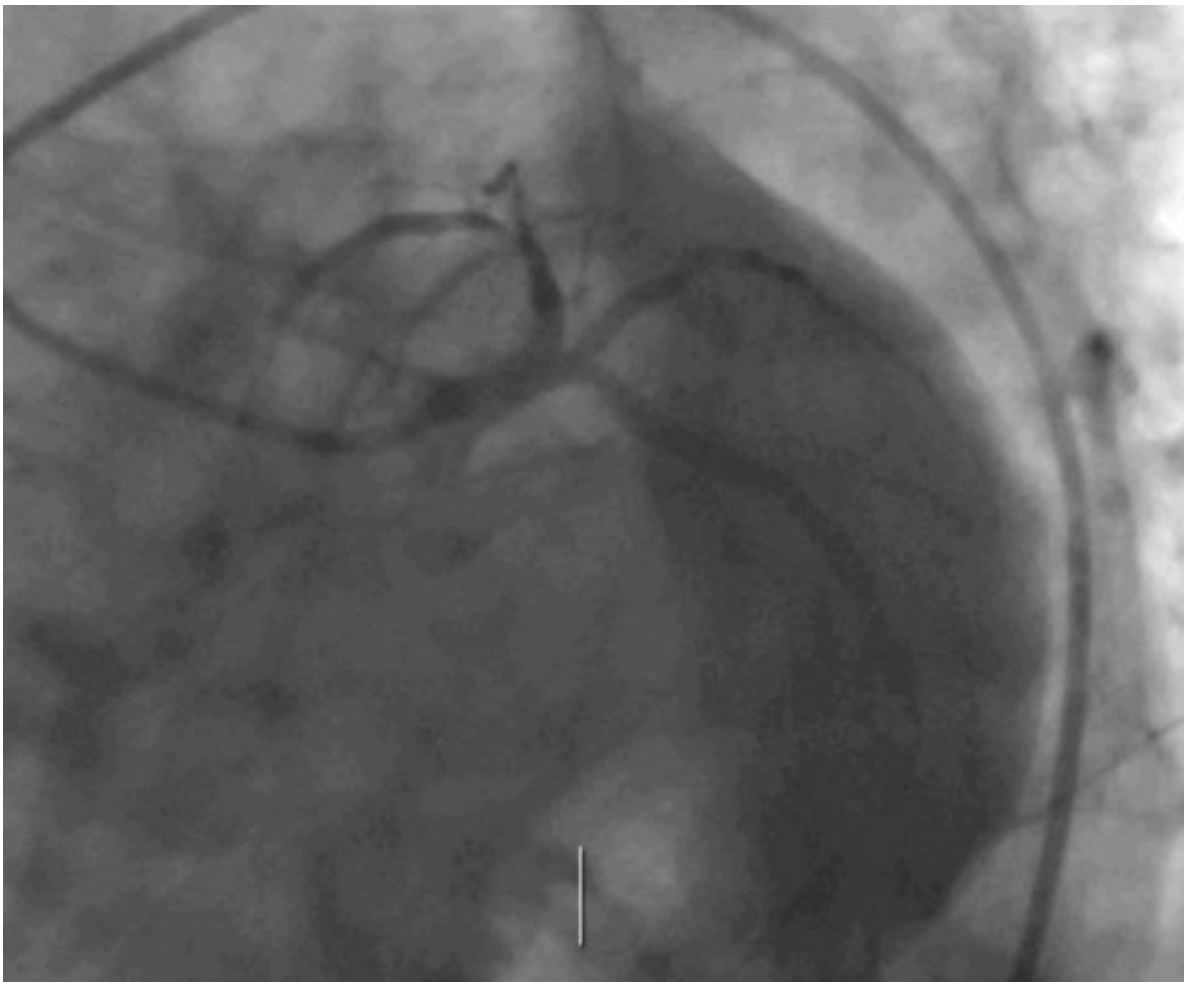
A 92-year-old female patient presented to the emergency department with chest pain. Her medical history included hypertension, diabetes mellitus and asthma. ECG is being consulted because of st depression and elevation of troponin. The patient was admitted with a preliminary diagnosis of non-St elevation myocardial infarction (NSTMI). Hemodynamics were stable and laboratory tests showed increased ck-mb and troponin levels. On echocardiography, the patient with EF 30% anterior hypokinetic and +2 mitral regurgitation was admitted to the catheter laboratory. Coronary angiography showed calcific 90-99% stenosis including LAD, CX and IMA osteals from LMCA. In addition, 80% lesions were detected in the proximal IMA (figure 1). The patient was followed up with RCA plaque and underwent intensive care unit with surgical revascularization. In the council made with the patient, their relatives and surgical doctors, the opinion that the patient was not suitable for surgery came to the fore.

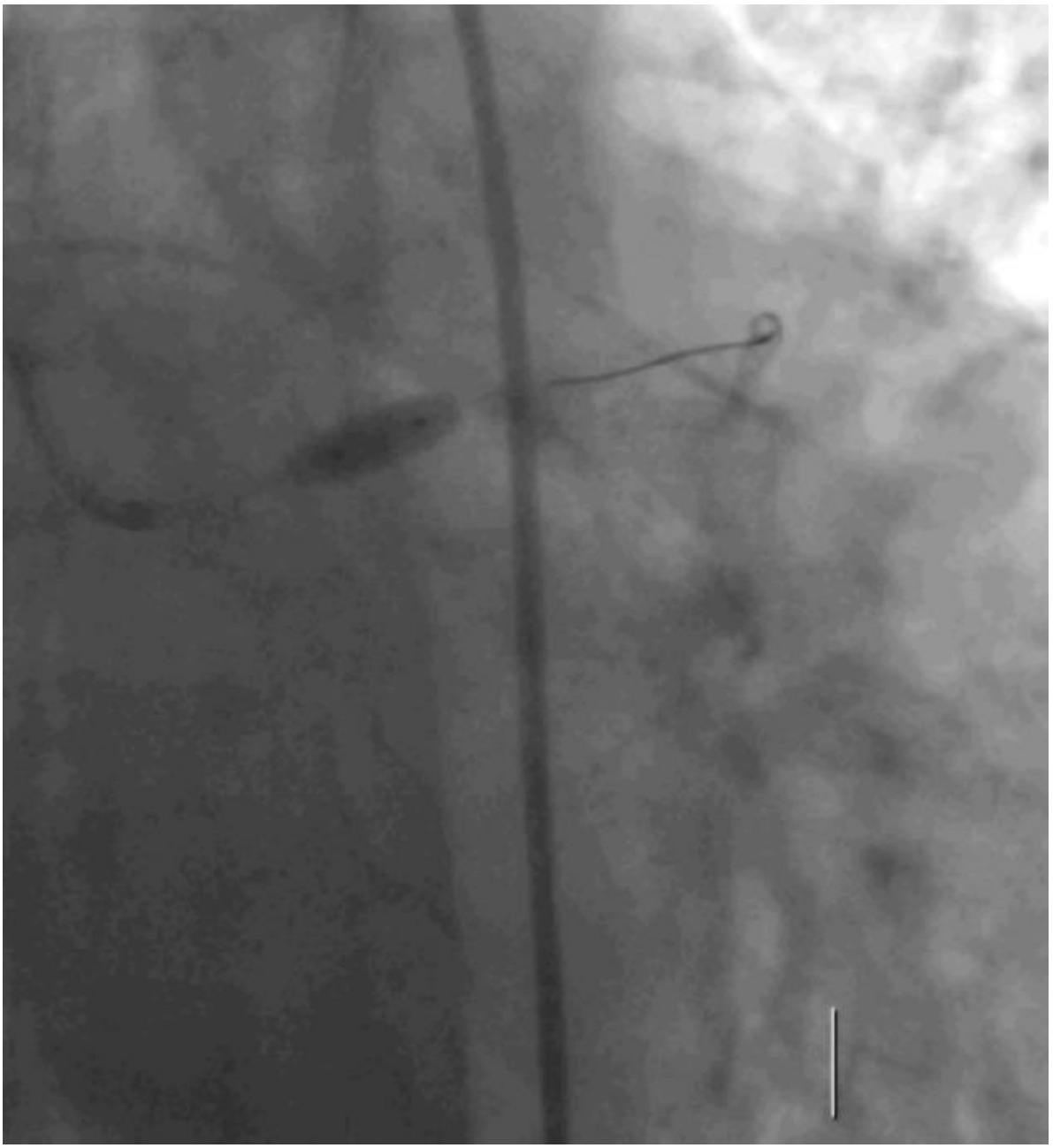
The procedure was started by femoral route with 8f JG.

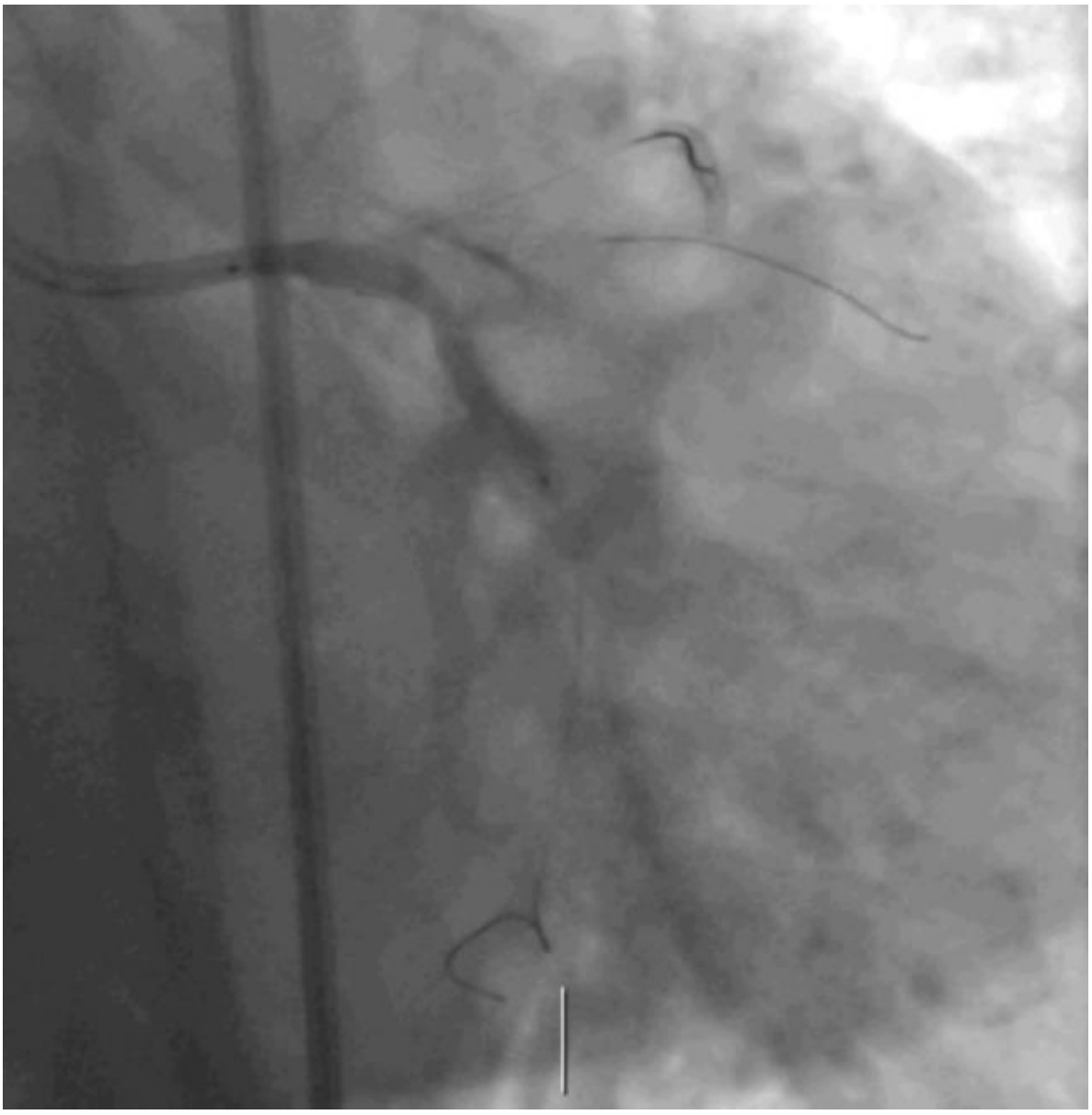
After this stage, 2.5 * 15mm drug- eluting stent implantation was performed first to the IMA proximal. Then LAD and CX were predilated with 1.5 * 12mm balloons and 3.0 * 15 drug- eluting stent implantation was performed to grasp the LAD osteal (Fig. 2), and LAD stent crush was performed with 3.5 * 15mm noncompliant balloon parked in CX. In the follow-up, the LAD was rewired and citrate was expanded with a 1.5 * 15 bolon. A 3.5 * 28 drug-coated stent was implanted in the CX (Fig. 3) and proximal optimization (POT) was performed to rewired LAD and citrate was expanded with 1.5 * 15 balloons and LAD, CX kissing bolan was performed. IMA osteal TAP was performed with 2.75 * 15 drug-coated stent implantation (fig. 5), followed by triplekissing (fig. 6), and final POT was terminated (fig. 7).

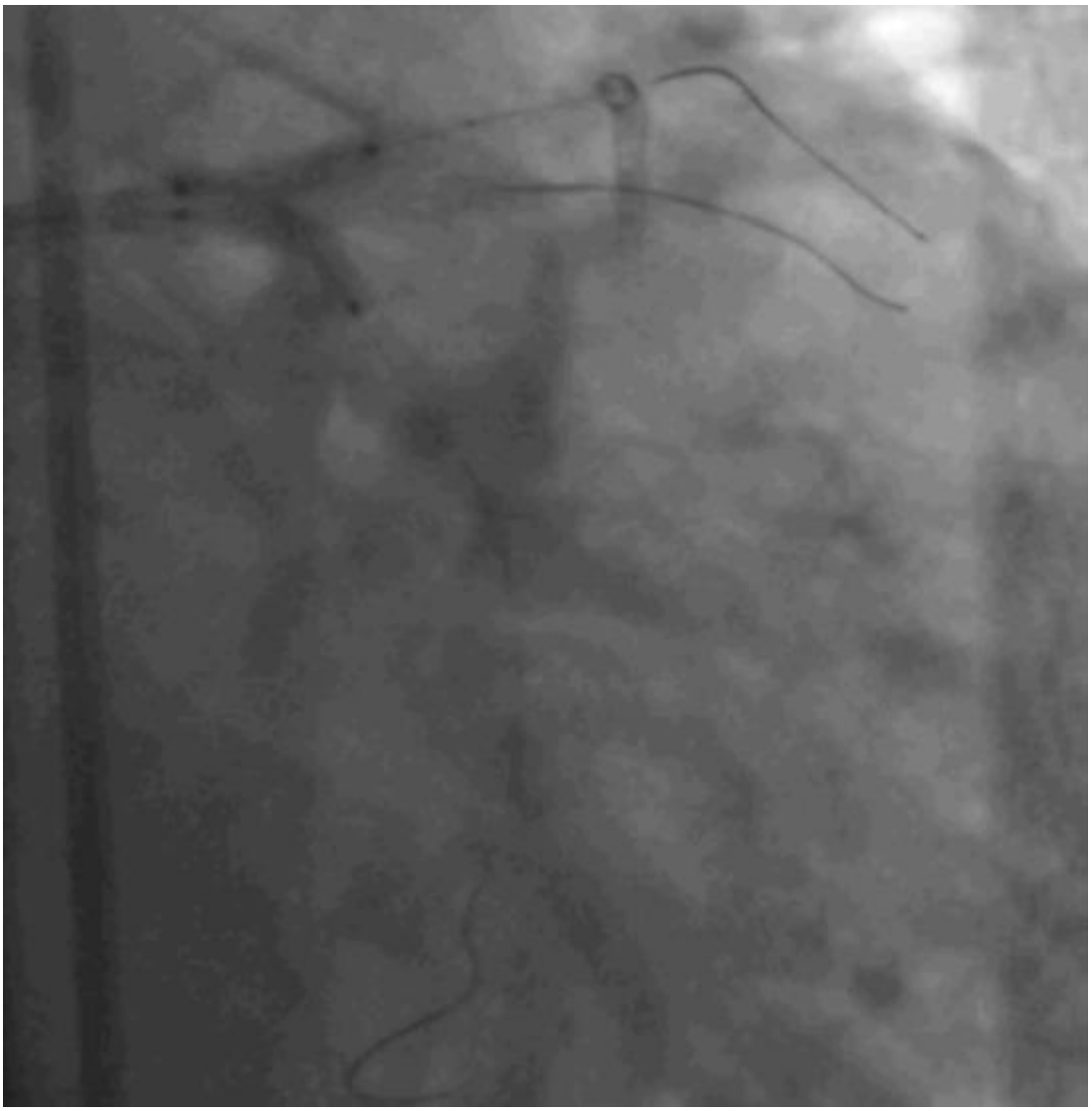
DISCUSSION

LMCA is a disease with high mortality. Surgery is the treatment of choice and we prefer PCI intervention in selected patients. The presence of elderly and comorbid events for this patient was a high risk for surgical treatment. double kissing mini crush is the mainstay in LMCA lesions for percutaneous bifurcation procedure at the present time. In our case, there is a trification. After LAD and CX e mini crush procedure, IMA or TAP technique was performed with Cx, and after triplekissing procedure, final clarification was achieved with final POT. Lad mid and om2 cto procedures were planned for the second session.



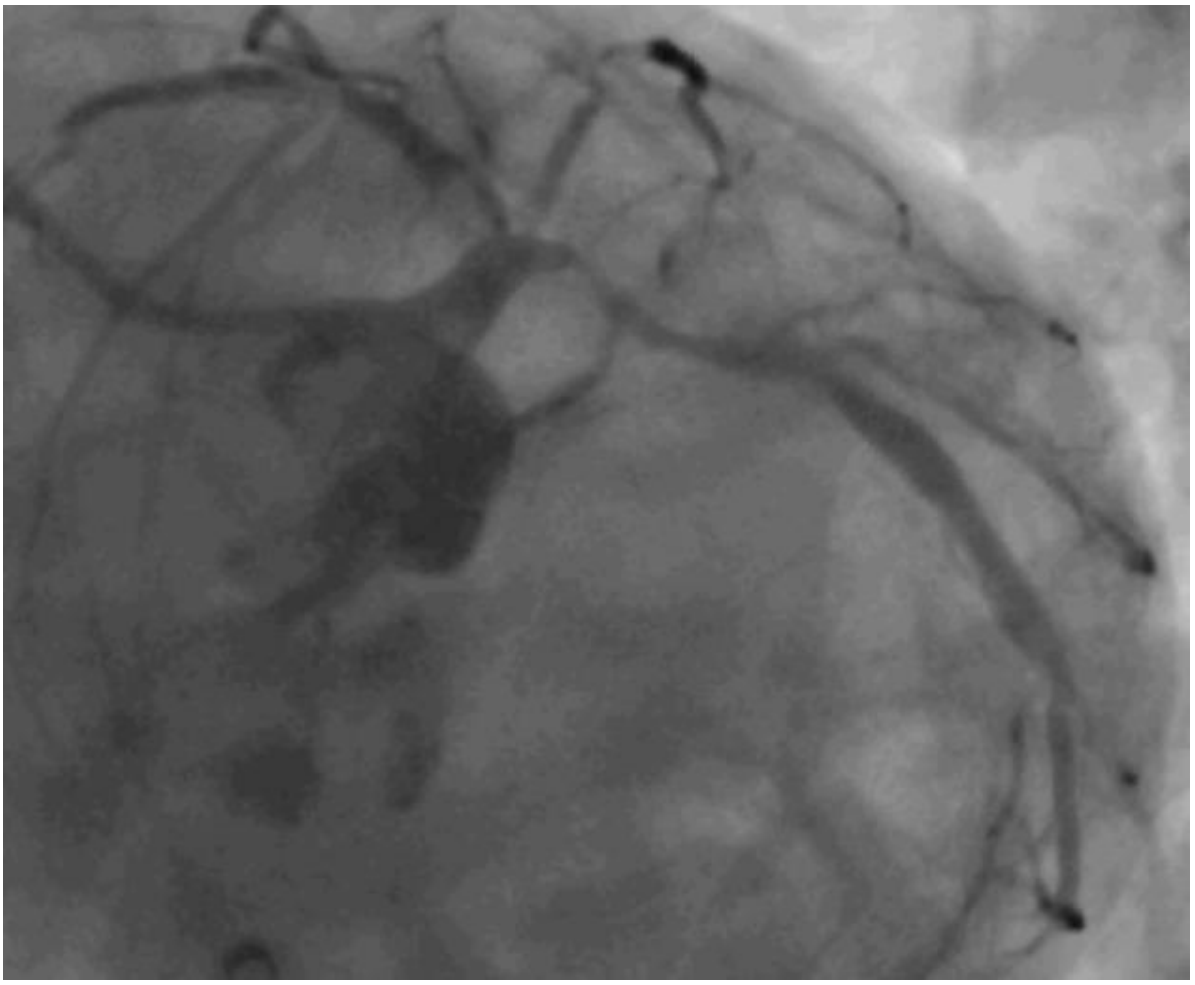


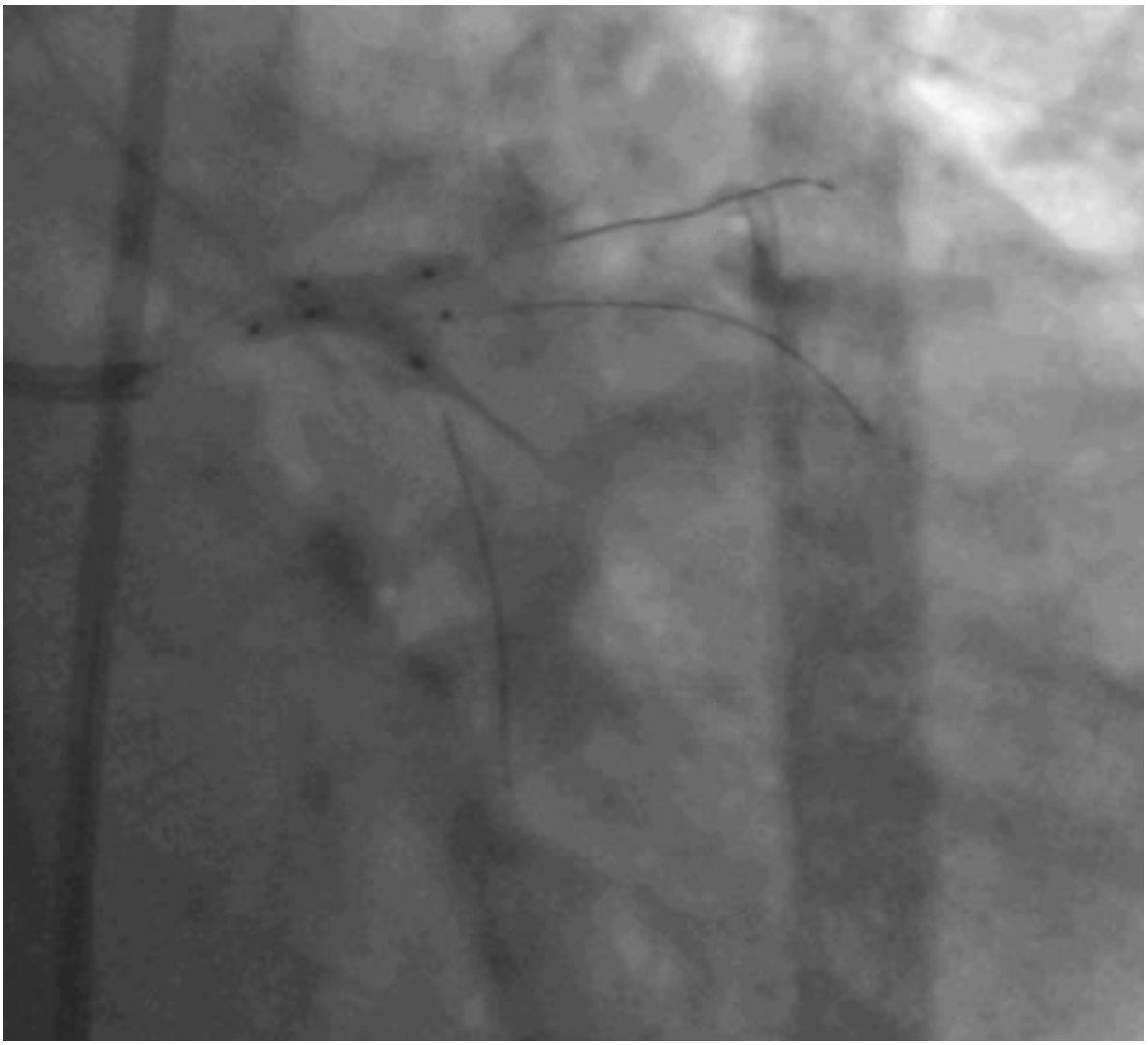












ID: **590**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

AN UNUSUAL PRESENTATION OF ISOLATED NATIVE TRICUSPID VALVE ENDOCARDITIS CAUSED BY STAPHYLOCOCCUS WARNERI FOLLOWING TATTOOING

Betül Balaban Koçaş[1], Gökhan Çetinkal[1], Tolga Demir [2]

[1]*Sisli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey*

[2]*Sisli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey*

[*]*Corresponding Author (betulbalaban@yahoo.com)*

Introduction: Tattooing is becoming more popular, especially among younger age groups, and considered to be more hygienically applied. Nevertheless, a few infective endocarditis (IE) cases have been reported after tattooing, especially when they were done in an uncontrolled environment like home. Herein, we report an unusual case of isolated native tricuspid valve endocarditis (TVE) secondary to tattooing in a patient without known previous valvular or congenital heart disease.

Case: A 34-year-old male, with no related medical history, presented to our hospital with the complaint of high-grade fever, fatigue and significant weight loss for the last 2 months. He denied all high-risk behaviors like alcohol or intravenous drug abuse, recent dental procedures or sexually transmitted diseases. But we learned that he had been tattooed at his friend's house three months ago. For the last two months, he had received multiple courses of antibiotics, to which fever responded initially but reappeared later. Laboratory studies were remarkable for a temperature of 38.5°C, serum CRP level of 121 mg/L and erythrocyte sedimentation rate value of 56 mm/h. Electrocardiogram showed no abnormalities and blood cultures were negative. Besides, both the CT angiogram of the thorax and cranium were in normal limits. Echocardiography demonstrated a large vegetation (25x15 mm) attached to both septal and anterior leaflets of the tricuspid valve with moderate regurgitation. (Figure 1A-B) Also, abscess formation and septic cavities were seen along the moderator band. Transesophageal echocardiography was performed to confirm that there was no other valve involvement before the operation. On day three of admission, surgical resection of the vegetations and repair of the tricuspid valve were performed. Staphylococcus warneri was isolated from the tissue cultures that were taken during the surgery. The postoperative course was uneventful and he is still doing well.

Conclusion: Isolated native TVE is a very rare condition in an immunocompetent adult in the absence of risk factors and high index of suspicion is essential for early diagnosis. Clinicians must keep in mind to search for popular procedures like tattooing or piercing in native TVE, especially in younger age groups.


Adult Echo
S5-1
51Hz
15cm
2D
71%
C 50
P Low
HGen
TIS0.6 MI 1.4
A
Adult Echo
S5-1
23Hz
15cm
2D
73%
C 50
P Low
HGen
CF
48%
4000Hz
WF 399Hz
2.5MHz
TIS1.1 MI 1.3
B

ID: **63**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Oral**

AN UNUSUAL CAUSE OF ACUTE CORONARY SYNDROME: PRIMARY MALIGN PERICARDIAL MESOTHELIOMA

Semih Yaylı, Erkan İriz

Gazi University Faculty of Medicine, Ankara, Turkey

**Corresponding Author (semihyayli1@hotmail.com)*

Primary malignant pericardial mesothelioma (PMPM) is an exceptionally rare cardiac tumor. As a well described relationship between asbestos exposure and pleural mesothelioma, the relationship with pericardial mesothelioma is less certain. Although there is no standard treatment guideline for PMPM, resection is the treatment of choice, the addition of radiation and chemotherapy has been unproved, and prognosis is dismal. We report a case of a 69-year-old man with a history of progressive dyspnea and chest pain. He underwent coronary stent grafting to left anterior descending artery after acute coronary syndrome clinic. Since his symptoms weren't regressed, chest computed tomography (CT) was acquired. CT showed thickened pericardium with pericardial effusion and a large mass surrounding the heart, but no discrimination was made whether it was a hematoma or tumor. After the patient was admitted to our hospital, ultrasound guided tru-cut biopsy procedure was made with resultant histopathological diagnosis of PMPM. We performed pericardiectomy and cytoreductive surgery on the patient and discharged after 1 week of hospitalization with relief of symptoms.

ID: **608**

Topic: **Cardiology » Preventive cardiology**

Presentation Type: **Oral**

INCREASED PULSE WAVE VELOCITY AND SUBCLINICAL LEFT VENTRICULAR SYSTOLIC DYSFUNCTION IN PATIENTS WITH THALASSEMIA MINOR

Mehmet Kaplan

Gaziantep University, Gaziantep, Turkey

**Corresponding Author (kardiomehmet27@hotmail.com)*

OBJECTIVE

Thalassemia minor (β-Tm) is a disease caused by the defective production of beta chain of hemoglobin. Although clinical presentation is usually asymptomatic or mild anemia; it is thought that the disease may be associated with metabolic syndrome, lipid level and cardiovascular events in recent years. Myocardial performance index is an echocardiographic parameter which is used for determining subclinical systolic dysfunction. Pulse wave velocity (PWV), a noninvasive method of measuring arterial stiffness, is an independent predictor of cardiovascular events and mortality. In this study, we aimed to investigate pulse wave velocity and myocardial performance index in thalassemia minor patients whether they have susceptibility to cardiac events or not.

METHOD

In this study 70 patients who applied for premarital screening and diagnosed with thalassemia minor were compared with 71 healthy controls. Those with under age 18, known systemic disease that may affect the measurement, malignancy, smokers and body mass index over 30 kg/m2 were not included. Pulse wave velocity was measured with an oscillometric device and by the same operator and transthoracic echocardiography was performed for all the participants.

RESULTS

The study group was consisted of 36 male (50.7%) and 34 female (49.3%) and control group 32 male (45%) and 39 female (55%). PWV was measured as 5.4 ± 0.6 m/s in the control group and 6.0 ±1.1 m/s in thalassemia minor group. PWV was significantly higher in thalassemia minor group ($p<0.001$). Myocardial performans index was also higher in this group and the difference was statistically significant, too ($p<0.001$).

CONCLUSION

Although thalassemia minor prognosis is well defined, patients have an increased risk of cardiac events. For this group, cardiology should be included in routine controls and patients should be informed.

ID: **612**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **Oral**

MISINTERPRETATION OF DUAL ATRIOVENTRICULAR NODAL NON-REENTRANT TACHYCARDIA AS VENTRICULAR TACHYCARDIA AND IMPLANTATION OF ICD FOLLOWED BY INAPPROPRIATE SHOCKS

Yusuf Türkmen

Karolinska Institute, Stockholm, Sweden

**Corresponding Author (josephatayev@yahoo.com)*

Introduction

A double ventricular response to the one of atrial beat is defined as “double-fire” and it constitutes the basis of dual atrioventricular (AV) nodal non-reentrant tachycardia (DAVNNT), which can mimic many other arrhythmias and misleads the clinicians to inappropriate managements. It was described first in 1975 by Wu et al. (1). To date, a total of 68 cases have been reported (2) as DAVNNT and tachycardia induced cardiomyopathy was developed only in the small part of these patients. To our knowledge, no patient has treated with implantable cardioverter defibrillator (ICD) due to the misinterpretation of DAVNNT as VT.

Case report

A 58-year-old female was experienced with her first palpitation 18 years ago but it became persistent during last years. Physicians were detected wide QRS tachycardia in her surface electrocardiography (ECG). Her left ventricular ejection fraction (LVEF) was measured as 33% by transthoracic echocardiography and implantable cardioverter defibrillator (ICD) was implanted for primary prevention. The patient has stayed symptomatic in spite of antiarrhythmic medication and ICD. She was referred to our university’s arrhythmia department on account of her increased ongoing complaints. Her surface ECG was easily looked like as ventricular tachycardia (figure 1a) with a rate of approximately 134 beats per minute and ICD recordings were showed many episodes of ventricular tachycardia (VT) as well. Atrial (A) and ventricular (V) signals were dissociated at the first look but there was constant relation between (A) and (V) signals and the intervals between (V) signals were not equal (figure 1b). The patient treated by anti-tachycardia pacing first and received biphasic shocks due to the VT. She was referred for electrophysiological study. During atrial pacing, the atrio-His1 (AH1), atrio-His2 (AH2), and His-ventricle (HV) intervals measured as 98, 420 and 45 msec respectively, which demonstrated extremely elongated conduction of atrial signal over the slow pathway (figure 1c).

Seven times of focal cryoenergy was delivered by Freezor XTRATM (Medtronic Inc. Minneapolis, MN, USA) catheter to the bottom of coronary sinus ostium to eliminate conduction over slow pathway in a total of 1683 seconds. After ablation no tachycardia or dual response could be induced and the clinical tachycardia was accepted as non-inducible. She has experienced no further palpitations or ICD therapies at 38 months of follow-up. Her LVEF improved to 50-55% after three years of ablation. Because of improved LVEF, absence of any arrhythmia and symptom the ICD battery removed at the time of Elective Replacement Interval (ERI) and not decided to replace it with the new one.

Discussion

We believe that both tachycardiomyopathy and LBBB were developed because of DAVNNT in our patient. LBBB based DAVNNT was misdiagnosed as VT and followed by the implantation of ICD. To date, only one patient has treated with ICD because of DAVNNT in literature, but he was diagnosed with sarcoidosis before and therefore the exact reason of ICD implantation is not clear.
In summary, DAVNNT may easily be misdiagnosed as VT and it’s hard to remember DAVNNT because of its extremely low prevalence. So therefore, we recommend to the clinicians to remember DAVNNT in the presence of longstanding, mild cardiac symptoms and most importantly in cases where QRS is more than P waves in surface ECG.



Figure 1a. Each P wave was followed by double wide QRS complexes. Double responses with almost same morphology and axis was followed by another totally different (*) premature contraction of ventricle. P: P wave, 1: First beat of double response, 2: Second beat of double response, *: Premature ventricular contraction.

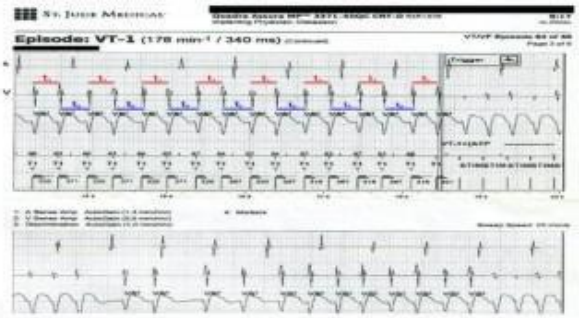


Figure 1b. Intracardiac recording of ICD clearly shows dissociation of atrial and ventricular signals and it mimics VT at the first look. While (t_1) interval was equal to 320 msec (t_2) interval was measured as 370 msec and it shows constant relation between each two-next ventricular contraction and atrial signals. ICD = Implantable Cardioverter Defibrillator, msec = milliseconds.

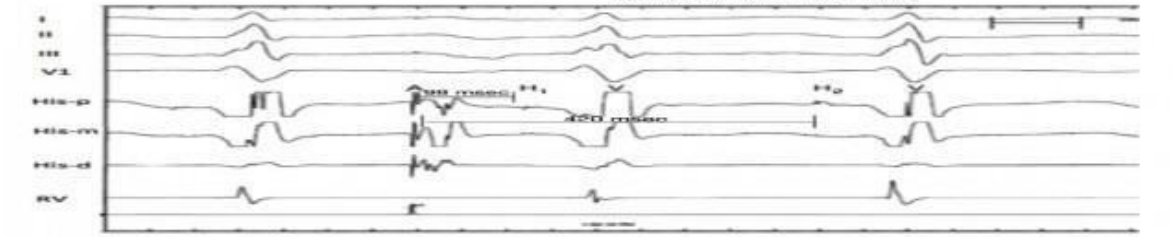


Figure 1c. The conduction of atrial signal though the fast and slow pathways, extremely prolonged conduction over the slow pathway are shown. H_1, His bundle activation through the fast pathway; H_2, His bundle activation through the slow pathway; AH_1= 98 msec, AH_2 = 420 msec.

ID: **623**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Oral**

SOMETIMES, A HIGH DOSE OF INTRACORONARY NITRATE CAN CHANGE EVERYTHING

Fahrettin Turna

SAKARYA UNIVERSITY EDUCATION AND RESEARCH HOSPITAL, SAKARYA, Turkey

**Corresponding Author (fturna_53@hotmail.com)*

OBJECTIVE: Coronary vasospasm plays an important pathogenetic role, not only in variant angina but also in a spectrum of acute ischemic heart disease. Among the possible vascular components contributing to the spasm, the endothelium may play an important role. Coronary vasospasm may also be the only valid mechanism in cases of acute coronary syndrome with varying frequency.

METHOD and RESULT: A 61-year-old male patient with coronary disease story before applied emergency service with approximately 1 hour chest pain. The patient diagnosed with acute inferior myocardial infarction in the emergency service, is taken to the catheter laboratory for primary percutaneous coronary intervention. Angiographically, a subtotal appearance resembling a typical plaque rupture was observed in the right coronary artery. Intracoronary 400 microgram nitrate was applied to evaluate vessel diameter and to decrease the blood pressure values of the patient who is in a hypertensive state. The second 400 micrograms and subsequent 200 micrograms additional nitrate were applied with the change in the patient's symptoms and decreased ST segment elevation on electrocardiography. After a total of 1000 micrograms intracoronary nitrate was made, it was observed that the right coronary artery was completely normal. In left coronary artery poses, vessel and stent mismatch was observed in the stent area previously implicated in the circumflex artery. This suggest that the vasospasm mechanism underlies similarly in the previous case.

CONCLUSION: When we suspect vasospasm in acute coronary syndrome, intracoronary high dose nitrate levels may show us that only vasospastic cause lies under the case. It can guide us for treatment by preventing unnecessary intracoronary interventions.

Oral Presentation Session

Left Ventricular Assist Devices and Extracorporeal Circulation: A Multidirectional Discussions

Date: 15.03.2020 Time: 08:00 – 09:00 Hall: 6

ID: **394**

Topic: **Cardiovascular Surgery » VAD**

Presentation Type: **Oral**

LEFT VENTRICULAR ASSIST DEVICES IMPROVE PULMONARY HEMODYNAMICS IN BRIDGE TO TRANSPLANT PATIENTS WITH END STAGE HEART FAILURE

Aggelıkı Gkouzıouta[1], D. Mılıopoulos[2], N Kogerakıs[1], S Adamopoulos[3]

[1]*ONASSIS CARDIAC SURGERY CENTRE, ATHENS, Greece*

[2]*ONASSIS CARDIAC SURGERY CENTRE, ATHENS, United States*

[3]*ONASSIS CARDIAC SURGERY CENTRE, ATHENS, Greece*

[*]*Corresponding Author (agkouziouta@yahoo.gr)*

Background: Pulmonary hypertension is a frequent sequelae of end-stage heart failure and remains a contraindication for cardiac transplantation. Pulsatile LVADs have been shown to effectively reduce pulmonary hypertension in these patients. However, it remains to be seen if newer continuous flow LVADs have a similar effect on pulmonary hypertension. The objective of this study was to determine if the Heartware (HW), a continuous flow LVAD is effective in improving pulmonary hemodynamics in bridge-to-transplant patients.

Methods: 56 patients with end-stage heart failure underwent placement of Heartware as a bridge-to-transplant (BTT) at our institution. Pulmonary hemodynamics were evaluated with right heart catheterization at baseline, after placement of an intra-aortic balloon pump (IABP), and post-LVAD (prior to heart transplant).

Results: Demographic data of these patients were as follows: mean age 51.6 ± 13.3 years, 70% male, LVEF 14.7 ± 5.11%, 56.6% ischemic etiology and 83.3% received IABP prior to LVAD. Following LVAD support (mean duration of 146. 41 ± 73.83 days), systolic and diastolic pulmonary artery pressures (SPAP and DPAP) decreased significantly (SPAP 56.8 ± 13.55 mmHg, DPAP 28.27 ± 6.23 mmHg to SPAP 35.38 ± 10.23 mmHg, DPAP 15.71 ± 5.36 mmHg; $p < 0.001$). Similarly, pulmonary vascular resistance (PVR) decreased significantly from 3.69 ± 2.02 to 2.00 ± 0.85 Woods units ($p = 0.004$). Transpulmonary gradient (TPG) also declined significantly post-LVAD from 13.3 ± 5.6 to 9.35 ± 2.98 mmHg ($p = 0.02$).

Conclusion: Continuous flow LVADs effectively improve pulmonary hemodynamics associated with end-stage heart failure. Therefore, adequate left ventricular decompression achieved with continuous flow LVAD support can reverse significant pulmonary hypertension in end-stage heart failure patients making them eligible for cardiac transplantation.).

ID: **462**

Topic: **Cardiovascular Surgery » VAD**

Presentation Type: **Oral**

HEMORRHAGIC AND THROMBOEMBOLIC COMPLICATIONS IN PATIENTS WITH IMPLANTED LEFT VENTRICULAR ASSIST DEVICES IN EARLY POSTOPERATIVE PERIOD

Mazurenko Aleksandr[1,2]

Silesian Centr for Heart Diseases, Zabrze, Poland

National Medical Academy of Postgraduate Education named P.L. Shupik, Department of Anesthesiology and Intensive Care. Kyiv, Ukraine

[*]*Corresponding Author (mazurenko.dr@gmail.com)*

Abstract: The work is devoted to study hemorrhagic and thromboembolic complications in early postoperative period after implantation of left ventricular assist devices (LVAD).

We performed retrospective analysis of 10 patients, males aged 55±13.5 years, with a BMI of 30.8±8.3, with a left ventricular ejection fraction ranging from 9% to 28%, which in the period from 11.03.2016 to 22.11.2017 year, in the Silesian center of the Heart Disease (Poland), in conditions of artificial blood circulation, LVAD was implanted.

In the early postoperative period, patients received daily anticoagulant target therapy (ACCT), consisting of the following drugs: heparin (6-11 U/kg/h), aspirin (75-150 mg), Clopidogrel (75-150 mg), warfarin (1.5-7 mg), Nadroparinum Ca (0.3-0.6 ml/twice on day), Fondaparinux Na (2.5-5 mg/twice on day). Two patients received mono-heparin therapy, one patient received monotherapy with warfarin for 14 days. Other patients during the same period received combined heparin therapy in the first three days with a subsequent transition to warfarin, aspirin, Clopidogrel, Fraxiparin, or thrombin blocker.

The mechanical support of the left ventricle was carried out essentially by two different implantable systems, performing one function of support of the left ventricle: POLVAD - programmed controlled pneumatic membrane mechanical circulation of blood to two patients, and LVAD program-controlled electro-centrifugal circulation for eight patients. The duration of support by POLVAD system was from 102 to 156 days. Length of support - LVAD ranged from 20 to 78 days.

A comparison of the analyzed results led to the conclusion that anticoagulant mono-therapy with heparin or warfarin leads to an increase in the percentage of complications and mortality compared with the alternative combination anticoagulant targeted therapy consisting of the following drugs: heparin (6-11 U/kg/h), aspirin 75-150 mg), Clopidogrel (75-150 mg), warfarin (1.5-7 mg), Nadroparinum Ca (0.3-0.6 ml/ twice on day), Fondaparinux Na (2.5- 5 mg/ twice on day), Where survival rates were significantly higher by 60%.

Key words: left ventricular assist device (LVAD), anticoagulant targeted therapy (ACTT), hemorrhagic and thromboembolic complications.

Conflict of Interest: The authors do not foresee conflicts of interest.

Literature:

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ID: **441**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **Oral**

THE INTERNATIONAL TRANSPORTATION OF THE PATIENT WITH ECMO BY AIR-AMBULANCE TO REFERRED CENTER

Tarık Demir[1], **Serkan Ketenciler**[2], Kadir Doğruer[3], Ali Kocailik[1]

[1]*Bilgi University, İstanbul, Turkey*

[2]*Okmeydanı Research and Training Hospital, İstanbul, Turkey*

[3]*Avrasya Hospital, İstanbul, Turkey*

[*]*Corresponding Author (tarikdemir77@gmail.com)*

BACKGROUND: Extracorporeal life support systems (ECLS) that may be life-saving treatment modality for cardiopulmonary or respiratory pathologies are new and complex technologies. The patients that needed an ECLS system to bridging to transplantation or management of the disease get more benefit in experienced or referred centers. If the patient is needed for prolonged treatment with ECLS or for high intensive care management for recovery, the transportation of it with ECLS device is mandatory. Sometimes, the transportation of the patient with ECLS system may be required between different countries. ECLS transportation can be make to air-ambulance or ground way. We want to share our experiences about medical air transportation of the patients with ECLS systems to different referred centers in our country from international or far centers inside to Turkey.

METHODS: Ten patients by ECMO support were transferred from remote center to referred center via air-ambulance transportation between 2014 to 2019 that were analysed retrospectively.

RESULTS: All patients were transferred from different countries to Turkey. Median transport distance was 1152 ± 302 miles. Mean age was 45,2 ± 23,1. Two patients ages were below the 10 years. Veno-venous was applied for 7 patients, veno-arterial for rest of them. The seven patients had pulmonary pathologies, others with primarily cardiac diseases. The patient who lived in the different country was needed to transportation for advanced treatment to the referred centers in Turkey. But the transportation of these patients were necessary with ECMO. Firstly, ECMO support was applied and then were transferred with it. All the patients were transported by air-ambulance and reached to referred center hospital alive. On the air, we checked the hemodynamic monitorization, blood gases analysis, ventilation machine parameters. Any problems were not encountered like cannula dislodgement, pump system failure, breakdown of the membrane oxygenator.

CONCLUSIONS: The transfer of the patient with ECMO support machine is possible by the way of air if transfer team creates an environment like intensive care unit during transportation. In addition, checking more frequent blood gases analyses, temperature of the patient, charge of the battery and safety of the cannulas carry great importance to prevent catastrophic events on the air.

ID: **284**

Topic: **Cardiovascular Surgery » Perfusion Course**

Presentation Type: **Oral**

NUCLEAR FACTOR ERYTHROID 2-RELATED FACTOR 2 (NRF2), TUMOR NECROSIS FACTOR ALPHA PROTEIN (TNF-A), HEME OXYGENASE-1 (HO-1) GENE EXPRESSIONS DURING CARDIOPULMONARY BYPASS

Yusuf Ayıkgöz, Mehmet Salih Aydın, **Nazım Kankılıç**, Ebru Temiz

Medical School of Harran University, Şanlıurfa, Turkey

**Corresponding Author (ysf2012@hotmail.com)*

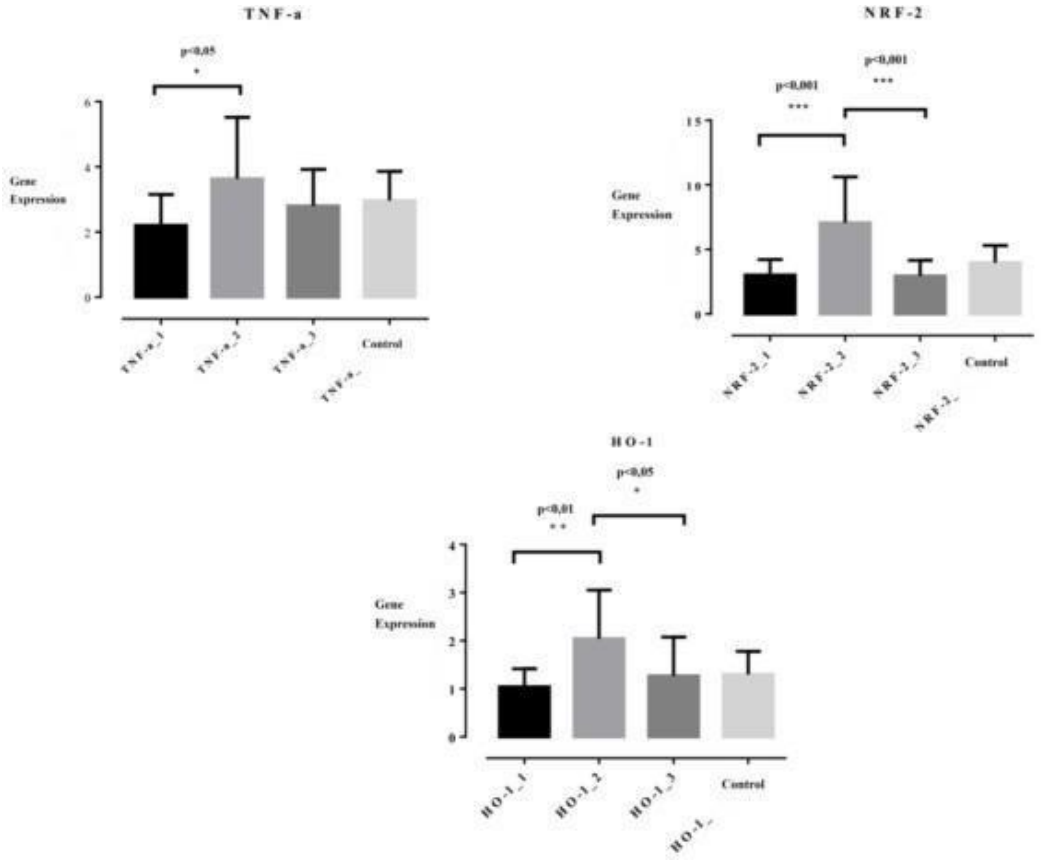
OBJECTIVE: During extracorporeal circulation, blood is in contact with non-endothelial surfaces. The increase in the amount of blood touching the nonendothelial surface increases the damage to the blood elements. This initiates and increases oxidative stress. Increased oxidative stress leads to the activation of antioxidant systems. These two systems work gradually in the process of Cardiopulmonary Bypass (CPB). This study aims to investigate the changes of tumor necrosis factor alpha (TNF-α) (increasing in inflammatory processes), nuclear factor erythroid2-releted factor 2 (Nrf2) and heme oxygenase-1 (HO-1) (responsible for antioxidant mechanisms) gene expression in extracorporeal circulation.

METHODS: Fifteen patients who underwent open heart surgery were included in the study. Blood samples were taken preoperatively (1), during cardiopulmonary bypass (CPB) (2) and 24 hours postoperatively (2). TNF-α, Nrf2 and HO-1 gene expressions in plasma samples were studied by using appropriate kits. Changes in gene expression were compared.

RESULTS: TNF-α gene expression increased during CPB compared to preoperative levels ($p < 0.05$). Similarly, Nrf-2 gene expression increased significantly during CPB ($p < 0.001$) and decreased postoperatively ($p < 0.001$). There was a significant increase in HO-1 gene expression during CPB ($p < 0.01$). Postoperatively, this increase was found to decrease similar to Nrf2 ($p < 0.05$).

CONCLUSIONS: According to the results, TNF-α, Nrf2, HO-1 gene expressions increase during CPB and these values decrease after the operation. This shows that oxidative stress and inflammatory processes start with CPB and antioxidant processes start similarly. With the termination of KPB, both processes are terminated. This has been demonstrated by gene expressions. Future studies will make it easier to understand these processes. We think that our study may be a pioneer in this subject.

Keywords: Cardiopulmonary bypass, nuclear factor erythroid 2-releted factor2, tumor necrosis factor alpha protein, heme oxygenase-1


TNF-a
p<0,05
*
Gene Expression
0
2
4
6
TNF-a_1
TNF-a_2
TNF-a_3
Control
NRF-2
p<0,001
***
p<0,001
***
Gene Expression
0
5
10
15
NRF-2_1
NRF-2_2
NRF-2_3
Control
HO-1
p<0,05
*
p<0,01
**
Gene Expression
0
1
2
3
4
HO-1_1
HO-1_2
HO-1_3
Control

ID: **100**

Topic: **Cardiovascular Surgery » Perfusion Course**

Presentation Type: **Oral**

HAEMODYNAMIC AND PERFUSION DATA WITH THE USE OF DEL NIDO CARDIOPLEGIA ACROSS CARDIAC CASES

Vipin Balachandran, Ross Mejia, Rebecca Tee, Lachlan Gan

John Hunter Hospital, Newcastle, Australia

**Corresponding Author (drvbalachandran@gmail.com)*

Background:
del Nido (DN) cardioplegia was developed as a myocardial protection strategy for immature hearts in the paediatric population. However, there has been a rapid uptake into adult cardiac surgery due to its single dosing strategy, potential superior myocardial protection and lower cardiopulmonary and cross clamp times. In spite of a plethora of observational studies, the majority of studies have looked at very specific populations and very few have included urgent/emergency cases. We are pleased to present the findings from the John Hunter Hospital in over 300 patients across a wide case range including emergent and salvage cases.

Aims:
-To evaluate the haemodynamic parameters resulting from DN cardioplegia across a range of cardiac cases including emergency and salvage cases
-To evaluate inotrope usage post cardiotomy after the use of DN across a range of cardiac cases including emergency and salvage cases
-To evaluate total bypass and cross clamp times with the use of DN across a range of cardiac cases including emergency and salvage cases

Methodology:
309 cases requiring cardiopulmonary bypass and where DN cardioplegia was used were analysed between 2015 and 2018 by reviewing patient records. All cases including emergent and salvage cases were included in this analysis. Patients were excluded if perfusion records did not identify total cardiopulmonary bypass and aortic cross clamp times. The final analysis was done on 307 cases.

Results:
The mean CPB time was 106.21 +/- 2.60 minutes and the mean cross clamp time was 71.19 +/- 2.02 minutes. The majority of isolated cases required only 1 dose (1L) of DN whereas cases exceeding 90 minutes had 2 doses of half dose (500mL) DN. Cardiac indices were between 2.35 +/- 0.6 L/min/m.m and 3.45 +/-0.82 L/min/m.m. An evaluation of individual cohorts of surgeries is beyond the scope of this abstract and will be presented at the meeting.

Conclusions:
We have evaluated DN in a 'real world' scenario and found it to be a safe alternative to standard hyperkaelemic solutions for myocardial protection across a wide range of cardiac cases. Its single dose strategy decreases interruptions to the operation and may provide superior myocardial protection and decreased cardiopulmonary bypass times.

ID: **282**

Topic: **Cardiovascular Surgery » Perfusion Course**

Presentation Type: **Oral**

MICRO-RNA GENE EXPRESSIONS DURING CARDIOPULMONARY BYPASS

Tülay Aydın, Mustafa Göz, **Nazım Kankılıç**, Mehmet Salih Aydın, Ismail Koyuncu

Medical School of Harran University, Şanlıurfa, Turkey

**Corresponding Author (tulaydin42@gmail.com)*

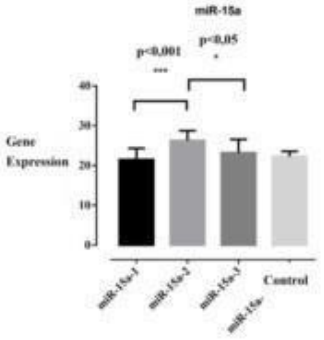
OBJECTIVE: Extracorporeal circulation is an indispensable part of open heart surgery and makes it faster and easier to perform, but it has negative effects on many systems besides its benefits. These effects involve many pathophysiological processes similar to diseases. Recently, molecular pathophysiology of many diseases has been investigated by various studies. In these studies, microRNAs (miRNAs), which were determined to suppress the target gene, were introduced. Invivo studies have shown that many different miRNAs regulate critical signaling molecules including cytokines, growth factors, transcription factors, pro-apoptotic, anti-apoptotic proteins. Our study aims to investigate the changes of miR-34a, miR-15a and miR-320a gene expression in extracorporeal circulation.

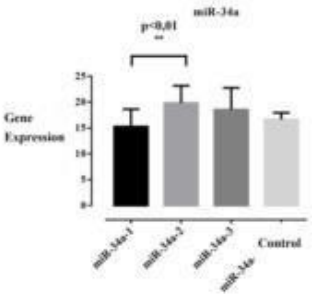
METHODS: Fifteen patients who underwent elective open heart surgery between January 2018 and June 2018 were included in the study. Serum plasma samples were taken from the patients preoperatively (1), at the time of cardiopulmonary bypass (CPB) (2) and at 24 hours postoperatively (3). Gene expression of miR-34a, miR-15a and miR-320a in plasma samples were studied using appropriate kits. Differences in gene expression were compared.

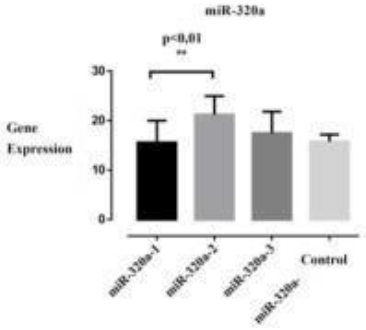
RESULTS: miR-15a gene expression increased during CPB compared to preoperative levels ($p < 0.001$). This increase was decreased after the operation ($p < 0.05$). miR-34a gene expression increased significantly during CPB ($p < 0.01$). Similar to the other two gene expressions, miR-320a gene expression was significantly increased during CPB ($p < 0.01$).

CONCLUSIONS: According to the results, miR-34a, miR-15a and miR-320a gene expressions were increased during CPB and these values decreased after the operation. This suggests that studied miRNAs may play a key role in the initiation and maintenance of pathophysiological cascades during CPB. Our study is the first study showing the gene expression of miR-34a, miR-15a and miR-320a in the CPB process. Therefore, we think that our study will be a pioneer in the future studies to investigate the molecular pathophysiology of the CPB process.

Keywords: Cardiopulmonary bypass, miR-34a, miR-15a, miR-320a


miR-15a
p<0,001
***
p<0,05
*
Gene Expression
40
30
20
10
0
miR-15a-1
miR-15a-2
miR-15a-3
Control
miR-15a-


miR-34a
p<0,01
**
Gene Expression
25
20
15
10
5
0
miR-34a-1
miR-34a-2
miR-34a-3
Control
miR-34a-


miR-320a
p<0,01
**
Gene Expression
30
20
10
0
miR-320a-1
miR-320a-2
miR-320a-3
Control
miR-320a-

ID: **416**

Topic: **Cardiovascular Surgery » Perfusion Course**

Presentation Type: **Oral**

ANTEGRADE AND RETROGRADE CEREBRAL PERFUSION STRATEGIES TO ESTABLISH CEREBRAL PROTECTION IN PEDIATRICS OPEN HEART SURGERY

Saba Rafique, Zahid Hussain, Muneer Amanullah, Mubashir Zareen Khan

Paediatric Cardiac Surgery and Pefusion Sciences, National Institute of Cardiovascular diseases., Karachi, Pakistan

**Corresponding Author (sabarafique398@gmail.com)*

OBJECTIVES: To share our experience and to determine the impact of using antegrade cerebral perfusion (ACP) and retrograde cerebral perfusion (RCP) for neurological protection in pediatric patients undergoing open heart surgery.

INTRODUCTION: Neurological injury as a consequence of cerebral embolization of air during Cardiopulmonary bypass is still a major cause of post-op morbidity and mortality. The incidence of neurological injury is even higher during aortic arch procedures and unexpected occurrence of air embolism during cardiopulmonary bypass. We have demonstrated that antegrade cerebral perfusion via the common carotid artery and retrograde cerebral perfusion via the SVC along with hypothermic circulatory arrest provides adequate cerebral protection.

Case Description:
Case 1:
A 7 year old boy with VSD, coarctation of aorta and arch hypoplasia, underwent repair of the aortic arch and closure of the VSD. Elective antegrade cerebral perfusion via the right common carotid artery was employed at 24°C with circulatory arrest of 40 mins during arch reconstruction. The patient made uneventful recovery.

Case 2:
A 16 year old female patient with a large hypertensive PDA and severe sub aortic membrane was electively undergoing repair. After establishing CPB there was inadvertent injury to the PDA. Circulatory arrest at 23°C was established and the PDA was repaired. There was air in the aortic root. Thus, an emergent Retrograde cerebral perfusion was performed via the SVC and air bubbles were observed in the aorta to be coming from the arch vessels in this way we prevented cerebral air embolism. The patient was smoothly weaned off CPB, extubated the next day and discharged without any complications.

CONCLUSION: Antegrade and retrograde cerebral perfusion are important management strategies and are associated with improved survival and decreased incidence of neurological injuries.

ID: **321**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

RECONSTRUCTION OF STERNAL WOUND DEFECTS WITH CLASSIC PECTORAL MUSCLE AFTER CLASSIC CARDIAC SURGERY

Mehmet Ali Yeşiltaş, Yusuf Kuserli

Bakirkoy Dr. Sadi Konuk Training and Research Hospital, ISTANBUL, Turkey

**Corresponding Author (dr.maliyes@gmail.com)*

Background and Aim: Sternal wound infection and soft tissue defect following open heart surgery is a serious complication that increases mortality and morbidity. In this study, we described the reconstruction of pectoralis major muscle flap in patients with soft tissue defect in the anterior chest wall due to infection at the sternum incision site after open heart surgery.

Methods: Between 2015-2019, a total of 15 patients underwent reconstruction of the anterior chest wall defects with pectoralis major muscle flap due to infection in the sternum incision line following open heart surgery. we planned to perform right pectoral major flap in all patients. Previously placed titanium plates on the sternum were considered infected and all were removed. Sternal fixation was achieved with new titanium plates. In one patient, the sternal incision was closed primarily. In other patients, a pectoral muscle flap was applied and a partial thickness skin graft was taken over the remaining soft tissue defect. The mean age of the patients was 53 years (range 43-76). Six patients had hypertension, 10 had diabetes mellitus, and one had systemic lupus erythematosus. The diameter of soft tissue defects ranged from 4x8 cm to 10x16 cm.

Results: One patient developed hematoma 1 week after grafting and was re-operated. Two patients had partial loss of skin graft placed on the flap and the defect was closed with a partial thickness skin graft taken from the thigh again. In other patients, no problem with wound healing was observed and full healing was achieved.

Conclusion: Pectoral muscle flap repair with adequate debridement is an effective and safe method in patients with sternal wounds after open heart surgery.

Keyword: Sternal wound, muscle flap, open heart surgery

Oral Presentation Session

Surgery for Cardiac Tumors, Experimental Models and Advanced Surgical Techniques

Date: 15.03.2020 Time: 09:00 - 10:15 Hall: 6

ID: **154**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

SURGERY OF CARDIAC MYXOMA: ABOUT A 104 CASES

Redha Lakehal

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The cardiac myxomas remain the most frequent shapes of the primitive tumors of the heart. Their clinical expressions are not-specific and very variable according to the anatomical forms. The objective of this study is to evaluate our immediate results, with means and long terms.

Methods: It is about a retrospective study relating to a series of 104 patients with clear female prevalence of 49 years median age with the extreme ones going from 10 to 78 years operated between January 2000 and December 2019. The base of insertion of the tumor is septal in the majority of the cases. A complete and satisfactory resection of the myxomecarrying its base of establishment is carried out in all the cases. In 54 cases, the tumor is excised with a part of interauricular septum associated with a repair of the interauricular septum.

Results: Operational mortality is worthless. Control was between 1 month and 9 years .The echocardiography showed the tumoral recedive in two cases.

Conclusion: The cardiac myxome is a rareprimitive tumor cardiac generally symptomatic. Its diagnosis rests primarily on theechocardiography. Its treatment always surgical, is burdened with a weak morbimortality. In the long run, the evolution is usually favorable, nevertheless, the repetition remains pos

ID: **14**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Oral**

MANAGEMENT OF INTRAABDOMINAL TUMOURS EXTENDING INTO THE HEART

Orcun Unal

Yedikule Chest Diseases and Thoracic Surgery Training and Research Hospital, Istanbul, Turkey

**Corresponding Author (orcunal@gmail.com)*

Introduction: Intracardiac extension of the tumours, especially the renal cell carcinoma and various others is not infrequent. Their surgical management may sometimes require hypothermic total circulatory arrest for a bloodless comfortable field. In this report we present our experiences on resection of intraabdominal originating tumors with the technique that overcomes the need of circulatory arrest.

Patients and Methods: Eleven patients with the diagnosis of renal cell carcinoma, two patients with the diagnosis of Wilm's tumor and one patient with the diagnosis of intraabdominal leiomyomatosis were operated between February 2012 and November 2018. Mean age of the patients was 37.5 ± 11.4 years. There were 2 pediatric cases and they were diagnosed with Wilms tumor. Two of the adult patients were males with the diagnosis of renal tumors and remaining 10 patients were females one of which was diagnosed with leiomyomatosis and remaining 9 had renal cell carcinoma. In all cases the tumors extended into the right heart chambers.

Results: A triple line design, one to be inserted into the superior vena cava, another one to be inserted into the infrarenal inferior vena cava or through the femoral vein and another one connected to a two-stage venous cannula to be inserted through the right atrial auricula after the evacuation of the tumor from the inferior vena cava and the heart were prepared. The line connected to the two-stage cannula was clamped while aortic and bi-caval or superior vena cava and femoral vein (1 patient) cannulations. After median sternotomy, laparotomy and preparations, cardiopulmonary bypass was started and heart was arrested. The hepatoduodenal ligament and tumor free renal vein were clamped. The tumor originating kidney was resected and its vein was left open. Right atriotomy was performed and intracardiac extending tumor through the inferior vena cava was completely excised. The renal vein was primarily sutured and atrium was closed. The two-stage cannula was inserted into the atrium and the venous cannulas were removed. Operations were finished without any complications and patients could be discharged from the hospital in a mean 5.8 ± 2.4 days after 1 day intensive care unit stay. Mean duration of follow up was 38.8±14.2 months. Mortality did not occur in any of the patients without any complications with regards to abdominal or cardiac procedures or cannulations.

Conclusion: Radical complete resection of the tumour together with thrombectomy of the inferior vena cava and its intracardiac extension without any residual mass are the major determinants of mortality in patients with abdominal tumors extending into the heart through inferior vena cava. Our technique of superior vena cava and infarenal inferior vena cava / femoral vein cannulations overcomes the need of hypothermic total circulatory arrest and its consequences in this particular patient population owing removal of whole tumor mass.

ID: **158**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

SURGERY OF CARDIAC TUMORS IN CHILDREN

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The primary cardiac tumours are rare in pediatry, with prevalence from 1/600 to 17/600 in the series of autopsies. The incidence of cardiac metastases coming fromall the malignant types of tumors is approximately 1%. The majority of the primary cardiac tumors of the child are benign; approximately 10% of them being malignant .On the other hand, the majority of the secondary tumors is malignant. The echocardiography, it to scan and the imagery by cardiac magnetic resonance are the principal diagnostic tools. A cardiac catheterization proves seldom necessary. The tumoral biopsy diagnosis with histological analysis remains the key examination for the confirmation of the surgery, chemotherapy , and the radiotherapy can prolong survival .The forecast after surgical resection; in the event of non-myxomateuses symptomatic benign tumors cardiac is favorable .The forecast in the event of malignant primary cardiac tumor is generally very dark.

Methods: From January 2000 to December 2019, 05 child underwent a surgery in open heart for cardiac tumor. They are 03 boys and 02 girl. The median age is 10.6 year with extremes (15 day – 15 year) . Symptomatology is dominated by the cardiac failure. CTI: 0.5-0.55.ECG: RSr. The echocardiography allowed the heart tumors diagnosis in all the cases. The surgical treatment under cardiopulmonary bypass for the 03 children, 01 without cardiopulmonary bypass and one inoperable.

Results: Death of the girl with anatomopathologic study in favor of a rhabdomyosarcoma and simple postoperative course for the two boys with anatomopathologic study in favor of myxoma.

Conclusion: The cardiac tumors of the child are rare. The majority benign and are discovered in children of less than 1 year. The rhabdomyoma is most frequent. The myxoma is rarer in the child. The cardiac tumors are generally asymptomatic and of fortuitous discovery. Echocardiography is the basic examination of the diagnosis but only the examination histopathologic allows a diagnosisof certainty. The new methods of imagery bring additional information. The surgical abstention is usual, except in the event of severe obstacle hemodynamic or of disorder of the rhythm bringing into play the vital prognosis.

Key words: Tumor, biatrial, child, surgery, cardiopulmonary bypass.

ID: **156**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

SURGERY OF CARDIAC HYDATID CYST

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Algeria is an endemic area of hydatid cyst. Through new exploration techniques, we face an increasing frequency of the cardiac location. Surgery is the only radical treatment. In this study, we report our experience in the treatment of cardiac hydatic cyst.

Methods: During the period from January 2000 to August 2019, 31 patients were operated (18 women and 13 men). The middle age was 24 years (6 - 66 year). Varied locations of hydatid cyst were noted, with varied symptoms: dyspnea and palpitation. Sinusal rhythm was present in 29/31 cases. In all cases, diagnosis was confirmed by echocardiography, the CT scan in 14 cases and Magnetic resonance imaging in 1 case. Hydatid serology was positive in 25/31 cases.

Results: Urgent surgical indications were present in 3 cases. Operative procedure consisted of flattening, aspiration, removal of the membrane and sterilization –in padding of the residual cavity. Average duration of the cardiopulmonary bypass was 31.76 minutes. Duration of ventilation varied from 4 hours to 22 days. Stay in intensive care unit: 1 -22 days. Throughout our study, 24 cases were operated with cardiopulmonary bypass and aortic cross clamping, 6 patients without aortic cross clamping.We deplored only one death.

Conclusion: Cardiac location of hydatid cyst is still primitive. Evolution is marked by the onset of dreadful complications. Diagnosis is carried out thanks to the contribution of the echocardiography and CT scan. We insist on preventive measures of the cyst.

ID: **160**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

SYRGERY OF MALIGNANT HEART TUMOR

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Approximately a quarter of all the cardiac tumors show histological characteristics maligneset have an invasive and metastatic behavior. Almost all (95%) are sarcomas, which places these tumours at the second rank after the myxomas as regards the total frequency. However, the cardiac sarcomas primaries remain exceptionally rare. it can occur has any old. The sarcomas result from the mesenchyma and thus present a large variety of the morphological types, including angiosarcoma (37%), rhabdomyosarcoma (10%), osteosarcoma (3% - 9%) and the undifferentiated class (24%).

Methods: From January 2000 to December 2019 or among the 140 patients having undergone a surgery in open heart for cardiac tumor 08 have were operated for malignant cardiac tumor. They are 02 men and 06 women. The median age is 44 year with extremely (5 – 77 year). Symptomatology is dominated by dyspnea, sometimes the symptom of call was palpitations, syncope, sometimes by embolic complications. The echocardiography allowed the diagnosis of mass will intra cardiac in all the cases. The surgical treatment under cardiopulmonary bypass.

Results: The histopathologic study showed that it was about one 01 polymorphic little differentiated sarcoma; 03 fibrosarcoma; 01embryonic rhabdomyosarcoma of girl of 05 year, 01 angiosarcoma of the right ventricul, 02 malignants lymphoma not hodgkinin. Operational mortality was in a one case. 02 cases of recidives were found;1 for a fibrosarcoma and a sarcoma of the left atrium which has was taken again.

Conclusion: The sarcomas account for 90% of the malignant tumors, but they are associated with an extremely poor forecast in spite of their complete resection, chemotherapy as well as the autotransplantation . New therapies are thus necessary to improve the survival of the patients at which one diagnosed this aggressive tumor.

Keywords: Malignant, tumor, heart, surgery, cardiopulmonary bypass.

ID: **74**

Topic: **Cardiovascular Surgery » Hybrid Cardiovascular Surgery**

Presentation Type: **Oral**

CARDIOPULMONARY BYPASS FOR RESECTION OF RENAL AND INFERIOR VENA CAVA TUMOURS: EXPERIENCES FROM OUR SERIES

Vipin Balachandran, Linna Huang, Casey Garnham, Lara Beukes, Taranpreet Singh, Alexander Grant, Alan Boyd

John Hunter Hospital, Newcastle, Australia

**Corresponding Author (drvbalachandran@gmail.com)*

Background:
Renal tumours often grow into the inferior vena cava (IVC) through the renal vein in about 5-10% of all cases necessitating extensive tumour thrombus removal and IVC reconstruction. We are presenting our experiences with 13 cases necessitating cardiopulmonary bypass (CPB) with and without circulatory arrest.

Aims/Objectives:
To evaluate the technical issues of cardiopulmonary bypass for management of tumour thrombus in the IVC
To evaluate the safety of circulatory arrest in the management of IVC tumour thrombus and subsequent reconstruction of the IVC

Methods:
All patients were evaluated at a multi-disciplinary meeting involving cardiothoracic, urological and general surgeons in addition to oncologists, pathologists, radiologists and perfusionists. 13 patients were selected for management of tumour thrombus in the IVC with cardiopulmonary bypass support.
A midline laparotomy was the initial incision for all patients. All patients had central bypass via a median sternotomy
Cooling to various temperatures were carried out depending on the extent of the tumour thrombus and the complexity of the reconstruction.
Separation from CPB was done after active warming to 37 degrees C.

Results:
The mean CPB times was 102.62±41.26 minutes and mean circulatory arrest times (when used) was 23.92±12.04 minutes. In the immediate post-operative period, all patients required noradrenaline (100%), 3 patients (23%) required adrenaline and 4 patients (29%) required dobutamine for haemodynamic support. All patients (n=13; 100%) survived 30 days post operatively and were discharged home. The average hospital stay was 16.85±13.78 days. The all cause mortality within the first 5 years was 38% (n=5).

Conclusion:
Central cardiopulmonary bypass with or without hypothermic arrest is a safe and reliable tool in the armamentarium of the surgeon operating on an IVC tumour thrombus.
The morbidity and mortality associated with this rather extensive procedure is acceptable with a 5 year survival rate over 62%.
A team approach is imperative in the management of an IVC tumour thrombus and is directly related to better patient outcomes.

ID: **305**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

DIFFERENT MANAGEMENT OPTIONS IN TREATMENT OF PERIORBITAL PEDIATRIC HAEMANGIOMA

Ahmed Mousa[1], Ossama M. Zakaria[1], Mai A. Elkalla[2], Mohamed Neinaa[1]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

Background: Although infantile hemangioma is a common benign childhood tumor, it is still one of the challenging problems. The current prospective study aimed to evaluate the effect of local propranolol gel in the treatment of infantile periorbital hemangioma.

Methods: A prospective study in the period of 4 years from January 2012 to December 2016 was carried out on infants with periorbital hemangioma with a follow-up period of a minimum of 1 year. All infants underwent a fine-needle histopathological sample. All patients who proved to be capillary hemangioma were divided into two groups. Group I included those patients who were treated with topical timolol maleate gel from 4 to 30 weeks. On the other hand, group II included those patients who underwent a local corticosteroid therapy in the form of clobetasol 0.05% gel for a similar period. Posttherapy clinical and histopathological assessment took place in both groups. The obtained data were statistically analyzed.

Results: Twenty-eight patients were enrolled in the study. They were 18 women and 10 men with the ratio of women to men being about 2: 1. In 21 infants, the tumor shrank in a period of 4–10 weeks after topical timolol administration. On the other hand, those who underwent local corticosteroid therapy showed a longer period for the shrinkage of the tumor; the P value is less than 0.003.

Conclusion: Local timolol gel therapy is superior to topical corticosteroid therapy with a wide range of safety and less side effects. Moreover, its cost-effectiveness is acceptable compared with other modalities such as laser therapy. The number of the study materials are limited; yet, it may be an indicator for a road map of managing infantile periorbital hemangiomas. Further studies with a larger population may be needed, as the problem deserves a full citizenship in the world of pediatric research.

ID: **70**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Oral**

THE HIDDEN DANGER IN THE HEART IS CARDIAC MYXOMAS: 12 YEARS SINGLE CENTER EXPERIENCE

Kaptanıderya Tayfur

ORDU UNIVERCITY RESEARCH AND TRAINING HOSPİTAL, ORDU, Turkey

**Corresponding Author (drkdtayfur61@hotmail.com)*

Objective: Myxomas constitute approximately 30% of benign cardiac tumors and are the most common primary tumors of the heart. Although histologically benign, they can be dangerous and mortal due to thromboembolic complications. When tumors are diagnosed in a timely manner and complete resection is achieved, patients will be treated fully except cases of recurrence. The aim of this study was to present the 12-year results of patients operated and followed up for cardiac myxoma in our clinic.

Methods: Between January 2008 and August 2019, 48 patients (26 females, 22 males, mean age 50.91 ± 12.89 years, range 28 to 74 years) were operated with the diagnosis of left atrial myxoma. Resection surgery was performed in 48 - 72 hours after diagnosis. The patients were followed up with Echocardiography once a year and the mean follow-up period was 34.04 ± 23.86 (range 9 to 100 months).

Results: The mean diameter of the removed myxomas was 5.71 ± 0.96 (range 3.80 to 7.60 cm). 45 patients had left atrial myxomas, 2 patients had right atrial myxomas, and 1 patient had a biatrial myxoma. C-reactive protein (CRP) and high sedimentation rate were observed in almost all patients. The patients were followed-up regularly with yearly ecocardiographi.

Conclusions: As a result, myxomas are benign and rarely detected cardiac tumors that can cause symptoms ranging from being asymptomatic to mortality. After myxoma resection following diagnosis, good results are obtained in the long term, and the recurrence rate is negligible in patients without a family history. Sinus rhythm and young age dyspnea, fatigue symptoms of the patient myxoma should be suspected and echocardiographic examination should be done.

ID: **596**

Topic: **Cardiovascular Surgery » Medical and Surgical Treatment of Heart Failure**

Presentation Type: **Oral**

PRIMARY ANGIOSARCOMA OF PERICARDIUM WITH CONSTRICTIVE PERICARDITIS: A CASE REPORT

Mustafa Barış Kemahlı[1], Reha Topak[1], Tuğra Gençpınar[2], Ebru Özpelit[2], Sema Güneri[1], Hüdai Çatalyürek[1]

[1]*Dokuz Eylül University, İzmir, Turkey*

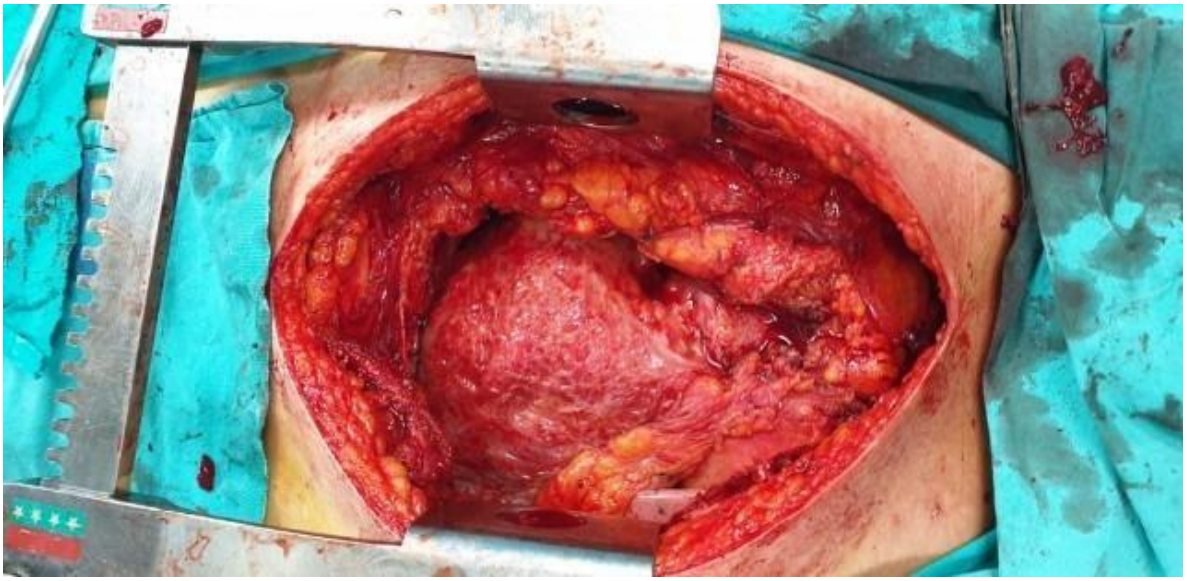
[2]*Dokuz Eylül University, izmir, Turkey*

[*]*Corresponding Author (bariskemahli@hotmail.com)*

Background: Primary malignant tumors of the heart are seen rarely. Angiosarcoma is the most frequent primary malignant tumor of the cardiac chamber and usually involves the right atrium. Primary angiosarcoma of the pericardium which is extremely rare presents various clinical signs and has an aggressive metastasis potential.

Case presentation: In the current study, we present a 52-year-old man who complained of weakness and dyspnea for 2 months. Echocardiography revealed pericardial effusion. The patient was treated with anti-inflammatory and antibiotic drugs. Despite the treatment, consecutive echocardiography demonstrated an increase of pericardial fluid and thickness. Although 700cc pericardial fluid was drained with pericardiocentesis, it reproduced and became fibrillary form. The pathologic evaluation of pericardial fluid did not indicate a malignant pattern. Computed tomography determined multiple lung lesions that were appropriate with metastasis. 18 FDG PET-CT indicated prevascular, paraaortic, pericardial, supraclavicular lymph node uptake. Due to augmentation of dyspnea, septal bounce and other constrictive pericarditis signs of ECO, total pericardiectomy was performed. The pathological assessment of pericardiectomy material and wedge resected lung tissue with the tumor revealed the diagnosis was angiosarcoma of the pericardium.

Conclusion: This highly metastatic and malignant tumor takes part in the etiology of pericardial effusion and constrictive pericarditis. Primary pericardial angiosarcoma is difficult to diagnose thus it requires the collocation of multiple diagnostic tools.



ID: **54**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

IATROGENIC LEFT VENTRICULAR PSEUDOANEURYSM DEVELOPED FOLLOWING PERICARDIOCENTHESIS

Prof. Dr. Erkan Iriz, **Alperen Kutay Yıldırım**, Serkan Ünlü, Mehmet Burak Gülcan

Gazi University Hospital, Ankara, Turkey

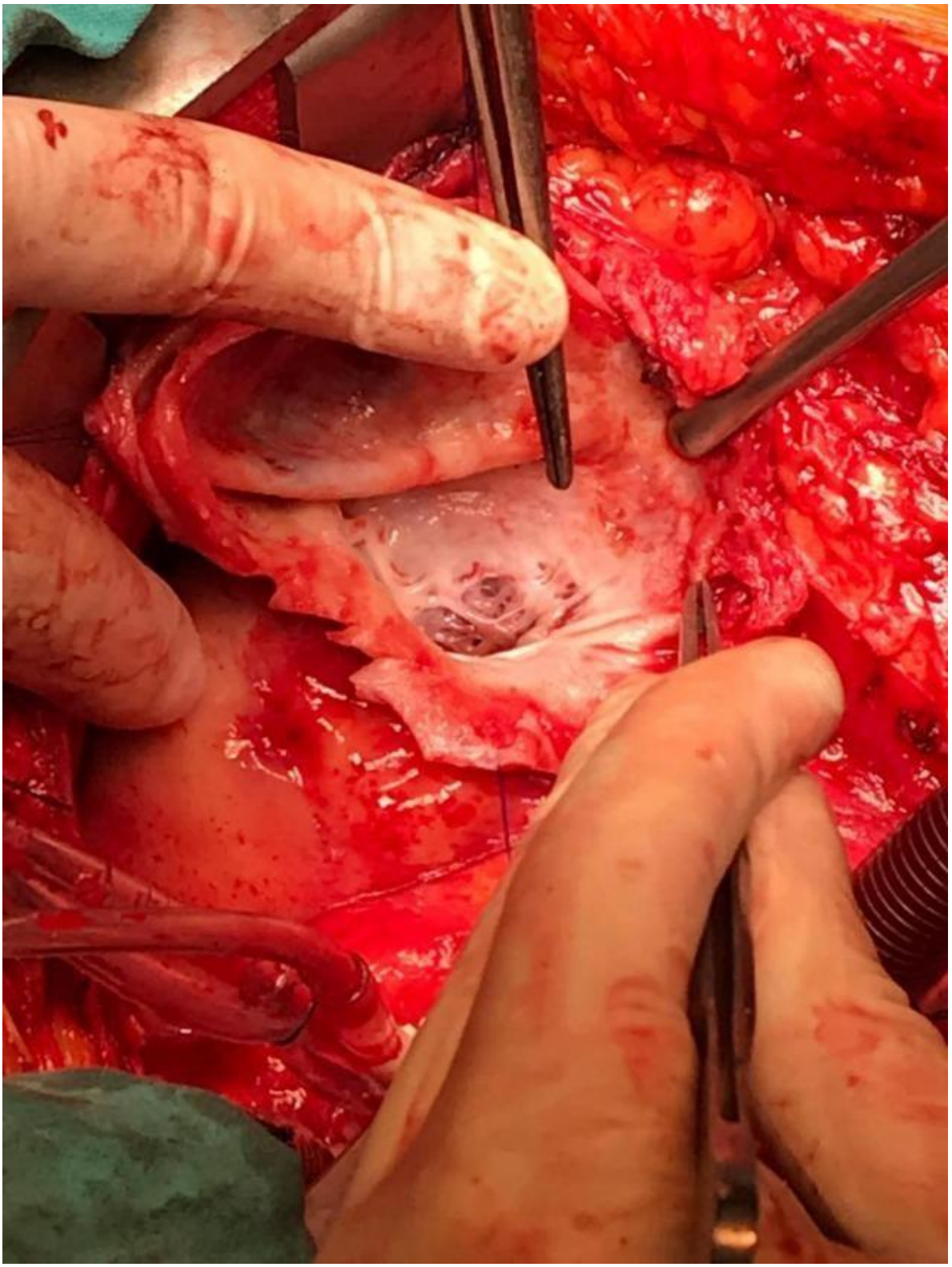
**Corresponding Author (erkaniriz@hotmail.com)*

Objective: To present a case of Left Ventricle (LV) iatrogenic pseudoaneurysm following pericardiocentesis and its clinical evaluation with successful surgical management.

Material and Methods: This case report includes a 60-years old female diagnosed with minimal pericardial effusion, then developed to a major pericardial effusion with a need of pericardiocentesis. Patient also has a history of Rheumatoid arthritis (RA), diagnosed 6 months ago and under corticosteroid medication. Myocardial perfusion scintigraphy (MPS) and Transthoracic Echocardiography (TTE), applied before the pericardiocentesis, revealed ischemia in lateral wall of LV with a perfusion defect in apex and inferior wall of LV. After pericardiocentesis to developed pericardial effusion made by Cardiology Department, diagnose of a 60mm pseudoaneurysm from LV's apex to inferior wall was made with TTE and Thorax CT during routine follow up.

Results: Patient transferred to Department of Cardiovascular Surgery for resection and repair of pseudoaneurysm. A 60 mm of aneurysmatic segment was arising from apical section. After longitudinal incision was made, entry of the needle from pericardiocentesis and minimal thrombus was observed. Ventriculoplasty was made by using Cooley's technique. Patient had an uncomplicated post-operative course and discharged on post-operative 7th day.

Conclusion: LV pseudoaneurysms are mostly a complication of myocardial infarction, infection or surgery. However, in some rare cases may occur as a result of iatrogenic etiology such as pericardiocentesis.
In our case, myocardial fragility related to prolonged usage of corticosteroids may have a preliminary role. Lack of motion and perfusion defect in apex evaluated in MPS also shows patient has a fragile LV structure and pre-existing coronary artery disease confirmed with CAG. Both these factors may have played a preliminary role in pseudoaneurysm formation after accidental penetration.
Some aspects in our study are unique. First, pseudoaneurysm diagnosed asymptomatically during routine control without tamponade or rupture. Second patient has a prolonged usage of corticosteroids and akinetic myocardial segment with perfusion deficiency making ventricle wall more vulnerable to traumas. Third during operation penetrance point of needle from pericardiocentesis and minimal thrombogenic material was visible with a narrow neck (Image 1). Aneurysmatic segment was also localized and didn't involve myocardial component. Therefore, it has a little impact on LV function and structural geometry.
In conclusion to avoid these complications, decision to perform pericardiocentesis must be cautiously made by developed scoring methods. High risk patients must be identified, and a stricter post-operative follow-up must be planned.



ID: **616**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Oral**

AORTIC CUSP SIZERS TO ESTABLISH THE FUNCTIONAL CLASSIFICATION OF AORTIC INSUFFICIENCY: ALGORITHM AND MIDTERM OUTCOME OF OPERATIVE REPAIR

Mohammad Bashar Izzat

Damascus University, Damascus, Syria

**Corresponding Author (mbizzat@gmail.com)*

OBJECTIVES:

New aortic cusp sizers were developed to assist in aortic valve assessment in the operating theatre. Our objectives were to examine the efficacy of the new aortic cusp sizers in establishing the functional classification of aortic valve insufficiency, and to report the midterm outcome in a group of patients who had undergone aortic valve repair guided by this device.

METHODS:

A prospective clinical study was performed involving 70 consecutive patients with severe aortic valve insufficiency. The aortic cusp sizers were used as a template to identify existing cusp and root alterations. Consequently, the functional classification of aortic insufficiency was determined, and the appropriate techniques of aortic valve repair were implemented.

RESULTS:

Aortic valve repair was successful in all patients. Procedures performed were 70 sub-commissural annuloplasties, 16 cusp free-edge plications, 3 cusp extensions with autologous pericardium, 13 replacements of the ascending aorta and 5 re-implantation procedures. At a mean follow-up time of 48.5 ± 23.2 months, 2 patients underwent aortic valve replacement for recurrent aortic valve regurgitation, while aortic valve function remained stable in 68 patients, with aortic insufficiency <1+ in 54 (79.4%) patients and 1-1.5 in 14 (20.6%) patients, and no significant gradients across the aortic valves.

CONCLUSIONS:

The aortic cusp sizers are valuable in establishing the functional classification of aortic insufficiency, and can guide implementation of aortic valve repair techniques successfully. This approach is analogous to that accredited for the success and wide adoption of mitral valve repair techniques, and is likely to assist in increasing the percentage of aortic valves that are repaired when compared with current practice.

ID: **348**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

KRILL OIL PREVENTS ATHEROSCLEROSIS IN AN EXPERIMENTAL MODEL

Yildirim Gultekin[1], Ali Bolat[1], Atike Tekeli Kunt[2]

[1]*Kirikkale University, Kirikkale, Turkey*

[2]*Ankara Numune Eğitim Araştırma Hastanesi, Ankara, Turkey*

[*]*Corresponding Author (dr.ygultekin@hotmail.com)*

Background: Modalities to reduce the formation and progression of atherosclerotic plaque are the major targets of coronary artery disease management. Omega-3 fatty acid supplementation that is obtained from fish has been shown to reduce cardiovascular events. Krill (Euphasia superba) are small, crustaceans that live in cold seas like Antarctic Ocean and recently, due to its high content and form of the eicosapentaenoic acid (EPA) and decosahexaenoic acid (DHA), krill oil became popular in researches dealed with prevention of cardiac disorders and cancer. The aim of the present study is to analyse the effect of krill oil supplement on atherosclerosis in rats treated with high-fat diet and streptozotocin induced diabetes mellitus.

Materials and Method: Sixteen Spraque-Dawley male rats were divided into 2 groups as control and krill oil. Each group was fed with high-fat diet and injected streptozotocin subcutaneously to obtain an experimental model of atherosclerosis. Krill oil group rats received 50mg of krill oil supplement orally. Rats were sacrificed after six months for biochemical and histopathological examinations of aorta and coronary arteries for foam cell detection using hematoxylin and eosin staining.

Results: Induction of atherosclerosis and diabetes in rats after high fat diet and streptozotocin injection was confirmed by elevated levels of total cholesterol and LDL and increased fasting glucose and insulin levels and also significant increase in he number of foam cells in aorta and coronary arteries in the control group. Krill oil group showed a decreased number of foam cells and also reduced levels of total cholesterol and LDL after 6 months of treatment.

Conclusions: The present study indicates that krill oil supplementation attenuates the number of foam cells in aorta and coronary arteries meaning a preventive effect of atherosclerosis.

ID: **295**

Topic: **Cardiology » PI for SHD - Transcatheter aortic valve replacement**

Presentation Type: **Oral**

TRANSCATHETER VALVE IMPLANTATION IN CANCER PATIENTS

Bilge Duran Karaduman

Ankara Yıldırım Beyazıt University, Deparment of Cardiology, Ankara City Hospital, Ankara, Turkey

**Corresponding Author (bilge_dr@yahoo.com)*

Objectives: The treatment of choice for severe Aortic Stenosis (AS) has been surgical aortic valve replacement (SAVR) for most patients with acceptable surgical risks but the presence of active cancer in patients with severe AS is often considered to be a contraindication to SAVR. In addition, severe AS is an important risk factor for morbidity and mortality when surgery is required in cancer patients. We report our TAVI experience in cancer or cancer survival patients and want to point out the feasibility and safety of TAVI.

Methods: Between June 2011 and March 2016, 21 of the patients who underwent TAVI in our center had cancer. Patients for whom TAVI was considered the best treatment option were selected based on the clinical consensus of a multidisciplinary heart team. Survival was evaluated for all patients and TAVI was applied to patients with a probability of survival of more than 1 year.

Results: Three of them are lymphoma, 3 are chronic myeloid leukemia, 2 are colon, 2 are bladder, 2 are prostate, 2 are myelodysplastic syndrome, others are lung, breast, bone, stomach, rectum, larynx and malign mesenchymal tumor. Baseline characteristics and procedural features are shown in table. The time between diagnosis of malignancy and TAVI ranged from 7 days to 13 years. Cancer surgery of 5 patients was performed after TAVI to reduce the surgical risk and 15 patients had cure before TAVI. Twenty Edwards-Sapien XT valves and one Lotus aortic valve were successfully implanted. The devices were delivered through the transfemoral (19) and transaxiller (2 patients) approach. Our technical success rate was 100% without complications. In-hospital mortality was not observed in any patient. One patient treated with the number 29 Edwards valve developed a complete AV block requiring a permanent pace-maker. One patient had aortic prosthesis embolization and was successfully implanted another prosthesis valve. Post procedure echocardiographic evaluation was performed and it revealed that all of the implanted valves had successful results with no moderate or severe paravalvular leak at discharge. In 30-day and one-year follow-up, patients have improvement in functional capacity with no moderate or severe paravalvular leak seen on transthoracic echocardiography. Death was observed in 4 patients in the first year.

Conclusion: These preliminary results show that patients with cancer with severe AS who underwent TAVI had similar procedural success and complication rates compared with patients without cancer, regardless of cancer status. Also, TAVI can be performed safely and effectively for prior to non-cardiac cancer surgery.

Parameters	
Age [years]	74.5±5.8
Male (%)	61.9
STS score (%)	4.9±3.2
NYHA	
- II	23.8
- III	52.4
- IV	19.0
- Pulmonary edema	4.8
Past cardiac surgery (%)	14.3
LVEF (%)	56.2±11.8
Aortic mean gr [mm Hg]	47.9±12.5
AVA [cm^2]	0.71±0.12

Valve size (%)	
-23	23.8
-26	52.4
-27	4.8
-29	19.0

Oral Presentation Session

Cardiovascular Surgical Aid in Trauma Patients

Date: 15.03.2020 Time: 10:30 - 11:45 Hall: 6

ID: **299**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **Oral**

DAMAGE CONTROL VASCULAR SURGERY: A THIRD WORLD EXPERIENCE

Ahmed Mousa[1], Ossama M. Zakaria[1], Mohamed Neinaa[1], Mai A. Elkalla[2]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

Background: Vascular injuries pose a major challenge for all surgeons even those who are experienced, especially in low/limited resources austere environments. To evaluate the 10 years' experience with damage control vascular surgery (DCVS) in managing vascular injuries in different rural emergency centers, with special emphasizes on the rule of surgical residence.

Methods: A 3-years retrospective study from December 2016 to January 2019, to report all cases of isolated vascular trauma that were referred to our center with an emergency vascular trauma from different rural emergency centers. Patients' files were thoroughly reviewed to report the type of vascular injury, the initial DCVS, and the rank of the surgeon who performed the initial management before referral.

Results: Two-hundred and 40 (240) patients were reported. They were 160 males and 80 females with the male to female ratio of 3:1. Their age ranged from 15-67 years with the median age 38.5±1.5 years. In 195 patients, the cause of vascular injury was road traffic accident in whom 71 suffered from major trauma to the femoral artery, while the remaining 24 patients experienced trauma to the femoral vein. The remaining 175 patients were victims of assaults by gunshot in 45 patients, or direct penetrating stab or contused wound in 130 patients. The mean time between the initial injury and the primary DCVS that was done at the original center ranged from 7 to 20 hours, with the mean of 12.5 ± 2.6. Limb salvage was successful in 112 patients. Out of them 107 initially underwent the DCVS by experienced surgeons, while the remaining 5 patients were treated by residents with different scopes of experience. Limbs were sacrificed in 128 patients because of failure of the DCVS. In those patients amputation was performed as a life-saving procedure.

Conclusions: Damage control vascular surgery is an effective tool in limb salvage in trauma patient. It should be a major part of Junior and senior residents in the developing countries to save the hospital resources and to decrease the cost-effectiveness of health care.

ID: **487**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

THE EFFICACY OF ILOPROST TREATMENT ON EXTREMITY AMPUTATION OF 98 PATIENTS WITH VASCULAR INJURY IN 998 BURN PATIENTS

Fehim Can Sevil[1], Hülya Sevil[2], Mehmet Tort[3]

[1]*Afyonkarahisar Sağlık Bilimleri Üniversitesi, Erzurum, Turkey*

[2]*Erzurum sağlık bakanlığı Bölge eğitim araştırma hastanesi, Erzurum, Turkey*

[3]*Erzurum sağlık bakanlığı Bölge eğitim araştırma hastanesi, erzurum, Turkey*

[*]*Corresponding Author (fhm_can@hotmail.com)*

OBJECTIVE: Burn trauma is one of the health problems that may have serious physical effects on patients and affect many systems. As a result of vascular injury in burn patients, extremity amputations are likely to occur in these patients. In this study, we aimed to evaluate burn patients in terms of circulatory system and to present the effect of iloprost treatment on extremity amputation.

MATERIALS AND METHODS: Demographic characteristics, burn causes, burn surface areas, number of days of hospitalization, circulatory examinations, extremity amputations of the patients affected by burn trauma were retrospectively analyzed.

RESULTS: The study included a total of 998 patients, 568 males and 430 females, who were evaluated for burn. The mean age of the patients was 16.82 ±19.08 years. Vascular pathology was detected in 98 (9.8%) of the patients. Of the patients with vascular pathology, 30 (30.6%) were children and 68 (69.3%) were adults. Of these, 66 (67.3%) were male and 32 (32.7%) were female. The mean number of days of hospitalization of the patients with vascular pathology was 33.79±29.76 days. The most common cause of burn in the burn patients was scald burn (715 cases, 71.64%). The most common cause of burn in the patients with vascular pathology was flame burn, which was seen in 25 (25.5%) of the patients. The majority of the 1583 extremity burns (901 extremities, 56.91%) detected due to burn consisted of lower extremity burns. The mean burn surface area of the patients with vascular pathology was 15.24± 18.86%. Low molecular weight heparin (LMWH) along with iloprost treatment were administered to 23 patients (23.4%) who were found to have pathology on vascular examination, while only LMWH was administered to 75 (76.6%) patients. Of the patients, 24 underwent extremity amputation. The patients who were given iloprost and low molecular weight heparin treatment underwent two amputations, while other amputations were performed on the patients who were not given iloprost treatment. During hospitalization, 1 patient died due to septic shock, 1 patient died due to cardiac arrhythmia, and 3 patients died due to multiple concomitant injuries.

CONCLUSION: Extremity amputations in burn patients cause serious problems both individually and socially. We are of the opinon that the use of iloprost treatment to prevent amputation in burn patients with circulatory problems will reduce amputation rates.

ID: **320**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

PATENCY RATIO IN PERIPHERAL VASCULAR INJURY DUE TO PENETRATING CUTTER INJURIES

Ali Aycan Kavala, Saygın Türkyılmaz, **Mehmet Ali Yeşiltaş**

Bakirkoy Dr. Sadi Konuk Training and Research Hospital, ISTANBUL, Turkey

**Corresponding Author (dr.maliyes@gmail.com)*

Background and Aim: Peripheral vascular injuries are common and require urgent surgical intervention. Early diagnosis and early surgical intervention in penetrating cutter injuries reduce mortality and morbidity. In this report, we aimed to share our experience in peripheral vascular injury due to penetrating cutter injuries retrospectively.

Methods: A total of 112 patients who underwent surgery for penetrating cutter injury between January 2017 and June 2019 were retrospectively reviewed. We aimed to follow up the patency rates by following 6 months postoperatively.

Results: 86 (76.78%) of the cases were male and 23 (23.21%) were female. The mean age was 28.34 ± 7.5 years. According to the etiology, 73 patients (65.18%) had penetrating cutter injury and 39 patients (34.82%) had gunshot wounds. Femoral artery was the most frequently injured artery with 45 cases (40.17%). The other injured vessels were radial artery with 38 cases (33.92%), superficial femoral vein with 22 cases (19.64%), ulnar artery with 17 cases (15.17%), and brachial artery with 15 cases (13.39%). Tibialis posterior artery in 6 cases (5.35%), popliteal artery in 7 cases (6.25%), popliteal vein in 7 cases (6.25%), anterior tibial artery in two cases (1.78%), deep femoral vein. there was nerve, muscle and bone damage in 21 cases (18.75%). In 48 cases (42.85%), we preferred the end-to-end anastomosis technique as operative intervention. We performed interposition with saphenous vein graft in 28 patients (25%), primary repair in 22 patients (19.64%) and synthetic graft interposition in 14 patients (12.5%). After the whole procedure, we recommend the use of warfarin after venous intervention. On the side, we recommend dual antiplatelet therapy after arterial intervention. Two patients who underwent graft interposition developed graft thrombosis and one of them underwent embolectomy and the other one underwent graft re-position. Two patients who underwent saphenous vein interposition developed graft thrombosis. One of them underwent embolectomy and the other one underwent re-operation with new saphenous vein graft. A patients of all developed A-V fistula after operation and we repaired it. Amputation was required in the second week of one patient with bone injury and vascular injury.

Conclusion: It is especially important to intervene in the shortest time and with the correct diagnosis and to reduce limb loss and mortality. The rapid delivery of these patients to the hospital and the suspicion of vascular injury in the emergency departments may bring patients closer to the correct diagnosis. After a correct diagnosis, it is important to take a multidisciplinary approach to penetrating cutter injury.

Keywords: peripheral vascular disease, penetrating cutter injuries, trauma

ID: **347**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

N-ACETYL CYSTEINE ATTENUATES FERROPTOSIS MEDIATED LUNG INJURY INDUCED BY ABDOMINAL AORTA ISCHEMIA/REPERFUSION

Naim Boran Tumer[1], Atike Tekeli Kunt[2]

[1]*University of Health Sciences Ankara City Hospital, Ankara, Turkey*

[2]*Ankara Numune Eğitim Araştırma Hastanesi, Ankara, Turkey*

[*]*Corresponding Author (naimborantumer@hotmail.com)*

Background: This study aimed to analyze the effect of N-acetyl cysteine pretreatment on the prevention of ferroptosis mediated lung injury induced by abdominal aorta ischemia and reperfusion (I/R),

Materials and Method: Eighteen male Sprague-Dawley rats weighing 350-400 g were randomized into three groups. The animals received N-acetyl cysteine 150 mg/kg or normal saline 0.1 ml/kg intraperitoneally before the ischemic period. In the control and study groups, I/R injury was induced by clamping the aorta infrarenally for 2 hs, followed by 4 h of reperfusion. The third group underwent sham surgery. After sacrifice, lungs of the animals were extracted for both histopathological and biochemical analysis.

Results: There was a significant difference between the control and study animals regarding tissue malondealdehyde (MDA), and glutathione (GSH) levels. In the control group the MDA levels were increased and the GSH levels were increased significantly compared to sham group that revealed a ferroptosis mediated lung injury. However N-acetyl cysteine decreased the levels of MDA and increased the levels of GSH revealing a protective effect. The Prussian blue (free iron stain) staining which was used to examine iron deposition revealed a reduced deposition of iron in the N-acetyl cysteine group.

Discussion: The results of the present study suggests a protective effect of N-acetyl cysteine of ferroptosis mediated lung injury induced by abdominal aorta ischemia reperfusion in a rat model.

ID: **265**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

MANAGEMENT OF HIGH-RISK POPLITEAL VASCULAR BLUNT TRAUMA: CLINICAL EXPERIENCE WITH 50 CASES

Rajeev Thilak Chellasamy

JIPMER, PONDICHERRY, India

**Corresponding Author (rajeev.jipmer89@gmail.com)*

Background:

The purpose of this study is to report the clinical and functional outcomes of patients, treated between 2015 and 2019, with high-risk popliteal vascular injuries due to fractures of the leg.

Methods:

A retrospective analysis was conducted of prospectively collected data. Our aim was to perform surgical revascularization as soon as the arterial injury was recognized. The mechanism of injury was blunt in the entire cohort of patients, and all of them had bone fractures of leg. The treatment of arterial injury included vein graft interposition in 24 (48%), primary anastomosis in 22 (22%), and primary embolectomy in 15 (30%) patients.

Results:

In the entire cohort of patients, 46 patients (92%) were male and 4 were female (8%); the mean age was 41 years (16–60 years). The overall amputation rate in this study was 20% (10 amputations). Significant ($P < 0.05$) independent factors associated negatively with limb salvage were combined tibia and fibula fracture, concomitant artery and vein injury, ligation of venous injury, and lack of backflow after Fogarty catheter thrombectomy, while repair of popliteal artery and vein injury, when present, was associated with improved early limb salvage.

Conclusion:

Early recognisation of any vascular injury is important in salvaging a limb. Any delay may result in risk of amputation. Popliteal artery is one the most common artery to be involved following leg fractures. Expeditious recognition of vascular injury, transport to repair, and repair of associated venous injury when possible are necessary to optimize limb salvage. The importance of a high level of suspicion and low threshold for timely amputation has been emphasized when limb salvage was deemed impossible to prevent life-threatening complication. Delays in surgery, extensive soft tissue defect, compound tibia–fibula fracture, and other factors are associated with high amputation rate following popliteal artery injury.

Keywords: popliteal, vascular blunt trauma, fracture

ID: **519**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

PROTECTIVE EFFECT OF THYMOQUINONE ON SMOKING-INDUCED VASCULAR DAMAGE: AN EXPERIMENTAL STUDY IN RATS

Yusuf Velioğlu, **Ahmet Yüksel**, Osman Yakşi, Songül Peltek Özer, Mehmet Ünal, Emine Özsarı, Erhan Renan Uçaroğlu

Abant Izzet Baysal University Faculty of Medicine, Bolu, Turkey

**Corresponding Author (yusufvelioglu@gmail.com)*

Background: The aim of this study was to investigate the protective effect of thymoquinone on smoking-induced vascular damage in rats.

Methods: A total of 28 rats were allocated in this experimental study. Rats were equally divided in four groups; as control group (n=7) and study groups including only smoking group (n=7), smoking plus thymoquinone group (n=7) and smoking plus dexamethasone group (n=7). The animals in study groups were subjected to regular cigarette smoke exposure during 2 months, hereby smoking-induced vascular injury model was established in the animals. The thoracic aorta of the animals were surgically resected and then evaluated histopathologically. The prepared aortic tissue samples were analyzed under light microscope in terms of thickness of aortic wall, endothelial continuity and injury as well as degenerative alterations on the endothelium.

Results: Mean aortic wall thicknesses were 77.8 and 114.5 µ in only smoking group and smoking plus thymoquinone group respectively, and this difference was statistically significant. In only smoking group partial endothelial damage and complete endothelial damage were observed in 2 and 4 animals respectively whereas in smoking plus thymoquinone group no endothelial damage and partial endothelial damage were observed in 2 and 4 animals respectively. When these groups were compared in terms of endothelial damage, the difference was detected to be statistically significant.

Conclusions: Our study demonstrates that thymoquinone has a protective effect on rat endothelium and alleviates the smoking-induced vascular damage in rats.

Keywords: Thymoquinone, smoking-induced vascular damage, experimental, rat.

ID: **243**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

EVALUATION OF TREATMENT OPTIONS FOR FEMORAL ARTERY PSEUDOANEURYSMS AND THEIR EFFICIENCIES

Irem Iris Kan, Atıf Yolgösteren, Selman Candan, Ömer Fatih Nas

Uludag University School of Medicine, Bursa, Turkey

**Corresponding Author (iriskan64@hotmail.com)*

Objective: In our study, we evaluated etiologic factors of femoral artery pseudoaneurysms, treatment approaches and efficiency of treatments.

Method: Between January 2012 and August 2019, 73 femoral artery pseudoaneurysm cases in our hospital have been evaluated for etiologies, treatment types and their consequences.

Results: 48(% 65,8) patients have been diagnosed by ultrasonography, 21(% 28,7) by digital subtraction angiography, 4(% 5,5) by computed tomography in 73 patients. 46(% 63) patients were male and 27(% 37) were female. Their age was between 1-88 (mean 55). Mean pseudoaneurysm diameter in widest plane was 28,2±19,8 mm. 40(% 54,8) pseudoaneurysms were developed after coronary angiography and endovascular treatments, 10(% 13,7) were after neurovascular and peripheral vascular interventions. In 4(% 5,5) of the patients reason was penetrating injuries due to sharp instrument, in 3(% 4,1) gun wound, in 2(% 2,7) due to venous catheterization, in 10(% 13,7) cardiovascular and orthopedic surgery, in 1(% 1,4) local soft tissue infection and in three(%4,1) of patients etiologic factor couldn't be found. Surgery has been performed for 20(%27,4) patients, endovascular glue treatment for 3(% 4,1), percutaneous thrombin for 4(% 5,5), endovascular coil for 5(% 6,8), endovascular balloon for 1(% 1,4), endovascular stent for 2(% 2,7) and compression treatment for 18(%24,6) patients. All of the patients are found to be cured after surgical and endovascular procedures. In surgical procedures, 17(% 85) were primary repair and 3(% 15) were graft interposition. In patients who are performed surgery, 7(% 35) had surgical site infection and 3(%15) had wound healing defect. In a patient with graft interposition, graft removal has need to be performed as well.

Conclusion: Up to three centimeters, compression with ultrasound is found to be generally effective. When compression is inefficient, percutaneous thrombin treatment can be used. If that is ineffective as well or in great pseudoaneurysms endovascular treatments or surgical therapy should be used.

ID: **296**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

PEDIATRIC EXTREMITY VASCULAR INJURIES IN THE LIMITED-RESOURCE SETTINGS: A RETROSPECTIVE ANALYSIS

Ahmed Mousa[1], Ossama M. Zakaria[1], Mai A. Elkalla[2], Mohamed Neinaa[1]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

BACKGROUND: Vascular injuries to the extremities although being uncommon among the pediatric population they may result in serious life-threatening disabilities. This study was conducted to evaluate our local experience for the management of pediatric and adolescent extremity vascular trauma in poor/limited resource settings.

METHODS: A retrospective study was performed within a period of 11 years duration from January 2006 to December 2016, at Tertiary Referral University Hospitals having an emergency and specialized trauma centers. All types of arterial repair were performed by highly experienced vascular and endovascular surgeons and well trained general and pediatric surgeons. Patients were divided into three age groups. Group I (5-10 years), group II (11-15 years), and group III (16-21 years).

RESULTS: We recruited 183 patients with Lower extremity injuries. Arteriorrhaphy was performed in 32%, primary repair and natural grafting in 40.5%, and 49%, respectively. While 10.5% underwent surgical bypass. There is a significant correlation between Mangled Extremity Severity Score and age groups I and II ($P < 0.001$). Different treatment modalities of arterial repair were having the same survival rate ($P < 0.001$). The definitive limb salvage and arterial patency were accomplished in approximately 94% ($P < 0.001$).

CONCLUSIONS: It is highly recommended to using autologous vein graft as a primary treatment option, rather than synthetic materials for repair of vascular injuries. Moreover, other treatment modalities such as; arteriorrhaphy and repair with end-to-end primary vascular anastomosis must be adopted, whenever possible, especially in the limited-resource settings as it is reliable, feasible, with fewer postoperative complications.

ID: **336**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Oral**

CARDIAC INJURY WITH A NAIL-GUN

Serkan Yıldırım

Necmettin Erbakan University School of Medicine, Konya, Turkey

**Corresponding Author (serkaneo1@gmail.com)*

OBJECTIVE

Nail gun injuries primarily occur in the extremities of workers as a consequence of accidental occupational trauma. Such injury involving the thorax is much less common, and penetrating cardiac injury secondary to pneumatic nail gun discharge is rare. Specifically, there have been several reports of penetrating nail gun injuries to the heart, leading to patient presentations varying from asymptomatic to death from exsanguination and cardiac tamponade. These devices can lead to life-threatening injuries that require rapid diagnosis to help guide management.

METHODS

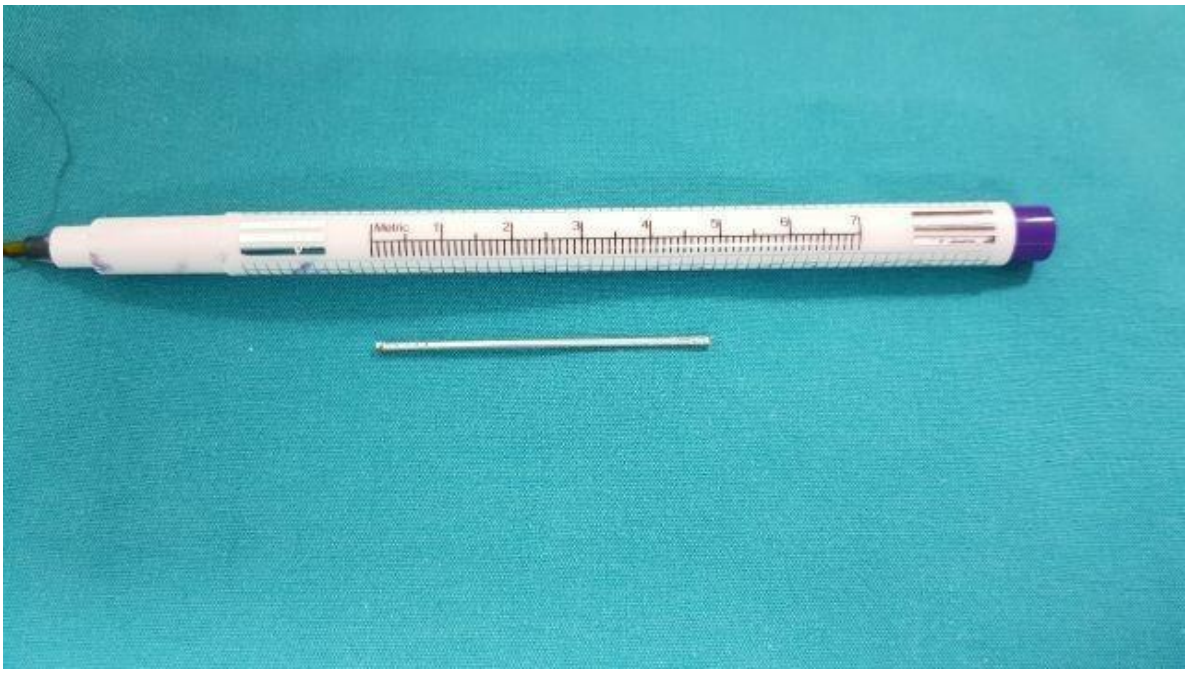
A 59 years old construction worker man admitted to our emergency service after a self-inflicted pneumatic nail gun injury to the left side of the chest. On arrival to our hospital, the patient was hemodynamically stable. Vital signs were: blood pressure 113/72 mm Hg, pulse 118 beats/min, and respirations 16 breaths/min. Lungs were clear with equal breath sounds bilaterally. Physical examination revealed a puncture wound with a fully embedded nail at the left edge of the sternum adjacent to the fifth intercostal space. Chest radiographs demonstrated a 50-mm nail traversing the sternum and anterior mediastinum with likely incursion into the pericardial space.
The trans-thoracic echocardiography showed tamponade findings like right atrial and ventricular compression. The patient was taken to the surgery immediately. Surgery was performed via median sternotomy under general anesthesia. The nail could be seen entering the mediastinum abutting the left pleura and then penetrating the left anterolateral aspect of the pericardium. The pericardium was carefully opened to remove the compression of the right ventricle because of the blood clot and the nail penetrating the anterior wall of the right ventricle. After opening of the pericardium 400 cc hemorrhagic fluid was aspirated. Then 1 cm rupture near the apex of the heart was detected. The rupture was repaired using teflon felt with 4-0 polypropylene. In control there was no bleeding from the repaired area. The nail was removed by the inside of the left thorax. The patient was discharged home 4 days postoperatively.

RESULTS

Penetrating nail gun injuries occur almost exclusively in adult males (97%) and involve the extremities (90%). When penetration of the heart occurs, it most often involves the right ventricle and is associated with cardiac tamponade.

CONCLUSIONS

Nail gun injuries to the heart, although rare, represent a severe injury that sometimes should be treated immediately. Prevention is the key to avoiding nail-gun-associated injuries. All the efforts should focus on improved safety mechanisms as well as improved training and safety education, for the consumer population.



Oral Presentation Session

Surgery for Limb Ischemia

Date: 15.03.2020 Time: 11:45 – 13:00 Hall: 6

ID: **333**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

DIRECT ACCESS TO THE OCCLUDER ARTERY BY OPEN SURGERY IN PERIPHERAL ARTERIAL ISCHEMIA

Mustafa Dağlı

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Critical leg ischemia is a serious condition characterized by progressive atherosclerotic disease of the lower extremity arteries and is usually associated with high rate of unhealed foot wounds, limb loss and mortality.

Timely revascularization treatments play an important role in wound healing and limb salvage.
The traditional antegrade approach to endovascular treatment is unsuccessful in as many as 20% of patients do not exceed obstruction. In this case, different techniques can be used to cross the occluded vessels. Although retrograde access is technically an effective alternative in many patients in cases where antegrade recanalization fails, the presence of a patent artery is required to perform these techniques when previous studies are examined.
However, in some cases even the use of these techniques may not be able to pass through the occluded arteries.
Revascularization technique was applied to total occluded artery by direct open surgery; it may be an effective and alternative approach in many patients where other techniques are not effective.

METHODS

Embolectomy was performed by open surgery on the distal peripheral arteries because of poor foot circulation disorder in only 3 patients who presented to our clinic with acute arterial ischemia in the last year. Two patients were female and one patient was male. The mean age of the women was 71 years. The male patient was 82 years old. Patients underwent emergency embolectomy. In all of these patients, the Fogarty catheter did not progress distally. Since our scopy device was defective, it could not be performed as a hybrid in additional procedures. Artery tibialis posterior and dorsalis pedis were first explored with open surgery. Arteria dorsalis pedicle was thin and arteria tibialis anterior was explored in one patient. Fogarty catheters (2F-3F) are used during embolectomy according to vessel diameter (Image 1).

RESULTS

Two female patients had diabetes mellitus and one had atrial fibrillation. The other female patient underwent holter and arrhythmia attacks were observed. The male patient also had atrial fibrillation. All patients underwent echocardiography. Intracardiac pathology was not detected. A female patient had high homocysteine levels. All patients were coumadized.
In a mean follow-up of 6 months, a female patient had occlusion of the dorsalis pad. However, the patient had no complaints.
One of our female patients developed a low foot due to late admission to the hospital. This patient developed edema in the foot after the operation. however, his ischemic appearance completely disappeared, but his low foot did not improve.

CONCLUSIONS

This approach to the distal peripheral arteries should be tried in cases that are not successful with endovascular and open surgery. It should be remembered that the extremity is a good revascularization technique for wound healing and salvage of the extremity.



ID: **362**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Oral**

CARDIOVASCULAR RESULTS IN PATIENTS UNDERGOING ENDOVASCULAR TREATMENT FOR LOWER EXTREMITY PERIPHERAL ARTERY DISEASE IN THE WESTERN BLACK SEA REGION

Akın Turan

ZBEU, ZONGULDAK, Turkey

**Corresponding Author (akintu@gmail.com)*

OBJECTIVE

To investigate cardiovascular results in patients with lower extremity peripheral artery disease who underwent endovascular treatment in the Western Black Sea region.

METHODS

The results of a 30-month follow-up of patients who underwent lower extremity endovascular therapy in a single center between January 2016 and June 2019 were evaluated. Long-term outcomes and predictors of future CV events were analyzed in 315 patients with 421 affected legs.

RESULTS

18% of cases were treated with claudication intermittent and 82% were treated for critical extremity ischemia (CLI). Compared to Claudicants, the rate of additional concomitant diseases and infected wounds was higher in CLI patients. Thirty-three patients died during the 30-month follow-up. Of these, 23 were cardiovascular. One hundred two of the cases had a non-fatal Case of cardiovascular events. For CLI patients, the independent risk factors of mortality were advanced age, presence of atrial fibrillation, height of body mass index, C reactive protein, dependence on dialysis. Congestive heart failure and dialysis were at risk for major adverse cardiovascular events (MACE). In the Claudication group, coronary artery disease was a significant risk for mortality, MACE, and non-fatal cardiovascular events.

CONCLUSIONS

The results were significantly worse in CLI patients than in claudication patients with long-term survival, and Major Adverse Cardiovascular Events rates.

KEYWORDS: Endovascular treatment, Cardiovascular events, Peripheral artery disease

ID: **426**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

DRUG ELUTING BALLOON ANGIOPLASTY VERSUS BARE-METAL STENT IN TREATING CHRONIC TOTAL OCCLUSION OF FEMORO-POPLITEAL ARTERIAL SEGMENT; A REVIEW OF ONE-YEAR OUTCOME OF 90 PATIENTS WITH TASC C AND D LESION

Ahmed Allam

Benha University, benha, Egypt

**Corresponding Author (ahmed.allam01@fmed.bu.edu.eg)*

Background: Bare metal stent (BMS) scaffolding of superficial femoral artery occlusive lesions has been associated with high rates of late clinical failure. Maintaining the patency of recanalized arterial segments was the main issue behind the concept of leave nothing behind to be evolved and percutaneous balloon angioplasty becomes the preferred option for endovascular therapy. Drug eluting balloons (DEBs) have shown to be an effective alternative to BMS for patients with de novo complex superficial femoral occlusive disease.

Aims: To compare the outcome of DEB versus BMS in treating complex chronic total occlusion (CTO) of superficial femoral and proximal popliteal artery in patients with disabling claudication and critical limb ischemia regarding technical success, primary patency, clinically driven target lesion revascularization (cd-TLR), and limb salvage rate.

Methods and Material: 90 patients (110 limbs) were complaining of disabling and critical limb ischemia due to complex femoro-popliteal occlusive lesions were randomly allocated into two groups according to the intervention method performed. Group (A); 48 patients (57 limbs) were submitted for treatment with paclitaxel DEBs and Group (B); 42 patients (53 limbs) submitted for treatment with BMS. Follow-up period was for 1, 6 and 12.

Results: The Bare Metal Stents seem to have lower patency and higher cd-TLR rates compared to patients who received Paclitaxel Drug Coated Balloons but not statistically significant. The primary patency rates were 100%, 96%, 86.2%at 1, 6, 12 months respectively in DEB group, Vs 100%, 89.8%, 77.6% at 1, 6, 12 months respectively in BMS group. Clinically driven TLR rates were 2%, 7.8% at 6, 12 months respectively in DEB group Vs 6.1%, 14.2% at 6, 12 months respectively in BMS group.

Conclusions: Percutaneous therapy for TASC C and D femoro-popliteal lesion using DEB or BMS are both safe and effective with one-year high patency rate. Paclitaxel Drug Elluting Balloons seem to have a promising important role in prevention of restenosis and recurrence of peripheral arterial occlusive disease. However, stents are still playing important bailout role in the treatment of residual stenosis and dissection. Further follow-up is essential to obtain and document long-term outcome of different percutaneous therapy for complex and long SFA lesions.

ID: **45**

Topic: **Cardiovascular Surgery » Hybrid Cardiovascular Surgery**

Presentation Type: **Oral**

REVASCULARIZATION FOR LONG CHRONIC TOTAL OCCLUSIONS OF SUPERFICIAL FEMORAL ARTERY WITH COMPROMISED CRURAL RUNOFF IN PATIENTS WITH CRITICAL LIMB ISCHEMIA

Kuchay Arshed[1], Lipin Aleksandr[1,2], Kurianov Pavel[1], Antropov Aleksei[1], Atmadzas Kiril[1]

1Limb Salvage Centre, City Hospital no.14. Saint Petersburg, Russian Federation

2 S.M. Kirov Military Medical Academy. Saint Petersburg, Russian Federation

[*]Corresponding Author (drarshedcvs@gmail.com)

Background: The study assessed the outcome of hybrid interventions done in patients with long chronic total occlusions (CTO) of the superficial femoral artery (SFA), patent proximal popliteal artery and extensive crural runoff disease. A series of conventional femoral tibial bypasses was used as historic control.

Material and methods: Hybrid interventions were done in 40 patients (mean age 69.5 years), all with Rutherford class 5-6 disease, long (>200 mm) SFA CTO accompanied by either CTO of distal popliteal artery (n=9; 22.5%); CTO of all crural arteries (n=26; 65%) or CTO of all crural arteries but the peronea (n=7; 17.5%).We performed femoropopliteal bypass in all patients (100%) followed by balloon angioplasty of distal popliteal and/or crural arteries done either on the same day (n=22; 55%) or 2-14 days later (n=18; 45%). Direct angiosomic revascularization was achieved in 36 patients (90%). A series of 46 consecutive patients with CLI who underwent femoral tibial was used as a historic control.

Results: The 30-day mortality and graft failure rate were 2.5% vs 4.3% ($p>0.05$) and 5% vs 13% ($p<0.05$) after hybrid and tibial bypass interventions, respectively.
At 1 year the primary patency of bypass and amputation-free survival were 77.7% (95% CI 61.7-93.7) vs 57.1% (95% CI 42.9-71.3) and 82.1% (95% CI 66.8-97.4) vs 69.6% (95% CI 56.1-83.1) after hybrid intervention and tibial bypass, respectively (all non-significant).

Conclusion: Compared to femoral tibial bypass, the hybrid intervention tended to have lower rate of early bypass failure with no significant difference in the long-term patency and amputation-free survival.

ID: **260**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

HYBRID PERIPHERIC INTERVENTIONS FOR THE CRITICAL LIMB ISCHEMIA PATIENTS

Funda Yildirim[1], Dilşad Şenarslan[2], **Barış Bayram**[3], Abdülkerim Damar[3], Ömer Tetik[4]

[1]*Manisa Celal Bayar University Medical Faculty, Manisa, Turkey*

[2]*Manisa Celal Bayar University Medical Faculty, İzmir, Turkey*

[3]*Manisa Celal Bayar University, Manisa, Turkey*

[4]*Manisa Celal Bayar Unniversity, Manisa, Turkey*

[*]*Corresponding Author (fundanizamoglu@yahoo.com)*

Objective

The high risk patients suffering from critical limb ischemia due to multilevel arterial obstructive disease is an important clinical condition and their prevalence is growing rapidly. We presented here our surgical experience with critical limb ischemia patients with either TASC D aortoiliac disease or TASD D femoropopliteal disease.

Methods

In our center, 25 patients treated with both intervention and surgery as hybrid approach for the last year. 18 patients had femoropopliteal bypass (10 PTFE graft, 8 saphenous vein were used as conduit), 2 patients had femorofemoral bypass and 5 patients had femoral thromboendarterectomy and patch plasty operations. Percutaneous transluminal angioplasty (PTA) were performed at aortoiliac level in 23 patients and 15 iliac stents were applied. 8 PTA were performed at femoropopliteal level and lastly 3 PTA were done at infragenicular level. The patients had multiple risk factors and 12 of patients had previous intervention history and one patient had popliteal artery aneurysm with occlusive disease.

Results

As a result, the patients presented with critical limb ischemia were treated by both surgically and balloon angioplasty, stenting at multilevel arterial occlusive disease. The postprocedural revascularisation success was good and the symptoms were decreased. The pedal pulses were palpable. The ABI was increased after the treatment up to normal levels. The ischemic wound healing was observed in short period of time ranging from two weeks to eight weeks. The meticulous risk factor control and medical therapy were also applied for all patients. The best medical therapy was including dual antiplatelet therapy, cilastazol and antilipid agents.

Conclusions

The hybrid operating techniques are often useful when treating complex problems and multilevel disease in patients with chronic or acute lower limb ischemia. This type of approach may result in excellent early patency and limb salvage rates. The simultaneously performed hybrid peripheric operations for the critical limb ischemia patients may be the preferred treatment option.

ID: **541**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Oral**

ASSOCIATION OF ARTERIAL THROMBOEMBOLISM LOCATION WITH PRESENCE OF NONVALVULAR ATRIAL FIBRILLATION

Feryaz Kızıltan[1], Emre Demir Benli[2], **Seyhan Yılmaz**[3], Mehmet Kalender[4], Serdar Günaydın[5]

[1]*Ümraniye EAH, Istanbul, Turkey*

[2]*Memorial Hastanesi, Diyarbakır, Turkey*

[3]*Amasya üniversitesi Tıp Fakültesi, Amasya, Turkey*

[4]*Derince EAH, Kocaeli, Turkey*

[5]*Ankara Şehir Hastanesi, Ankara, Turkey*

[*]*Corresponding Author (k.feryaz@gmail.com)*

Objectives: Since nonvalvular atrial fibrillation is persistent in nature, patients with chronic nonvalvular atrial fibrillation are at life-time risk for development of thromboembolic events. Several novel oral anticoagulants have entered the market and there has been a growing body of evidence regarding their efficacy in prevention of ischemic stroke and arterial thromboembolism. The present study sought to compare the baseline characteristics between patients presenting with upper and lower extremity arterial thromboembolism developed secondary to nonvalvular atrial fibrillation.

Methods: This retrospective study was made up of patients presenting with acute upper or lower extremity arterial thromboembolism as the first presentation of atrial fibrillation. Patients were included if they had acute upper or lower critical limb ischemia symptoms lasting for less than one week. Patients in whom chronic peripheral artery disease was diagnosed were also excluded to prevent potential confounding.

Results: Overall, 46.9% of patients presented with upper extremity arterial thromboembolism and 53.1% of patients presented with lower extremity arterial thromboembolism. None of the baseline characteristics showed significant difference between patients with upper and lower extremity arterial thrombosis.

Conclusion: It was observed that there was no significant difference in the incidence of extremity involvement of acute arterial thromboembolism occurring in patients with nonvalvular atrial fibrillation in our study, and we think that acute arterial thromboembolism must be taken into consideration as one of the first signs and symptoms of atrial fibrillation.

Left Ventricular Asist Device and Cardiac Transplantation

ID: **393**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Poster**

HOME MONITORING IS ASSOCIATED WITH FEWER GASTROINTESTINAL BLEEDING EVENTS FOLLOWING ASSIST DEVICE IMPLANTATION

Aggelıkı Gkouzıouta[1], E Fountas[1], D Mılıopoulos[1], S. Adamopoulos[1], N. Kogerakıs[2]

[1]*ONASSIS CARDIAC SURGERY CENTRE, ATHENS, Greece*

[2]*ONASSIS CARDIAC SURGERY CENTRE, ATHENS, Greece*

[*]*Corresponding Author (agkouziouta@yahoo.gr)*

Background: Patients (pts) treated with a continuous flow left ventricular assist device (LVAD) are at increased risk for both bleeding and thromboembolic events. Maintenance of oral anticoagulation (AC) in the therapeutic range is difficult to achieve.

Methods: Increased frequency of international normalized ratio (INR) home monitoring (HM) decreases the incidence of gastrointestinal bleeding and thromboembolic events (stroke, pump thrombosis) compared to standard of care (SOC).

Methods: We analyzed the efficacy of outpatient AC monitoring in consecutive pts who underwent VAD implantation at our institution between 2008-2018. Time in therapeutic range (TTR) was defined as percent of time with INR 2.5-2.8. HM pts had biweekly INR measurements using the Coagucheck XS ROCHE, while SOC pts had INR measured every 1-3 weeks. Gastrointestinal bleeding (GIB) and thromboembolic events were assessed by retrospective blinded chart review. Logistic regression was used to model the impact of TTR on the risk of GIB and THROMB.

Results: There were 85 pts: 44 in HM and 40 in SC arm with similar characteristics. SOC patients were more likely to have ischemic cardiomyopathy (63% vs 30%, p=0.006) and an LVAD (60% vs 25%, p=0.002). The use of HM was associated with a 19.7% reduction in the risk of GIB (8.8% vs 28.5%, p=0.043) and a trend towards lower risk of THROMB (6.8% vs 14.9%, p=0.19). HM pts had significantly longer TTR (52±20% vs 39±22%, p=0.007). Each percentage increase in TTR was associated with a 5.2% decrease in the risk of GIB [Odds Ratio (OR) 0.95, 95% Confidence Interval (CI) 0.91-0.99, p=0.009] even after adjustment for aspirin use and monitoring duration (OR 0.95, 95% CI 0.91-0.99, p=0.020). There was a similar decrease in the risk of overall bleeding (OR 0.94, 95% CI 0.90-0.98, p=0.008).

Conclusions: Increased frequency of home INR monitoring achieved a higher TTR and was associated with a 20% reduction in risk of gastrointestinal bleeding.

ID: **214**

Topic: **Cardiology » Dilated Cardiomyopathy**

Presentation Type: **Poster**

DILATED CARDIOMYOPATHY IS A SERIOUS AND RARE COMPLICATION OF THE LITTLE-KNOWN CHRONIC HYPOCALCEMIA

Zeıne El Abasse, Bah Ali Rida

CHU IBNO ROCHD, CASABLANCA, Morocco

**Corresponding Author (abassedr@gmail.com)*

Dilated cardiomyopathy (CMD) is a serious and rare complication of the little-known chronic hypocalcemia, the etiologies of which are multiple and dominated by hypoparathyroidism. The peculiarity of this CMD entity comes from the fact that it is reversible to different degrees after the correction of hypocalcemia, this reversibility depends on the earliness and effectiveness of its early management of any hypocalcemia. We report two cases of complicated post-surgical hypoparathyroidism of CMD.
Observation 1: patient aged 60 years who had an anterior history of thyroidectomy 15 years ago. Hospitalized for generalized seizures without context of apyrexia. On examination finds an Arterial Tansion = 100/60 mm Hg and systolic murmur in the mitral focus 3/6 th and a sign of positive chvostek and keychain.
Echocardiogram: sinus without repolaisation disorder
Echotransthoracique: objective a dilated cardiomyopathy with a global hypokinesia FEVG = 40%.
Observation 2: 30-year-old patient who had a thyroidectomy as ANTECEDANTS 7 years ago, admitted for a tetany crisis, whose examination found a BP = 90/50 with a blast at the tricuspid focus 2/6 th.
Echocardiogram: shows a sinus tachycardia with a negative lateral t.
Echotransthoracic: CMD with global hypokinesia with FEVG = 30%.
The evolution was marked by an improvement in the LVEF of the first patient goes to 50% under optimized medical treatment with a correction of hypocalcemia, while for the second patient her condition remained stationary without improvement in the LVEF.

ID: **85**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Poster**

BONE METABOLISM DISORDERS IN PATIENTS WITH CHRONIC HEART FAILURE BEFORE AND AFTER HEART TRANSPLANTATION

Volha Sujayeva

Republican Scientific and Practical Centre "Cardiology", Minsk, Belarus

**Corresponding Author (sujayeva@bk.ru)*

Objective: to estimate bone metabolism disorders in patients with heart failure (HF) before and after heart transplantation (HT).

Methods: We examined 70 patients aged 53.6±9.6 years, 7 (10 %) of them were female. Dilated cardiomyopathy (DCMP) was the cause of HF in 23 (33 %), ischemic CMP – in 29 (41%), other CMP - in 18 (26%) of 70 patients. In 54 of 70 pts HT was performed in terms of 1 to 28 (average 10.6±8.1) months before, another 16 pts were put in to the "waiting list" of HT. 41 (59%) of 70 pts had hypertension, 13 (19%) had diabetes melitus, and 25 (36%) had chronic kidney disease (CKD). We performed in all pts transthoracic echocardiography(TTEchoCG), daily monitoring of electrocardiogram (DMECG), 6-minute walking test, dual-energy x-ray absorptiometry (DXRA), morphometry, FRAX questionnaire, Minnesota Living with Heart Failure Questionnaire (MLHFQ) for objectification of the functional status of the circulatory system, detection of disorders of bone metabolism, control of efficacy and safety of drug and physical aspects of rehabilitation in all included in the study. Laboratory diagnostics included: blood sample test, biochemical blood analysis with determination of lipid spectrum and glucose, interleukin-6 (IL-6), C-reactive protein (CRP), determination of calcium-phosphorus metabolism (total and ionized calcium, creatinine, phosphorus), determination of bone metabolism (alkaline phosphatase, osteocalcin, β-crossLaps).

Results and discussions: According to DXRA data, 78% of patients with HF before HT had ostopenia, osteoporosis was observed in 22% of the 16 pts, asymptomatic vertebral fractures were diagnosed in 11% of patients according to morphometry. Before surgery, all individuals with impaired bone metabolism had a low fracture risk calculated using the FRAX tool and averaged 2.1±1.2 points. After HT, osteopenia was detected in 73% of 54 pts, osteoporosis - in 19%, asymptomatic vertebral fractures - in 16%. According to the FRAX scale, only 8% of 54 pts after HT had a moderate risk of fractures, and it was low in all those who had asymptomatic vertebral fractures according to morphometry. All fractures in patients before and after HT developed in persons who did not have osteoporosis, in 83% of cases - against a background of minor osteopenia in 1-2 segments, in 13% of cases – with normal values of bone mineral density (BMD) in all analyzed areas. All posttransplant fractures were 2 times more likely to develop within 1 year after surgery.

Conclusion: Patients with heart failure before and after heart transplantation need a comprehensive assessment of metabolic disorders of bone tissue

ID: **395**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **Poster**

CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTIONS IN INOTROPE DEPENDENT PATIENTS WAITING FOR HEART TRANSPLANTATION

A Gkouzıouta, D Mılıopoulos, Chryssa Panagıotou, S Adamopoulos

ONASSIS CARDIAC SURGERY CENTRE, ATHENS, Greece

**Corresponding Author (agkouziouta@yahoo.gr)*

Background: Patients with advanced heart failure waiting for heart transplantation characterized as Status 1A require high-dose inotropes. Central line-associated bloodstream infection (CLABSI) is a severe complication in such patients.

Methods: We retrospectively studied 95 patients listed as Status 1A between 2003 and 2018 at our institution. Characteristics of the CLABSIs were further assessed. Logistic regression analysis was used to identify predictors of CLASBIs.

Results: The majority of our patients were men (82%). At the time of listing, mean age was 47±10 years and there were 52 (51%) past smokers with 27 (27%) diabetics. Ischemic disease was the etiology of cardiomyopathy in 39 (39%) patients and implantable defibrillators were present in 50 patients. The mean creatinine at time of listing was 1.37±0.3 mg/dL, while the mean BMI was 28±4 kg/m2. There were 14 (16%) patients who experienced a total of 19 CLABSIs. Among those with CLABSIs, a median of 6 PAC procedures (mean 7.3±5.3) were performed, with 44% placed in the internal jugular vein, 44% in subclavian vein and the remainder in the femoral vein. Patients who developed CLABSIs had catheters in place for a mean duration of 158±90. Co-agulase negative staphylococcus (CNS) was the pathogen in the majority of the cases. CLABSIs and Staphylococcus aureus was the cause for another 6 CLABSIs . The mean time to first CLABSI was 86±77 after being listed as Status 1A. The mean duration to CLABSI from catheter placement was mean: 15±11. Age, history of smoking, obesity, diabetes and renal dysfunction were not associated with CLABSIs.

Conclusions: Among heart failure patients listed as Status 1A for heart transplantation, nearly a quarter of all patients developed CLABSIs, leading to a downgrade of the status on the transplant waiting list. CNS was the most common pathogen.

ID: **83**

Topic: **Cardiology » Cardiac Resynchronization Therapy**

Presentation Type: **Poster**

VITAMIN D DEFICIENCY IN PATIENTS WITH HEART FAILURE AND METABOLIC SYNDROME

Leonid Pimenov[1], Tatyana Chernyshova[1], Artur Valinurov[2], Evgenij Varenik[1]

[1]Izhevsk State medical academy, Izhevsk, Russia

[2]Izhevsk State medical academy, Izhevsk, United States

[*]Corresponding Author (mr-valinurov@yandex.ru)

BACKGROUND: Currently, more than 1 billion people are suffering from vitamin B deficiency worldwide. According to traditional estimates and the recommendations of the Institute of Medicine of the USA (IOM), vitamin D deficiency is defined as a concentration of 25 (OH) D in serum of less than 20 ng / ml, severe deficiency in a concentration of less than 10 ng / ml. Vitamin D deficiency is a concentration of 25 (OH) D in the range of 21-29 ng / ml.

METHODS: The study was conducted on the basis of the City Clinical Hospital No 9 among patients admitted on an emergency basis with symptoms of congestive heart failure. 16 people were examined, of which 14 people (87.5%) with heart failure 2 stage B, 2 people (12.5%) with heart failure 2 stage A, 14 people (87.5%) had metabolic syndrome. The study group included 11 women (68.75%) and 5 men (31.25%). The average age was 70.0 years. Patients were tested for vitamin D levels (in 100% of cases), PTH (75%), calcium (93.75%), magnesium (93.75%), objective status assessment, MT, GFR in 100% of cases.

RESULTS: The rate of magnesia for people living in our region was 0.82-1.02 mmol / L, the rate of calciumemia was 2.24-2.44 mmol / L. In 5 cases (35.7%), an increase in blood magnesium levels was detected. The level of calcium went beyond the norm in 40% of the studied. When calculating the body mass index (BMI), there was a weight deficit in 1 patient (6.25%), normal body weight in 2 patients (12.5%), overweight in 1 patients (6.25%), and grade I obesity in 2 patients (12.5%), grade II obesity in 5 patients (31.25%), grade III obesity in 5 patients (31.25%). Among patients with a BMI> 25 kg / m2, severe vitamin D deficiency was detected in 5 subjects (31.25%), deficiency - in 7 patients (43.75%)

CONCLUSIONS: It has been established that chronic heart failure is accompanied by a deficiency of vitamin D. A pattern of progressive decrease in GFR with severe vitamin D deficiency has been identified. Significant changes in the level of calcium and magnesium in the blood have not been identified in CHF 2 A and 2 B stages. Low serum vitamin D levels are associated with overweight and metabolic syndrome.

ID: **385**

Topic: **Cardiology » Acute heart failure**

Presentation Type: **Poster**

ENERGY DRINK ASSOCIATED CARDIOMYOPATHY

Muhammet Uyanık, Ömer Gedikli, Ufuk Yıldırım

Ondokuzmayis University, samsun, Turkey

**Corresponding Author (muhammetuyanik@hotmail.com)*

Uncontrolled consumption of energy drinks is becoming widespread in the young population. Basic components of energy drinks include caffeine, guarana, taurine, ginseng, and sugar. Although the amount of amino acid and caffeine in it is low, toxic level (4 g / day caffeine) can be exceeded with excessive consumption. It has been associated with cardiovascular events such as tachycardia and myocardial infarction in the literature. However, there exists limited evidence regarding its effects on acute heart failure and cardiomyopathy.

In the presenting case, a 24-year-old male patient was admitted to the emergency department with complaints of dyspnea, which had gradually increased over the past week. Her medical history and family history were unremarkable. It was learned that he had consumed 8-10 cans/day (3.5-4 Liters/day) energy drink during the two weeks prior to the hospital admission. He stated that dyspnea and fatigue occurred three days after the first energy drink consumption. Physical examination revealed orthopnea, bilateral diffuse rales, and 2+ pretibial edema. ECG recording showed sinus rhythm with a heart rate of 110 beat/minute and T wave inversion in leads V4-V6. Chest X-ray demonstrated a consolidated area in the right lower zones. Thorax computed tomography revealed pulmonary edema and pleural effusion. Echocardiography showed that left ventricular EF was 25% with global left ventricular hypokinesia and dilated left ventricular dimensions. The patient was diagnosed as acute heart failure and hospitalized. The etiologic investigation was performed after diuretic treatment and the relief of symptoms. Coronary angiography demonstrated normal coronary arteries. On cardiac MRI, the left ventricle was dilated and the systolic function was reduced, and no pathological enhancement was observed (Figure 1-A). Three months later, there was no improvement in echocardiographic parameters at the control visit.

This case report and many previous studies support a possible link between caffeinated energy drinks and cardiovascular events. Physicians should be aware of the risk of cardiomyopathy and arrhythmogenicity associated with the energy drink, and the use of these products should be questioned, especially in the young age group with unexplained heart failure. Further studies are required to better understand the relationship between energy drink consumption and cardiomyopathy.

ID: **442**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Poster**

PERCUTANEOUS CLOSURE SHOULD BE GIVEN A CHANCE IN PATENT DUCTUS ARTERIOSUS WITH SEVERE PULMANRY HYPERTENSION

Ömer Tepe[1], Çağlar Özmen[1], Ali Deniz[2], Rabia Eker Akıllı[2], Nazan Özbarlas[3], Mehmet Şah Topçuoğlu[4]

[1]*Department of Cardiology, Çukurova University Faculty of Medicine, Adana, Turkey*

[2]*Department of Cardiology, Çukurova University Faculty of Medicine, Adana, Turkey*

[3]*Department of Pediatric Cardiology, Çukurova University Faculty of Medicine, Adana, Turkey*

[4]*Department of Cardiovascular Surgery, Çukurova University Faculty of Medicine, Adana, Turkey*

[*]*Corresponding Author (omer.tepe@windowslive.com)*

Abstract:
Angiographic determination of morphological structure plays an important role in device selection during transcatheter Patent Ductus Arteriosus (PDA) closure. PDA can be closed surgically and percutaneously. Unless irreversible pulmonary vascular disease develops, it is recommended to close the defect to protect the patient from possible infective endocarditis, even if the shunt is small. However, in patients with high irreversible pulmonary arterial pressure, response to selective vasodilator therapies for pulmonary arterial hypertension should be reevaluated for closure. Today, the most commonly used methods for PDA closure are coil and PDA closing devices (exp ADO-1 and ADO-II).

Case:
A 24-year-old female patient was admitted to our clinic with dyspnea on exertion. There was a continuous murmur on the pulmonary focus. Transthoracic echocardiography showed ejection fraction of 63%, moderate tricuspid valve regurgitation (2/4), and pulmonary artery was measured as wide (33mm). In the parasternal short axis image, a large PDA (19 mm) was detected.

Results:
In echocardiography, pulmonary artery systolic pressure was measured 110 mmHg. Then, we has done right heart catheterization, we calculated mean PAB at 65 mmHg and pulmonary vascular resistance (PVR) at 76 dyne / sec / cm-5. PAH specific treatment (Endothelin Receptor Antagonists) was started the patient. Two months later, pulmonary artery systolic pressure decreased to 50 mmHg on echo and 35mmHg on catheterization. Then, PDA closure was planned. Because of the very large PDA, we planned to close with ASD devices (22 mm) (Figure 1). When the patient developed sudden dyspnea 6 hours after the procedure, the closure device was embolized to the right pulmonary artery in the scopy image. It was decided to take the device with the snare (Figure 3). The patient underwent PDA closure surgery. After surgery, pulmonary hypertension treatment was continued for 6 months. No increase was observed in PABs in control echocardiographic follow-up. The patient's dyspnea complaint regressed.

Conclusions:

Each congenital heart diseases with high pulmonary artery pressure case should not be considered inoperable. It should be kept in mind that it may be reversible PAH and benefit from PAH-specific therapy. In case of improvement in hemodynamic and echocardiographic data after PAH-specific treatment, patients should be reevaluated for percutaneous PDA and ASD closure.


- Core
Coronary

ID: **221**

Topic: **Cardiology » PI for SHD - ASD,VSD,PDA closure**

Presentation Type: **Poster**

PERCUTANEOUS CLOSURE SHOULD BE GIVEN A CHANGE IN PDA WITH SEVERE PULMANRY HYPERTENSION

Ömer Tepe[1], Çağlar Özmen[1], Ali Deniz[1], Rabia Eker Akıllı [1], Mehmet Şah Topçuoğlu[2]

[1]*Çukurova Üniversitesi , Adana , Turkey*

[2]*Çukurova Üniversitesi , Adana, Turkey*

[*]*Corresponding Author (omer.tepe@windowslive.com)*

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CONCULIONS:
Each congenital heart diseases with high pulmonary artery pressure case should not be considered inoperable. It should be kept in mind that it may be reversible PAH and benefit from PAH-specific therapy. In case of improvement in hemodynamic and echocardiographic data after PAH-specific treatment, patients should be reevaluated for percutaneous PDA and ASD closure.


Cukurova
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ID: **508**

Topic: **Cardiology » PI for SHD - ASD, VSD, PDA closure**

Presentation Type: **Poster**

AN UNUSUAL TRANSCATHETER CLOSURE OF THE POST-MI VSD

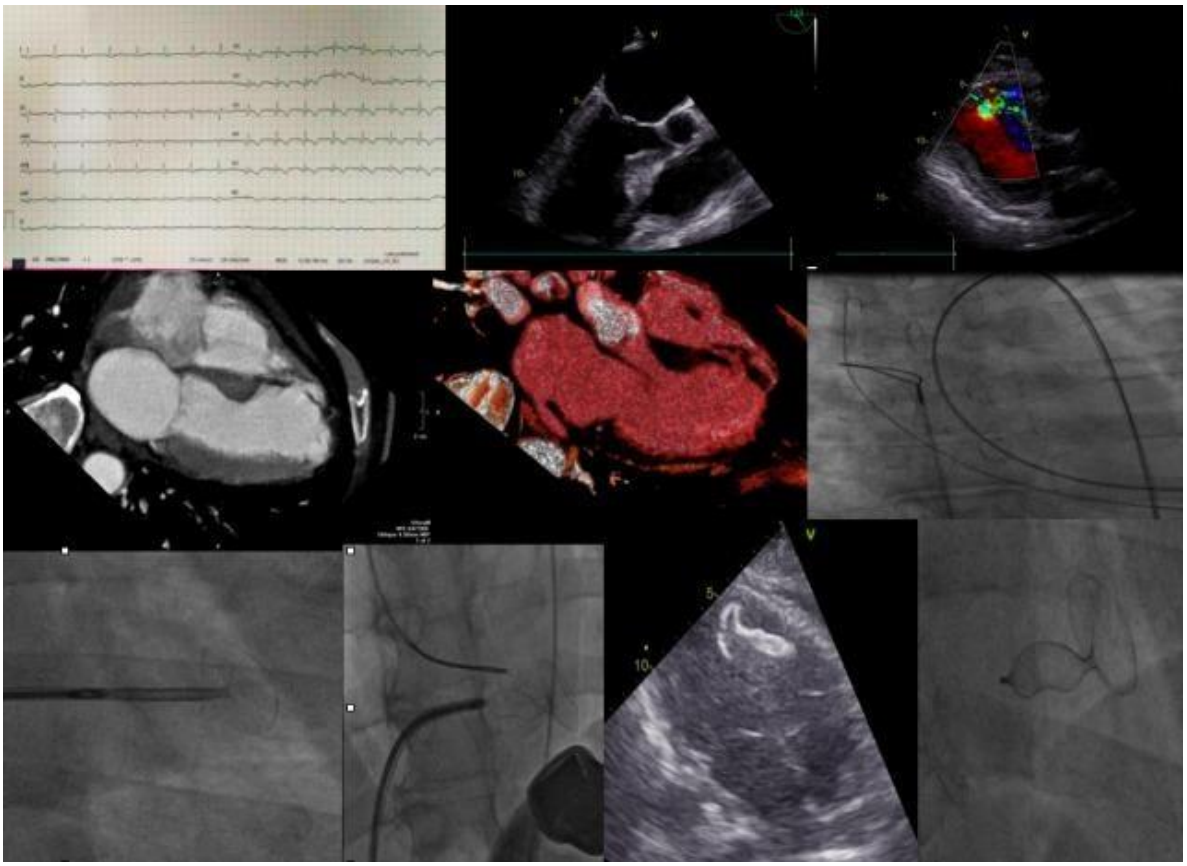
Sıddık Erdoğan[1], Mustafa Demir[2], Ömer Faruk Keskin[1], Atila Iyisoy[1]

[1]*Gülhane Training and Research Hospital, Ankara, Turkey*

[2]*Private Denizli Tekden Hospital, Denizli, Turkey*

[*]*Corresponding Author (serdoganizmir@hotmail.com)*

A 75-year-old male patient was referred to our clinic for treatment of advance heart failure due to recurrent extensive anterior wall MI. On physical examination, BP was 80/50 mmHg, heart rate was regular and 100 beats/min and diffuse lung crackles were present in both lungs. And also, a new pan-systolic severe murmur was detected. Transthoracic Echocardiography (TTE) and Transesophageal Echocardiography (TEE) showed LVEF %40, anteroseptal akinesia and an apical VSD approximately 10 mm length with color doppler. Cardiac CT angiography analysis revealed there was a 13x18 mm defect with thin in the mid and apical muscular septum. In addition, the right ventricular side of the defect was limited to the trabecular muscles. Our heart team decided to transcatheter closure of VSD because of high surgical risk for this clinical situation. The left ventriculography was performed with a pig-tail catheter showed the presence of a large, muscular VSD in the anterior apical location on RAO projection. After ventriculography, a hydrophilic guide wire was advanced from left ventricle to the right ventricle via right judkins catheter through the defect. After that hydrophilic guide-wire was exchanged with 0.035 inch 300 cm guide wire. This exchange wire was snared in the SVC and extruded via the right femoral vein to form an arteriovenous wire loop. 9 Fr. long delivery sheath was advanced from the right femoral vein to the right ventricle (RV), and crossed the VSD to LV on the wire. A 15 mm ASD closure device was loaded and advanced into LV. The distal disc was opened without any problem and pulled back onto the left ventricular side of the septum under echocardiographic guidance. However, proximal disc opening was not optimal due to the trabecular muscles of the right ventricular. The proximal part of the device did not take its optimal shape so this part was stretched out oddly. Nonetheless, when the Minnesota maneuver was performed under the fluoroscopy, the device did not move and was stable. So, the device was then released. The procedure was successfully terminated without any complication. TTE demonstrated that the device was in a good position with minimal residual shunt. The patient was discharged three days after the procedure. In the control TTE performed one month after the procedure, the intracardiac shunt almost completely disappeared.



ID: **98**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **Poster**

ACUTE UPPER EXTREMITY ARTERIAL OCCLUSION IN A YOUNG PATIENT

Aslı Kurtar Mansıroğlu

Abant İzzet Baysal Üniversitesi Eğitim ve Araştırma Hastanesi, Bolu, Turkey

**Corresponding Author (dr.asli.kurtar@gmail.com)*

Acute artery occlusion is a real emergency that threatens the vitality of the extremity and the patient.

A 38-year-old female patient who had no previous risk factors other than smoking history was admitted to the emergency department with sudden onset complaints of pallor, coldness, and pain in her right hand. It was learned that there was a history of recurrent miscarriage in her history, but these abortions were not investigated adequately. On arrival at the emergency department, blood pressure 125/67mmHg, heart rate 68 / min; physical examination of the right radial, ulnar and brachial artery pulses were not palpable. Upper extremity computed tomography angiography performed with a preliminary diagnosis of acute arterial occlusion revealed distal occlusion of the right brachial artery, and preliminary diagnoses of thrombosis and dissection were consulted for cardiovascular surgery for further investigation and treatment. The patient underwent emergency endarterectomy by cardiovascular surgery. The patient was referred to the cardiology department because of the persistence of the complaints in the post-op follow-up and the absence of palpable arterial pulses. The cardiac evaluation revealed normal sinus rhythm on electrocardiogram and transthoracic echocardiography showed no signs of cardioembolic focus. Upper extremity angiography revealed total occlusion of the brachial artery at mid-level. The lesion was passed with 0.35 wires and exchanged with 0.14 wire under the support of microcatheter. Followed by dilatation with a 30x10mm balloon at 10-15 atm pressure. In case of insufficient flow in the distal region, 2 mg t-pa was pushed to the intense thrombus and then the infusion catheter was left in the lesion area and the patient was followed up with iv thrombolytic therapy at a dose of 1 mg/hour for 24 hours. At the end of the infusion, the control angiography procedure was repeated and the occlusion level decreased distally and residual 80% diffuse stenosis showed partial recanalization. In the follow-up of the patient, it was observed that her complaints decreased, her hand warmed and the radial and ulnar pulses could be taken even though weakly and the capillary filling time was measured <3,5 sec. It was planned oral anticoagulant therapy with warfarin at the target level of INR was 2-3. In the outpatient clinic follow-up, the right-handed patient was consulted to the physical therapy and rehabilitation department for rehabilitation purposes. The etiology research of the patient was performed with genetic and rheumatology tests. In the rheumatology and thrombophilia panel, no pathology was observed; but in the genetic tests plasminogen activator inhibitor -1 (PAI-1) /serpine 1 gene mutation analysis was homozygous and methylenetetrahydrofolate reductase (MTHFR) gene mutation analysis was heterozygous. The patient was then consulted with the Medical Genetics department for genetic and additional advice. Acute arterial occlusion requires a multidisciplinary approach in addition to urgent intervention. It was reported as acute artery occlusion of upper extremity rate in all acute extremity occlusions is 17%. The most common cause in elderly patients is atherosclerotic thrombosis, while embolism and nonatherosclerotic thrombosis are the common etiologies of young patients. The exclusion of genetic mutations is particularly important in young patients as in our patient.




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ID: **531**

Topic: **Cardiology » Interventions for peripheral arterial diseases**

Presentation Type: **Poster**

PERCUTANEOUS OPENING OF THE EXTERNAL ILIAC AND SUPERFICIAL FEMORAL ARTERY TOTAL OCCLUSION THROUGH THE ANTERIOR TIBIALIS ARTERY WHICH IS A VERY RARE ACCESS METHOD

Şaban Keleşoğlu

KAYSERİ CITY HOSPITAL, KAYSERI, Turkey

**Corresponding Author (dr.s.k@hotmail.com)*

A 59-year-old male patient with a history of coronary artery disease that has a complaint of pain in the right leg for the last 6 months was admitted to our clinic. Physical examination revealed that right femoral artery pulses were weakened. In the lower extremity doppler usg, there was no flow in the mid-right superficial femoral artery and suspicion of Right external Iliac Artery Occlusion. Observations from the results of Lower Extremity Angiography on the patient shows that: subtotal occlusion of the right external iliac artery((REİA),total occlusion of the right superficial femoral artery (RSFA) and right popliteal artery which is filled with collateral arteries.(MOVIE 1-4) Percutaneous peripheral arterial intervention was planned with the decision of the cardiology and cardiovascular surgery council. For that purpose, a 7f sheat was inserted from the left femoral artery and by the right coronary artery catheter was returned to the left main iliac artery. 5f sheat was placed from right tibialis anterior artery thanks to opaque was given under scopy through that catheter(MOVIE 5-6) .The distal abdominal aorta was reached by passing the SFA and EIA lesions with retrograde route with 0.035 135 cm microcatheter support and 0.035 190 cm hydrophilic guide.(MOVIE 8) The true lumen was confirmed with opaque which was given from the microcater and then the hydrophilic wire was changed with 0.018 190 cm wire which is exstrasupport feature . A 5*200 mm balloon was dilated at 8-10 atm from EİA to popliteal artery. (MOVIE -9) A 7*100 mm self-expendable stent was implanted in the EIA lesion site. (MOVIE 13). Complete openness was achieved in the EIA and SFA (MOVIE 14-15).

ID: **99**

Topic: **Cardiology » Interventions for peripheral arterial diseases**

Presentation Type: **Poster**

ACUTE MESENTERIC ISCHEMIA IN ELDERLY PATIENT WITH ATRIAL FIBRILLATION

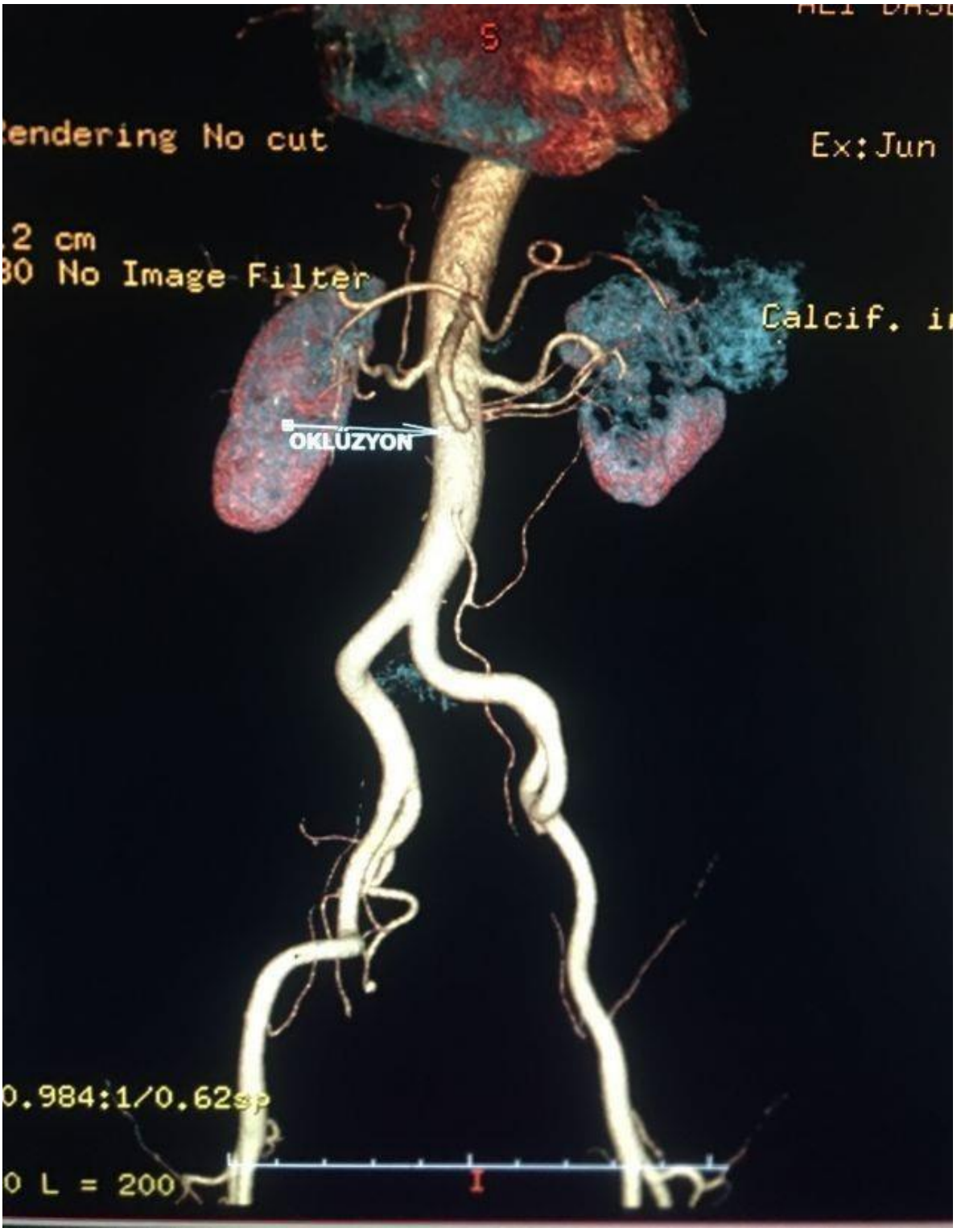
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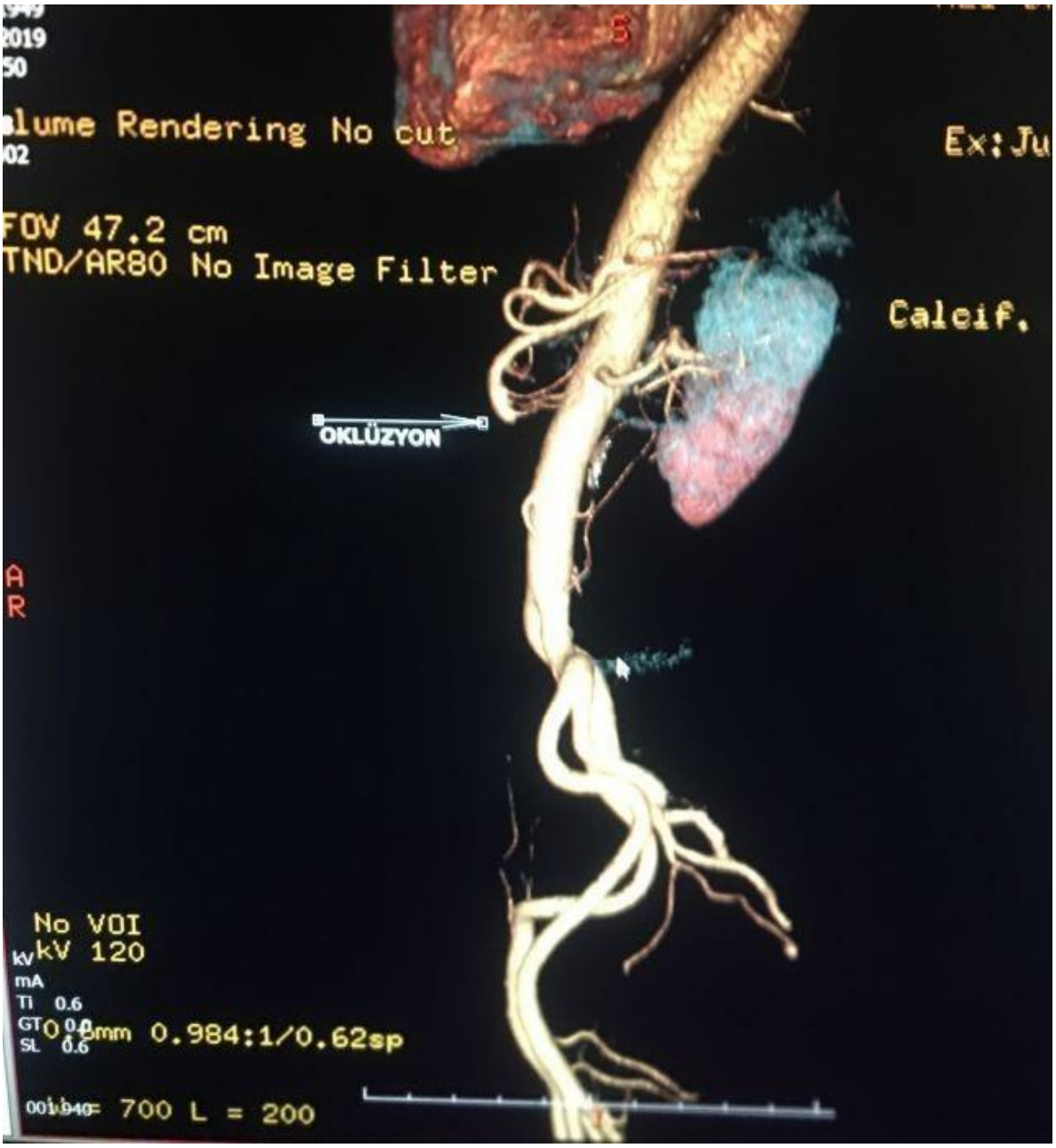
Abant İzzet Baysal Üniversitesi Eğitim ve Araştırma Hastanesi, Bolu, Turkey

**Corresponding Author (dr.asli.kurtar@gmail.com)*

Atrial fibrillation (AF) is an arrhythmia whose prevalence increases with age and leads to serious clinical problems. Although the prevalence of AF is 4 per thousand in the general population, the prevalence of over 75 years old has been reported as 11.6%. The problems related to atrial fibrillation are failure to provide atrial contribution to cardiac output, risks of continuous anticoagulation and embolic, especially stroke complications. The most common cause of mesenteric ischemia is arterial occlusion, while other causes are non-occlusive mesenteric ischemia and venous occlusion. Mesenteric arterial embolism must be considered in atrial fibrillation patients. A 70-year-old man with known chronic atrial fibrillation presented to the emergency department with abdominal pain for one day. The patient's history revealed that the new group of oral anticoagulant therapy was started but he did not use his medication regularly. On arrival, his laboratory parameters Wbc 7.47; Hb 13.5; platelet 265; CRP 20; BUN 43; Creatine 0.79; AST 34; ALT 19; cardiac enzymes were negative. Mesenteric computed tomography angiography (CTA) performed on suspicion of acute mesenteric ischemia revealed a thrombus in the approximately 2.5 cm segment that filled the lumen after approximately 6 cm of origin from the superior mesenteric artery. Contrast agent due to collateral filling was observed in later arterial segments. The patient was consulted to our cardiology department. His electrocardiogram showed atrial fibrillation with 97 /min heart rate and transthoracic echocardiography showed ejection fraction 50-55%, mild MR, TR, and biatrial dilatation. After the percutaneous selective angiography of the mesenteric artery revealed a lesion causing 100% stenosis following the jejunal branch of the superior mesenteric artery, the lesion was passed with 0.14 wires. Then the lesion was pre-dilated with a 50x 20 mm non-compliant balloon. Thrombus aspiration was attempted to the intense thrombus load lesion but the thrombus did not present. 60x29 mm Omnilink Elite Vascular Balloon-expandable peripheral stent was placed in the lesion. Uncomplicated complete patency was achieved. Regular anticoagulant therapy for a lifetime was planned for the patient. As a result, anticoagulation in atrial fibrillation is required in high-risk patients. Atrial fibrillation rarely presents with mesenteric ischemia clinic and blood flow in mesenteric ischemia needs to be restored immediately. And percutaneous angiographic procedures can be used to provide this blood flow safely.


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ID: **110**

Topic: **Cardiology » Diseases of aorta**

Presentation Type: **Poster**

PERFECT COLLATERALS HIDING COARCTATION OF AORTA

Fulya Avcı Demir

Antalya Anatolia Hospital, Antalya, Turkey

**Corresponding Author (fulyaavcidemir@gmail.com)*

INTRODUCTION: Coarctation of the aorta is a relatively common defect that accounts for 5-8% of all congenital heart defects. The diagnosis of coarctation of the aorta may be missed and diagnosis is often delayed until the patient develops congestive heart failure, which is common in infants, or hypertension which is common in older children.

CASE: Here we present a case of 36 year-old man admitted to ophthalmology clinic with double and reduced vision accompanied by headaches. His ophthalmologic examination was compatible with severe hypertensive retinopathy and he was referred to the cardiology clinic. His blood pressure measured higher on upper extremities than lower extremities. An ejection-type systolic murmur heard at the base, and between the spine and the left scapula. Femoral pulses are weaker than the radial pulses, and when felt simultaneously with the radial pulse, the femoral pulse is delayed. His ECG revealed LV hypertrophy and showed signs of LV strain. Transthoracic echocardiography showed left ventricle hypertrophy with a normal left ventricle ejection fraction. There is not any associated congenital heart and valve abnormalities found. From suprasternal window narrowing within the lumen of the proximal descending thoracic aorta seen and a gradient at the site of coarctation detected. Computed tomographic angiography planned which define the anatomy clearly showing coarctation after left subclavian artery and show collateral vessels perfectly that connect arteries from the upper part of the body to the vessels below the level of coarctation. (Figure 1,2,3 and 4). Cardiac catheterization performed, elevations of left ventricular and ascending aortic peak systolic pressures with a 25-mmHg peak-to-peak systolic pressure gradient across the coarcted segment are found and after discussed in a heart team meeting surgery planned for the patient.

CONCLUSION: Collateral arteries are perceptible in over 50% of coarctation patients, and are prominent over the edges of the scapulae and paravertebral spaces. Our patient was asymptomatic probably due to dilated intercostal and internal mammarian collateral vessels.

DISCUSSION: Treatment results (stenting or surgery) of coarctation are better than for most other forms of critical congenital heart disease. Most patients do well after the obstruction is removed. If untreated, main inevitable complications are stroke, early-onset coronary artery disease, brain aneurysm and aortic rupture. Mortality rate in patients in whom coarctation of the aorta is not treated is 90% by age 50 years, with a mean age of 35 years. We should keep in mind that a good physical examination will help us to diagnose coarctation of aorta even collateral vessels perfectly developed. Another important point is to follow up patients carefully especially for restenosis and resting or exercise hypertension even they are fully treated.

Keywords: Aortic coarctation, Collaterals, Hypertension

ID: **355**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Carotid Artery Disease**

Presentation Type: **Poster**

THE RADIAL ARTERY; A NEW PATCH FOR CAROTID ENDARTERECTOMY? CASE REPORT

Mustafa Dağlı, Hakan Çomaklı, Abdussamet Hazar

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Atherosclerosis is the most common cause of carotid artery stenosis. Stroke is the second most common cause of cardiovascular mortality.

The most common site of atherosclerosis is carotid bifurcation with carotid baroreceptors and internal carotid artery. The main purpose of carotid endarterectomy is to protect the brain from ischemic damage. Carotid endarterectomy is divided into two as eversion and traditionally. Both methods used patch or primary closure. Internal carotid arteries with a diameter of 0.5 cm or more are known to be primary closure. Autologous patch (saphenous vein) or prosthetic patch (dacron) is used for patch closure. In recent publications, it has been reported that eversion and patch use have the lowest restenosis rates. In this study, we aimed to emphasize the use of radial artery as a new patch in endarterectomy.

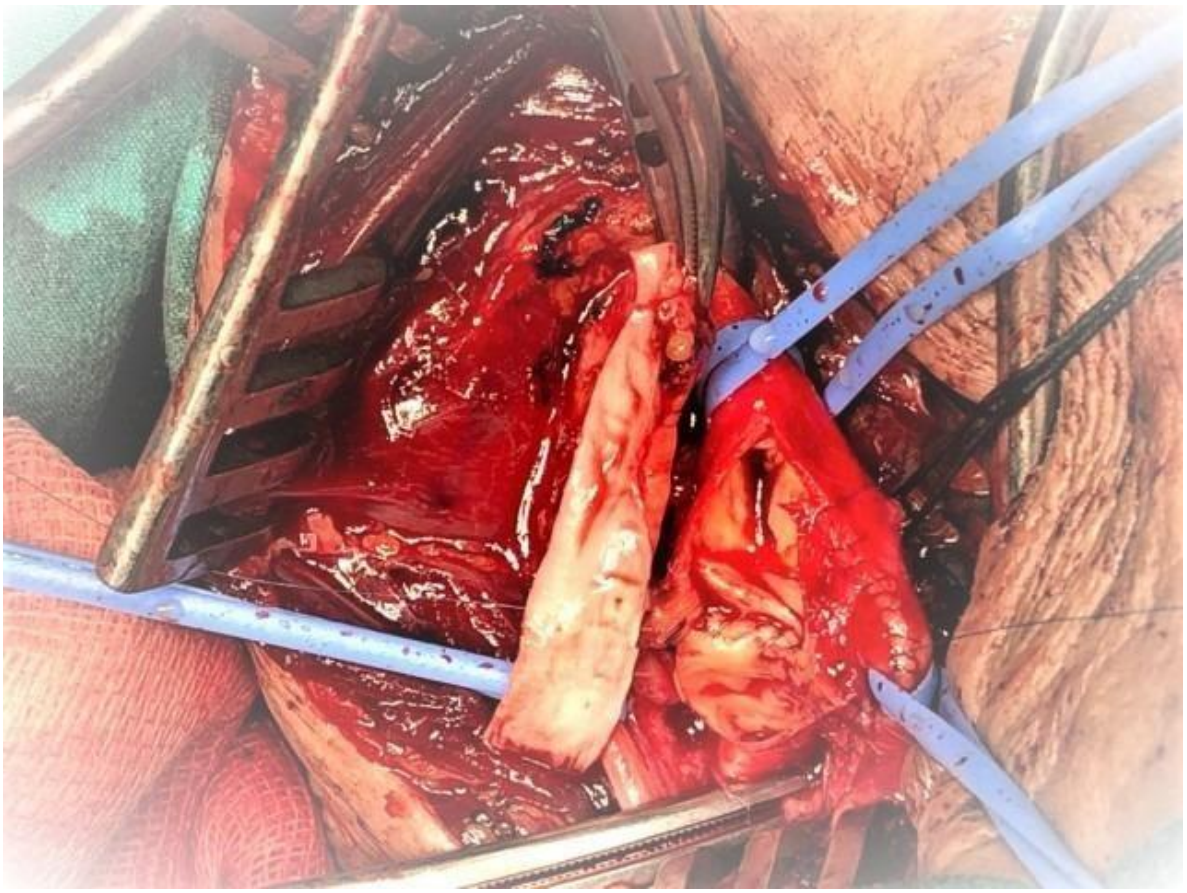
CASE

An 80-year-old male patient had plegia on the left side. 80-90% lesions in the right internal carotid artery and 70-80% lesions in the left internal carotid artery. After giving the necessary information to the patient and his relatives, the patient was referred to interventional radiology because of his age. When the patient and his relatives wanted to have open surgery, firstly, the patient's right carotid artery was patch-plasty with evacuation and dacron using local anesthesia only. After 3 months, control carotid doppler ultrasound was taken. Since there was no restenosis, endarterectomy preparations were started for the left carotid artery. Radial artery was planned to be used as a carotid patch. This time the patient underwent a procedure under cervical block. Radial artery was removed with local anesthesia. It was kept in a special solution to avoid spasm. Anastomosis was performed with 6/0 prolene. During the procedure, it was seen that the radial artery leaked less blood compared to the cases where the previous dacron patch was used (Image 1).

CONCLUSION

Radial artery is known to be used frequently in coronary artery surgery. In the literature, it has been used in popliteal trifucation, but it has not been used as a patch in the carotid artery.

We think that using the radial artery as a carotid patch, carotid artery patency rates will be very good and less bleeding will be observed during the operation, thus it will be more beneficial in terms of mortality and morbidity than other patches.



ID: **573**

Topic: **Cardiology » Metabolic Syndrome**

Presentation Type: **Poster**

RELATIONSHIP BETWEEN BILIRUBIN LEVELS AND CAROTID INTIMA-MEDIA THICKNESS IN POLYCYSTIC OVARY SYNDROME PATIENTS

Murat Turfan[1], Ramazan Dansuk[2], Emin Asoğlu[3], Ilker Duman[4]

[1]*Memorial Hizmet Hospital, İstanbul, Turkey*

[2]*Biruni University, İstanbul, Turkey*

[3]*Mardin Community Hospital, Mardin, Turkey*

[4]*Kagithane State Hospital, İstanbul, Turkey*

[*]*Corresponding Author (turphan@gmail.com)*

Objective:

To evaluate the plasma bilirubin levels and carotid intima-media thickness (IMT) in patients with polycystic ovary syndrome (PCOS).

Methods:

Thirty eight patients with a diagnosis of PCOS aged younger than 40 year and thirty seven healthy women were included in the study. Serum bilirubin levels and other blood parameters in at least 12-hour fasting states were determined. Carotid artery ultrasonography imaging was performed by the same experienced operator. Average of left and right carotid arteries was taken as one variable.

Results:

Serum bilirubin levels were significantly lower (p: 0,03)in PCOS patients. In addition, IMT in this group was significantly higher. There was a negative correlation between bilirubin levels and carotid intima-media thickness (r = 0368, P : 0.02)

Conclusions:

We found bilirubin levels associated IMT in polycystic ovary syndrome patients. Therefore, adverse effects of oxidative stress were shown on vessel structure.

ID: **638**

Topic: **Cardiology » Treatment of Hyperlipidemia**

Presentation Type: **Poster**

EVALUATION OF ANTI-INFLAMMATORY EFFECT OF PITAVASTATIN WITH MONOCYTE COUNT TO HDL CHOLESTEROL RATIO

Seyda Gunay[1], Serhat Çalışkan[2], Ali Aydınlar[1]

[1]*Uludag University Faculty of Medicine, Bursa, Turkey*

[2]*Istanbul Bahçelievler State Hospital, Istanbul, Turkey*

[*]*Corresponding Author (seydagunaymedical@yahoo.com)*

Background: Monocyte to HDL cholesterol ratio (MHR) was proposed as a novel inflammation marker. Some pleiotropic effects of statins are anti-inflammatory.

Aims: To examine the effect of lipid-lowering therapy with pitavastatin on MHR in patients with coronary heart disease

Study Design: Cross sectional study,

Methods: A total of 150 patients were enrolled for this study. Hospital registries between October 2018 and April 2019 were reviewed retrospectively. Eligible patients were those who had both stable coronary artery disease and hypercholesterolemia of LDL>100 mg/dl and were started to be treated with pitavastatin 4 mg/day. Complete blood count values and lipid parameters before and after treatment were evaluated and monocyte count to high density lipoprotein ratios were calculated before and after treatment.

Results: Pitavastatin 4 mg/day was administered for 1-7 months. The difference between the mean total cholesterol, triglyceride, LDL-C levels before and after treatment was statistically significant ($p<0.001$, $p= 0.020$, $p<0.001$, respectively)). Monocyte/HDL ratio was similar between groups

Conclusion: In our study, it was concluded that pitavastatin improved serum lipid leves but did not decrease MHR.

ID: **136**

Topic: **Cardiology » Acute Coronary Syndromes**

Presentation Type: **Poster**

A CASE REPORT LEFT VENTRICULAR TRUE ANEURYSM AND PERICARDIAL EFFUSION FOLLOWING MYOCARDIAL INFARCTION

Selda Murat, Taner Ulus, Cengiz Ovalı, **Muhammet Dural**

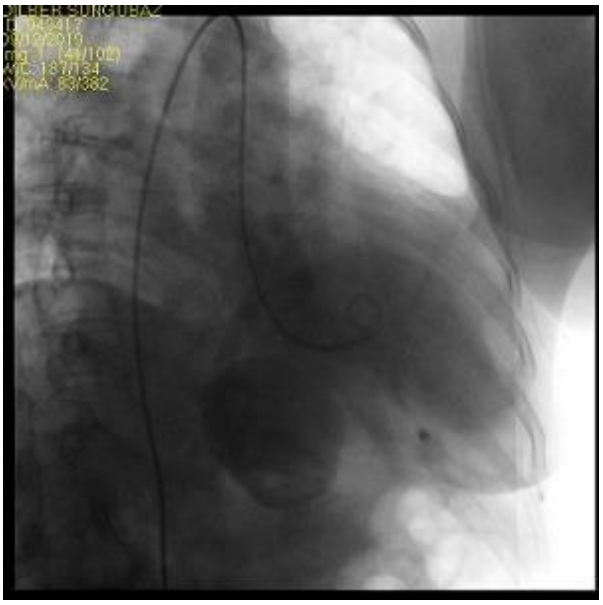
Eskişehir Osmangazi University, Eskişehir, Turkey

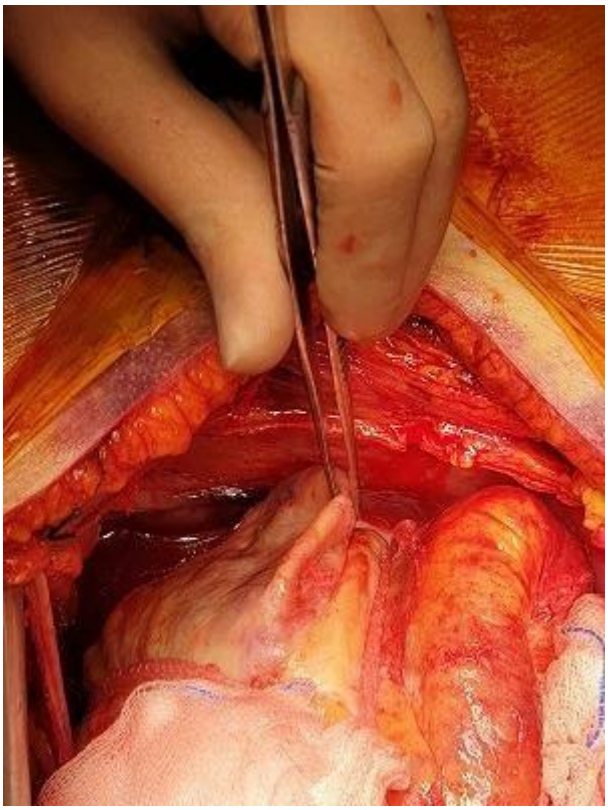
**Corresponding Author (selda.eraslan@hotmail.com)*

OBJECTIVE: In this article, we aimed to draw attention to a true aneurysm associated with pericardial effusion and a late complication of myocardial infarction in a patient with pericardial effusion who admitted to the emergency department with dyspnea.

METHODS: An 80-year-old female patient was admitted to the emergency department of our hospital with the complaints of chest pain and dyspnea for the last month. The patient was also conscious and oriented. Blood pressure was 110/70 mmHg and heart rate was 100 beats /min. In the ECG, the QS pattern was detected in inferior derivations and troponin was 0.332 ng / mL in laboratory tests. Two-dimensional transthoracic echocardiography revealed a 20 mm pericardial effusion behind the posterior wall of the left ventricle and an aneurysmatic appearance in the posterobasal region of the left ventricle. Pericardiocentesis was performed by subxiphoidal approach in catheter laboratory and the amount of drainage was 1000 mL. Coronary angiography performed on the second day of admission showed total occlusion of the circumflex artery and diffuse coronary artery disease and left ventriculography showed aneurysmatic structure in the left ventricular posterobasal region. (Figure 1A) One day after pericardiocentesis, pericardial fluid accumulation was observed by transthoracic echocardiography. The patient was evaluated in the joint case council of cardiology and cardiovascular surgery. In the council; CABG operation and aneurysmectomy was decided. CABG (AO-SAFEN-LAD, AO-SAFEN-OM) operation was performed. In the same session, an aneurysmectomy was performed and a 7x4 cm true aneurysm was removed from the posterolateral wall. (Figure 1B) The patient did not have any cardiac problems in the postoperative period.

DISCUSSION: Another complication after myocardial infarction is mechanical complications apart from important complications such as myocardial dysfunction, heart failure, arrhythmia. Left ventricular true aneurysms and pseudoaneurysms are high-mortality complications of myocardial infarction. It should be kept in mind that the underlying cause may be aneurysm which is a late complication of myocardial infarction in a patient with pericardial effusion detected in emergency department.





ID: **529**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Poster**

SUCCESSFUL PCI FOR ACS WITH ANOMALOUS ORIGIN OF THE CIRCUMFLEX CORONARY ARTERY

Mustafa Demir[1], Ömer Faruk Keskin[2], Sıddık Erdoğan[2], Atila Iyisoy [3]

[1]*Private Denizli Tekden Hospital, Denizli, Turkey*

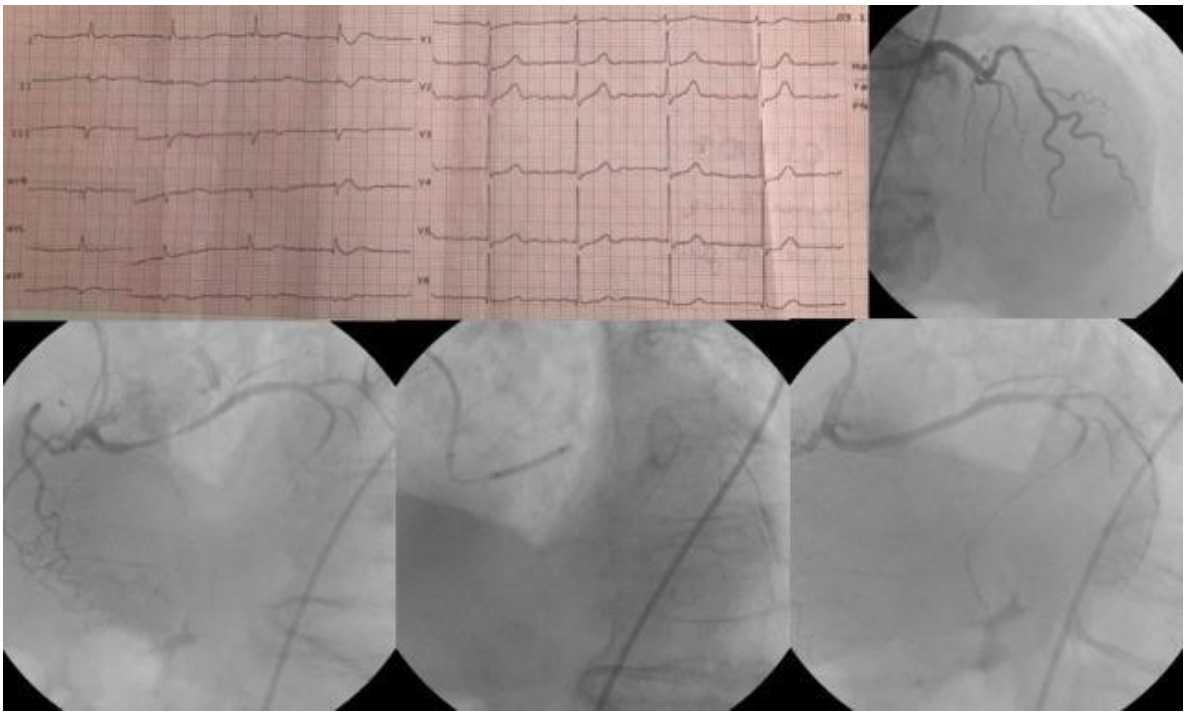
[2]*Gülhane Training and Research Hospital, Ankara, Turkey*

[3]*Gülhane Training and Research Hospital, Ankara , Turkey*

[*]*Corresponding Author (mstdemir@gmail.com)*

The incidence of coronary artery anomalies in patients undergoing coronary angiography varies from 0.6% to 1.5%. The occurrence of an acute coronary syndrome (ACS) with an anomalous connection of coronary artery identified as a culprit artery is very exceptional. This relationship may lead to delay in coronary reperfusion time in some anatomical forms. We present a case of an 76-year-old male patient who was diagnosed with NSTEMI and underwent a successful PCI with stenting of LCx arising from the right sinus of valsalva through the femoral route.

A 76-year-old man was admitted to our emergency room with chest discomfort, shortness of breath and cold sweating who has as cardiovascular risk factor CAD equivalent diabetes. On his physical examination bilateral crackles were noted below to half in both lungs and BP was 80/50 mmHg. Rest ECG recorded a sinus rhythm at 55 bpm, with negative T waves of inferior leads and minimal ST segment depression in the v2-v3 leads. Transthoracic echocardiography revealed a regional hypokinesia in the infero-posterior segments of the left ventricle with an estimated LVEF of 35%. High sensitive troponin I was too high at >50.000 pg/ml (normal range = <36 pg/ml). An early invasive approach was reasonable for this patient. Coronary angiography showed atherosclerotic plaques on type I dual LAD, but circumflex was not visualized in the left coronary system. RCA visualized diminitive but we saw that significant lesions in proximal LCx which was arising from a separate ostium located in adjacent to the right aortic sinus. The LCx was selectively cannulated with 6Fr. AR-2 guiding catheter. Then the lesions were crossed with PT2 hydrophilic moderate support guidewire successfully. Balloon angioplasty was performed with a 2,0x20 mm Maverick balloon catheter (Boston scientific) and Xience 3,0x24 mm DES was deployed at 16 atm at the proximal lesion finally. There was no complication at the end of the intervention. The patient was followed-up with medical therapy and was discharged with clopidogrel (75 mg/day), acetylsalicylic acid (100 mg/day), perindopril (5 mg/day), metoprolol succinate (25 mg/day) atorvastatin (40 mg/day) without any adverse cardiac event. Interventional cardiologists should be aware of coronary artery anomalies and know how to deal with these abnormalities in order to avoid prolonged processing time and further radiation exposure.



ID: **473**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Poster**

A CASE OF CONCOMITANT LEFT AND RIGHT CORONARY OCCLUSION: COMBINED MYOCARDIAL INFARCTION

Çağlar Kaya, Mustafa Yılmaztepe, Utku Zeybey, Gökay Taylan

School of Medicine, Trakya University, Edirne, Edirne, Turkey

**Corresponding Author (caglarkaya2626@gmail.com)*

In clinical practice, simultaneous thromboses lesions are generally not expected in the right and left coronary systems. A 39-year old male patient admitted to the emergency room with severe chest pain of 1-hour onset. ECG showed normal sinus rhythm with 70 heart bpm and ST segment elevation was detected in the inferior and anterior leads (Figure 1). Emergency coronary angiography was performed due to a diagnosis of simultaneous acute inferior and anterior myocardial infarction. Angiography showed that total occlusion was detected in the proximal left anterior descending artery (LAD) and a significant lesion was detected in the right coronary artery (RCA) (Figure 2). Primary direct stenting was performed to the both lesions. Acute coronary syndromes may present with different ECG findings. Simultaneous elevations of anterior and inferior leads are rarely detected. Here, we present a case of combined acute coronary syndrome.

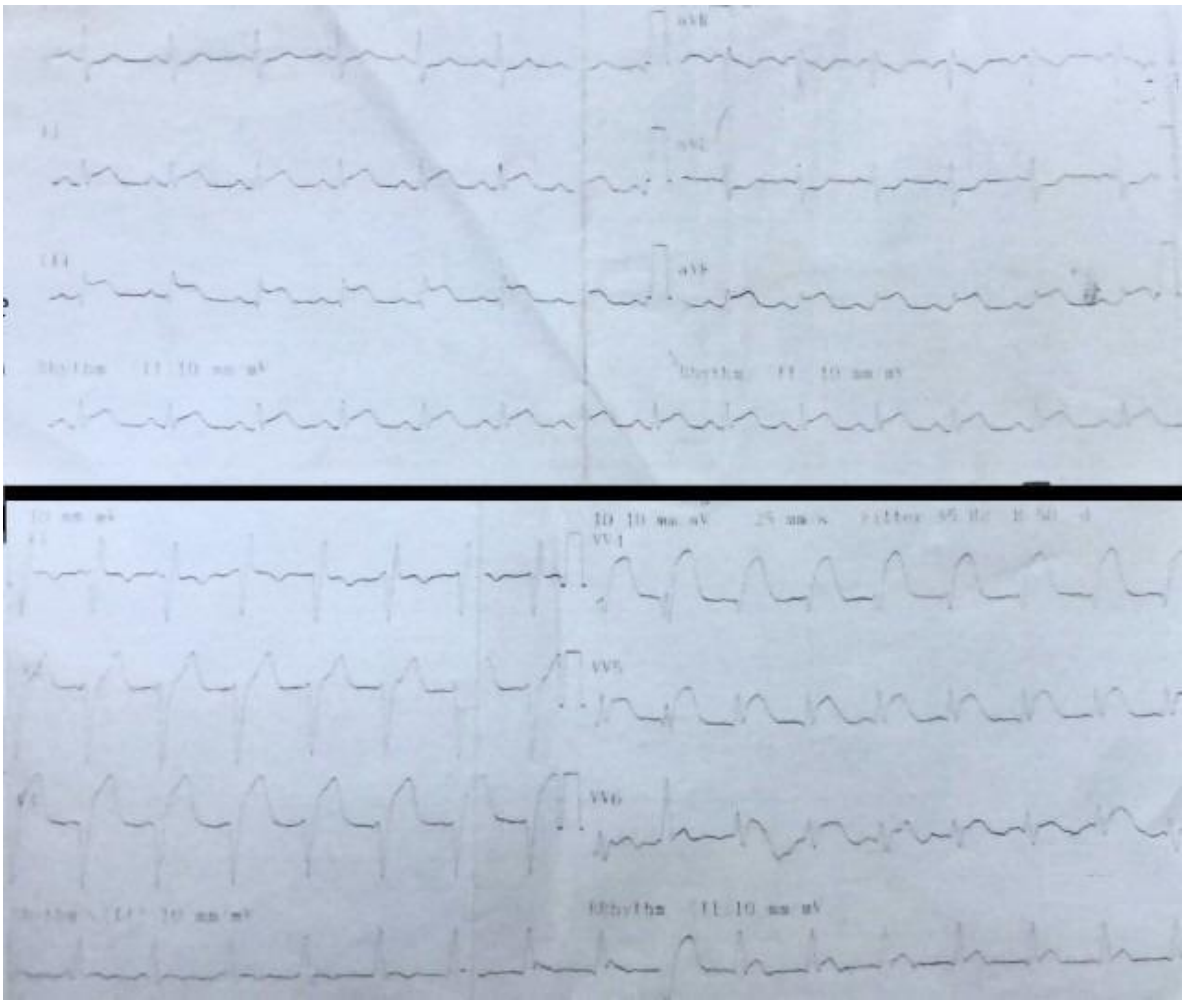


Figure 1: ST segment elevations in leads II, III, aVF, and V1-5 at presentation (anterior and inferior leads)

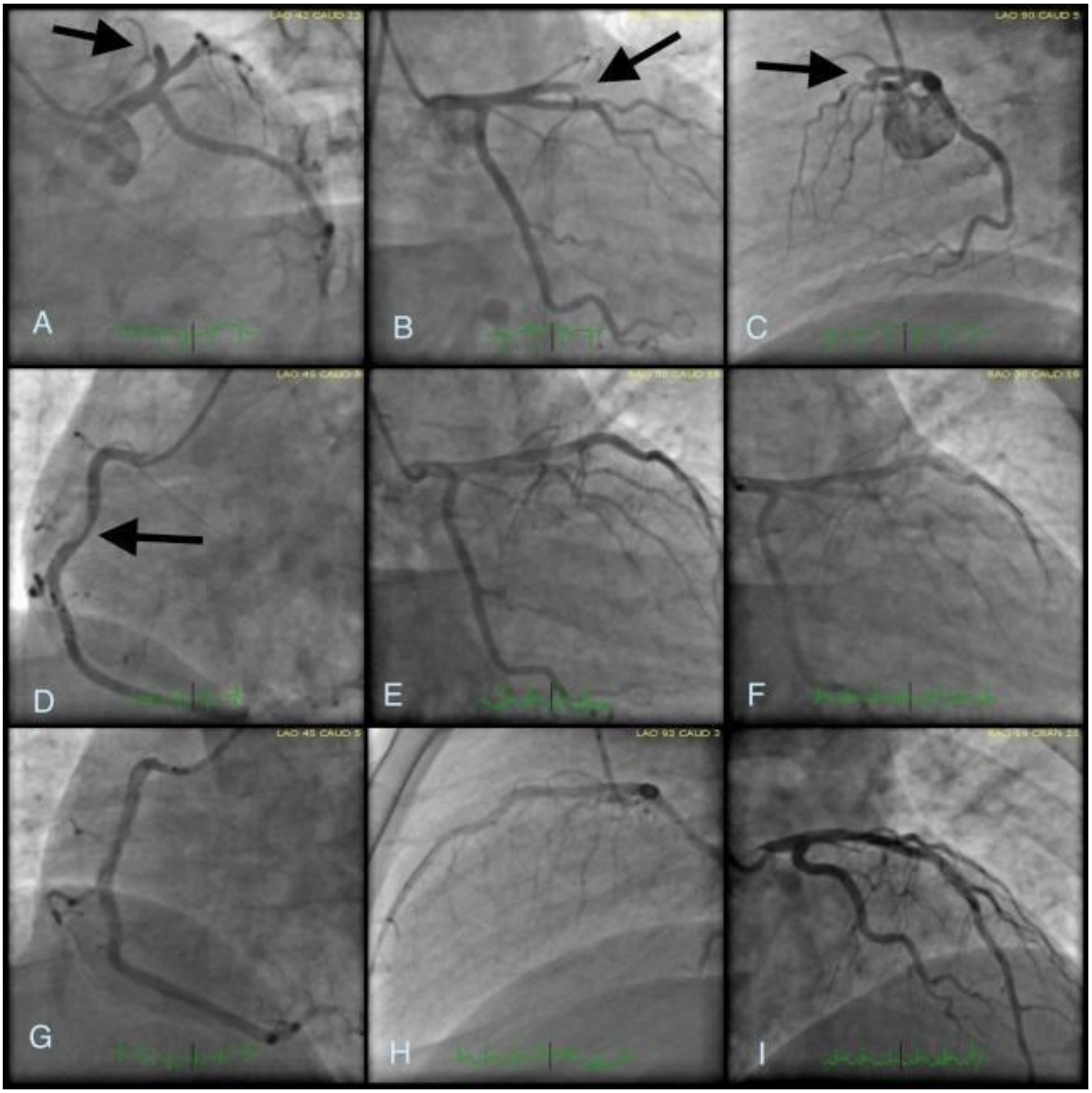


Figure 2: A, B, C and D: The image of angiography during acute STEMI and lesions were marked with black arrows E, F, G, H and I: The image of left and right coronary system after complete revascularization

ID: **374**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Poster**

UNPROTECTED LEFT MAIN CORONARY INTERVENTION DUE TO ACUTE ANTERIOR MYOCARDIAL INFARCTION

Veysel Özgür Barış

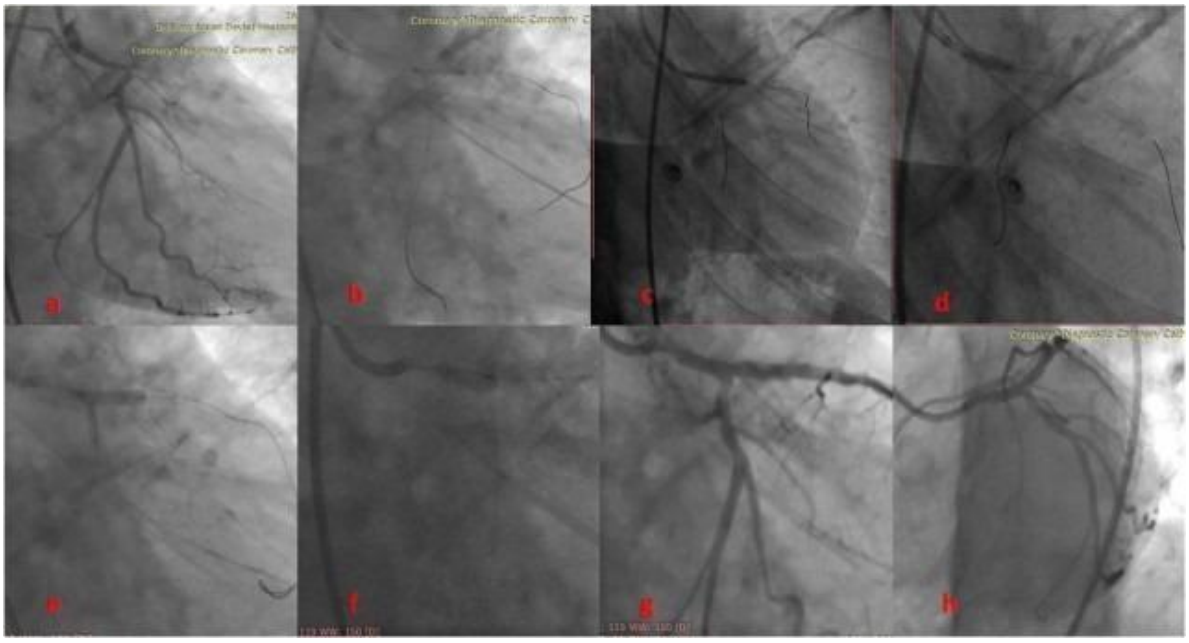
Dr. Ersin Arslan Education and Trainning Hospital, Gaziantep, United States

Corresponding Author (veyselozgurbaris@yahoo.com)

Background: Ostial occlusion of the left anterior descending (LAD) is a troublesome condition. Presize osteal stenting may cause incomplete lesion coverage or plaque shift into the left main or circumflex artery (Cx). Therefore, stent implantation from the distal left main coronary artery (LMCA) across the LAD may be reasonable for LAD osteal occlusion. We presented a case treated with stenting from LMCA across LAD due to acute anterior myocardial infarction (MI).

Case: 59 years old male patient, without any cardiovascular disease history, admitted to emergency service due to ongoing chest pain. ECG relived acute anterolateral MI, echocardiography showed global left ventricular akinesia and ejection fraction was %25. Patient was taken to urgent coronary angiography and total thrombotic lesion on LAD proximal part was seen (Figure1a). After wiring both of LAD and Cx, 2.0 x20 mm balloon angioplasty was done to LAD proximal and TIMI 2-3 flow was established (Figure 1b). After balloon angioplasty; firstly 3.0x33 mm DES (Promus, 14 atm) was implanted from LMCA to LAD ostium (Figure 1c). After LAD stent implantation, first POT was done with 4.0x9 mm NC balloon (Figure 1d). After POT, Cx rewired and kissing balloon inflation was performed by 2.0x20 and 3.5x12 mm NC balloons (Figure 1e). Final POT was done with 4.0x9 mm non compliant balloon on LMCA (Figure 1f). Final angiogram showed excellent stent expansion and there isn't any residual lesion (Figure 1g, h) After coronary intervention, patient was discharged without any complication. Ejection fraction was improved to %45 on one month later control visit.

Conclusion: Main branch stenting with proper kissing balloon inlation and POT should be recommended for the treatment of ostial LAD disease due to acute anterior MI.



ID: **222**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Poster**

PERCUTANEOUS CORONARY INTERVENTION TO SAPHENOUS VEIN GRAFT IN A PATIENT WITH DEXTROCARDIA UNDERGOING CORONARY ARTERY BYPASS SURGERY

Özge Çakmak Karaaslan[1], Sefa Ünal[2], Murat Oğuz Özilhan[2], Ahmet Akdi[2], Can Özkan[2]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Ankara City Hospital, Ankara, Turkey*

[*]*Corresponding Author (ozgecakmak2323@gmail.com)*

Dextrocardia is a rare congenital anomaly with a prevalence of 1 in 10,000 births. There are limited published case reports of percutaneous coronary intervention (PCI). A 59-year-old patient was admitted to our hospital with complaints of chest pain. Coronary angiography (CAG) revealed totally occluded left anterior descending artery (LAD) and totally occluded ramus circumflexus (RCX) which was filling antegradely. CAG demonstrated that the LAD was perfused by the saphenous vein graft (SVG). SVG to RCX was totally occluded. Aortocoronary SVG to the LAD was stenosis 95% and displayed hazy image. The SVG to the LAD was selectively cannulated with a guiding catheter and 3.0×15 mm drug eluting stent was implanted. The final result of coronary angiography showed that there was no residual stenosis in the stent of the saphenous vein graft to the LAD with the TIMI 3 grade flow. CABG in a patient with dextrocardia was described in 1982. PCI in dextrocardia with situs inversus was first reported in 1987.On the other hand, published literature about percutaneous intervention in underwent CABG patients with dextrocardia was not reported. This case was presented successful PCI in situs inversus dextrocardia who underwent CABG using a transradial approach. To the best of our knowledge this is the first case in literature of saphenous vein graft PCI in situs inversus dextrocardia using transradial approach.

ID: **554**

Topic: **Cardiology » Percutaneous coronary interventions in acute coronary syndromes**

Presentation Type: **Poster**

SUCCESSFUL TREATMENT OF ACUTE LEFT MAIN CORONARY ARTERY OCCLUSION WITH PERCUTANEOUS INTERVENTION IN A PATIENT WITH MITRAL METALLIC PROSTHESIS VALVE

Kenan Demir, Abdullah Tuncez, **Muhammed Ulvi Yalcın**

Selcuk University, Konya, Turkey

**Corresponding Author (drkenan76@yahoo.com)*

A 55-year-old male patient with a history of mitral valve replacement 14-years ago, was admitted to the emergency department of our hospital with sudden onset severe chest pain and dyspnea. He had a history of smoking as a cardiovascular risk factor. He used warfarin for 1-year after the mitral valve replacement and he didn't used any other cardiac medication including warfarin for the last 13 years. His ECG showed acute ST-segment elevations on anterior and inferior derivations. He was also in cardiogenic shock status. Three hundred mg aspirin, 600 mg clopidogrel and 0.1 mg/kg IV enoxaparin bolus were given immediately. The patient was transferred immediately to the catheterization laboratory and 7F sheat was introduced through the right femoral artery. Diagnostic coronary angiography showed no lesion in the right coronary artery and acute total occlusion of the proximal left main coronary artery (LMCA) with no anterograde flow (Video 1). The first floppy guidewire was advanced from the LMCA to the left anterior descending artery (LAD) and the second floppy guidewire advanced to the diagonal artery. The 3.0x20 mm semi-compliant balloon was inflated at the LMCA to LAD bifurcation. Then, another wire was advanced to the circumflex (CX) artery and 3.0x20 mm semi-compliant balloons were inflated repeatedly in the LAD and CX artery. Tirofiban treatment was started and was continued because of the intense thrombus burden during procedure (bolus of 25 µg/kg over 3 min i.v., followed by an infusion of 0.15 µg/kg/min for up to 24 hour). We planned simultaneous stenting of the LAD and CX arteries that extends to the LMCA with an aim of jailing the thrombus located at the LMCA, ostial LAD and ostial CX. For this reason, we decided to use a simple and fast bifurcation method because the patient was in cardiogenic shock. 4.0x15 mm stent for LAD extending LMCA and 3.5x12 mm stent for CX extending LMCA were implanted with the simultaneous kissing stent technique. Final angiography showed TIMI 3 flow at the LAD and CX arteries (Video 2). After the procedure, the patient recovered hemodynamically and his complaints regressed. Ejection fraction was 15% on transthoracic echocardiography and thrombus images were present on the prosthetic valve in mitral position. The following day we performed transesophageal echocardiography showed thrombus particles in the metallic prosthetic valve and a giant thrombus in the left atrium. The cardiology and cardiovascular surgery council decided to remove the thrombus surgically, but the patient did not accept the operation. Heart failure treatment was optimized during hospitalization and he was discharged 45 days after admission. In follow-up, Acetylsalicylic acid 100 mg + Clopidogrel 75 mg + Warfarine were given for triple therapy for 6 months after the myocardial infarction.

ID: **615**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **Poster**

A RARE COMPLICATION OF RADIAL ARTERY ACCESS FOLLOWING CARDIAC CATHETERIZATION: RADIAL ARTERY PSEUDOANEURYSM

Osman Yesildag[1], Batur Kanar[2], Dursun Akaslan[2]

[1]*Marmara University Medical School, İstanbul, Turkey*

[2]*Marmara University Medical School, İstanbul, Turkey*

[*]*Corresponding Author (osmanyes@superonline.com)*

77 year-old male patient presented our hospital with the complaint of chest pain for 1 week duration suggestive of unstable angina 8 months ago. Coronary angiography was done through the right radial artery. Radial artery puncture was done with a single puncture and 5F sheath was secured in place. Patient's coronary angiogram showed double vessel disease. (significant left anterior descending and Cx midportion lesion) which was planned for LAD stent implantation.

The patient was loaded with dual antiplatelet therapy (aspirin 300 mg and clopidogrel 600 mg) with heparin of 5000U.Hemostasis was achieved completely after the procedure by using TR band with 10 cc of air for compression. The TR Band was deflated as per protocol over the next 2 h and discontinued. He had noticed that a swelling occurred in the region of wright hand wrist. The size of the swelling was 3 cm diameter (Picture 1). In clinical examination of the wright hand we could not detect any thrill and murmur with palpation and auscultation. There was no increase in temperature and color changes in this region. We decided to perform right brachial arteriography and detected pseudoaneurysm formation in radial artery. There was no connection with venous system and the other arteries and no extravasation. Only organized hematoma formation was seen around the pseudoaneurysm (Picture-2).

We decided to send the patient to operation for surgical repair of radial artery and swelling. The patient had a successful surgical intervention and the swelling disappeared with surgical repair. There was no complication after the procedure. Radial artery pulse amplitude was felt forcefully. The patient had not used any anticoagulant drugs before cardiac catheterization except anti-aggegant drugs named clopidogrel and aspirin. We thought that radial band could not be placed correctly over radial artery to prevent oozing to the surrounding tissues.

Pseudoaneurysm(PSA) is described as a tear through the all layers of artery which results hemorrhage and hematoma formation contained by surrounding tissue creating a false sac. PSA with radial access is rare with ≤0.1% incidence reported in large case series.
There are several factors that predispose the development of PSA with radial access including multiple puncture attempts, hypertension ongoing systemic anticoagulation, inadequate hemostasis or postprocedure compression, elevated body mass index ,the use of GPIIb/III inhibitors, a vascular site infection and the use of larger sheath. Very elderly patients may also be at increased risk . Some of the potential risks of PSA include rupture and distal limb ischaemia. Treatment optipons range from percutaneous thrombin injection, surgical repair, sonographically guided compression ,external compression devices and close monitoring for spontaneous resolution.

A small PSA can be treated with compression to occlude the flow into the PSA, while a large PSA require surgical intervention like our case. However excision of the vessel wall with vein patch angioplasty may be recommended for large neck aneurysm. Surgical approach like our case should be thought asa a last line treatment.
Other treatment strategies include the use of an external compression device or thrombin injection when the PSA has a narrow neck.

In conclusion, it is necessary to apply adequate compression over radial artery in the correct region of the wrist after procedure and avoid using larger sheath to prevent PSA formation after radial access.


14:19:58
3 - 32/52
M 1
8.15 sec
Tools
R
Body 4
cm 25
A
D 2395
LAO 26° / CAUD 6°
EE 10%
AB 0%
x/y 0.0/0.0
WB 3100
WC 50



ID: **421**

Topic: **Cardiology » Electrocardiography and Non invasive electrocardiology**

Presentation Type: **Poster**

EXTREME BRADYCARDIA WITH VARIABLE BLOCK IN SEVERE HYPERKALEMIA: A FORGOTTEN CULPRIT IN BRADY-ARRHYTHMIA

Han Naung Tun

Heart and Vascular Centre, Victoria Hospital, Yangon, Myanmar [Burma]

**Corresponding Author (annasxhan@gmail.com)*

Bradycardia is commonly encountered in emergency department. Hyperkalemia may sometime cause bradycardia with block and also synergize with AV node blockers to cause bradycardia and hypoperfusion. We report a 53 year old male with history of hypertension, congestive heart failure and coronary artery disease was admitted to hospital for sudden onset of breathlessness. He underwent percutaneous coronary intervention (PCI) to left anterior descending (LAD) artery and left circumflex (LCx) artery one year ago and taking Aspilet 80 mg for daily, Clopidogrel 75 mg daily, Ramipril 5 mg daily, Atrovastatin 20 mg daily, Metoprolol 25 mg daily, Spironolactone 25 mg daily and Frusemide 40 mg daily. Significant physical examination was remarkable for a temperature 97.5'F, blood pressure of 110/70 mmHg, heart rate of 40 beats per minute, oxygen saturation was 99% on air and both lungs were full with audible crepitation by auscultation. He was given atropine 0.6 mg bolus and transcutanaeous pacing with unimproved heart rate and then a transvenous pacing was immediately placed before the blood investigation results were returned. His relevant laboratory values were significant for a potassium of 7.99 mmol/L(ref range : 3.5-5.2 mmo/l) , creatinine of 458 micmol/L (ref range : 59-104 micmol/L) , Urea of 33.9 mmol/L (ref range : 2.7 – 8.0 mmol/l), random blood glucose of 233mg/dl , sodium 126.8 mmol/L (ref range 135-145 mmol/L) , anion gap of 13.5 mmol/? (ref range: 3.6 -11.0 mmo/L) and bicarbonate of 15.6 mmil/L (ref range: 22-29 mmol/L). He was given calcium glucoronate, insulin with dextrose, kaexylate , nebulizer salbutamol with significant improvement in his potassium levels to 4.6 in 24 hours . In Cardiac intensive care unit his heart rate was improved and the transvenous pacemaker was turned off the next day.

Keywords: Hyperkalemia, Bradycardia, Pacemaker, Heart Block

ID: **429**

Topic: **Cardiology » Inherited arrhythmia syndromes**

Presentation Type: **Poster**

BRUGADA ECG PATTERN INDUCED BY ACCIDENTAL DRINKING DIESEL FUEL

Burhan Aslan[1], Adem Aktan[2], **Mehmet Özbek**[3], Muhammed Karadeniz[4]

[1]*Sağlık bilimeri üniversitesi Gazi Yaşargil Eğitim ve Araştırma Hastanesi, diyarbakır, Turkey*

[2]*Mardin devlet hastanesi, mardin, Turkey*

[3]*Dicle Üniversitesi, diyarbakır, Turkey*

[4]*Kırıkkale üniversitesi, kırıkkale, Turkey*

[*]*Corresponding Author (burhanaslndr@gmail.com)*

Introduction

The Brugada syndrome (BS) is an inherited disease that is characterised by incomplete right bundle branch block and ST segment elevation in right precordial leads. BS is commonly caused by cardiac sodium-channel gene mutation. The electrocardiogram (ECG) manifestation of BS are often dynamic and can be unmasked by sodium channel blockers, fever, cocain, psychotropic drugs, hyperkalemia, alcohol, lithium . Provocation of typical ECG findings by accidental drinking diesel fuel has not been described till now. We would like to report typical ECG changes of BS unmasked by drinking diesel fuel.

Case Report

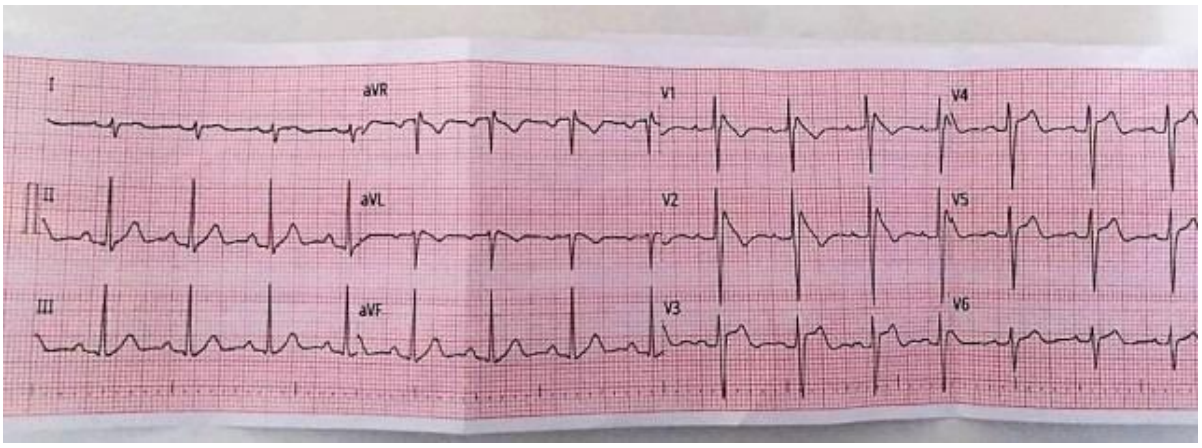
A 30 year old male presented to emergency department with epigastric pain and nausea. He first referred a state hospital and after the ECG he was transferred to our hospital with pre-diagnosis of anterior ST segment elevation myocardial infarction. He was a truck driver and trying to transfusion diesel fuel from the storage to a container by sucking a hose when he accidentally swallowed a large amount of diesel fuel. There was no medical history of taking any medication. On admission, his vital signs were all normal. There was neither a family history of sudden cardiac death nor a history of previous syncope. The serum level of electrolytes, wbc count, crp, troponin were normal. The ECG was compatible with type 1 Brugada pattern on presentation (figure 1). Echocardiography was normal. We planned holter ECG to reveal ventricular arrhythmias and there was no arrhythmia. Initial and 24th hour ECGs in our hospital was similar (figure 2). Two day after admission, Brugada type 1 pattern on his ECG disappeared and follow up ECGs showed type 2 Brugada ECG pattern (figure 3). The patient remained asymptomatic and was discharged.

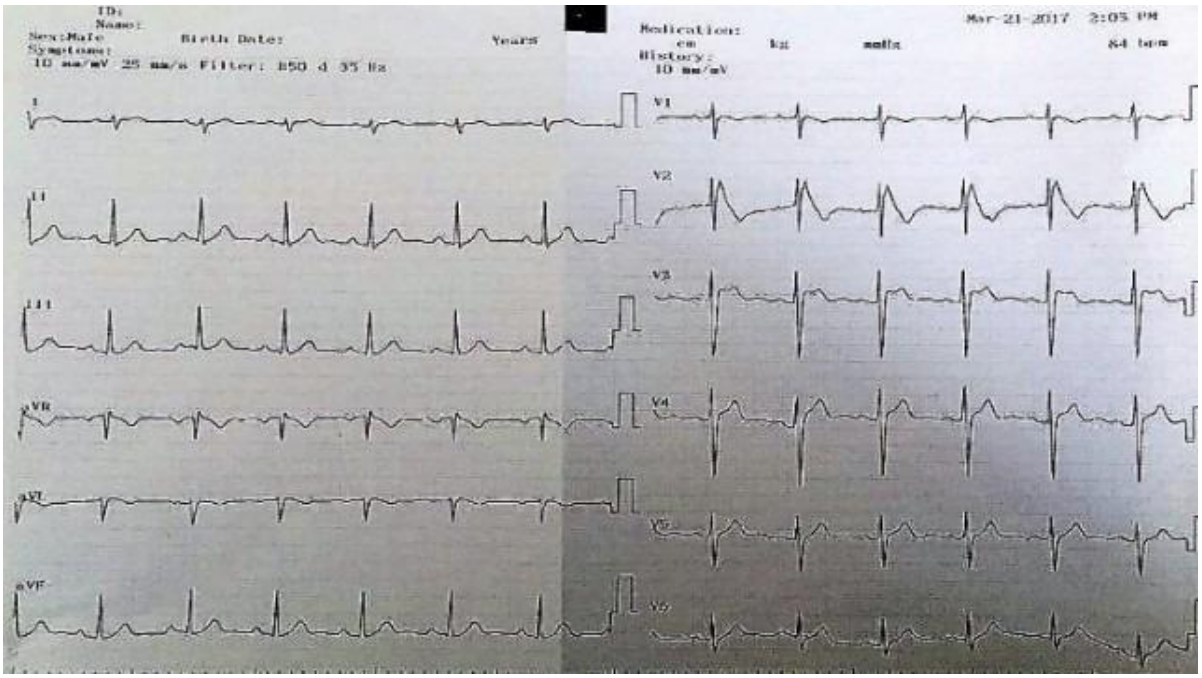
Discussion

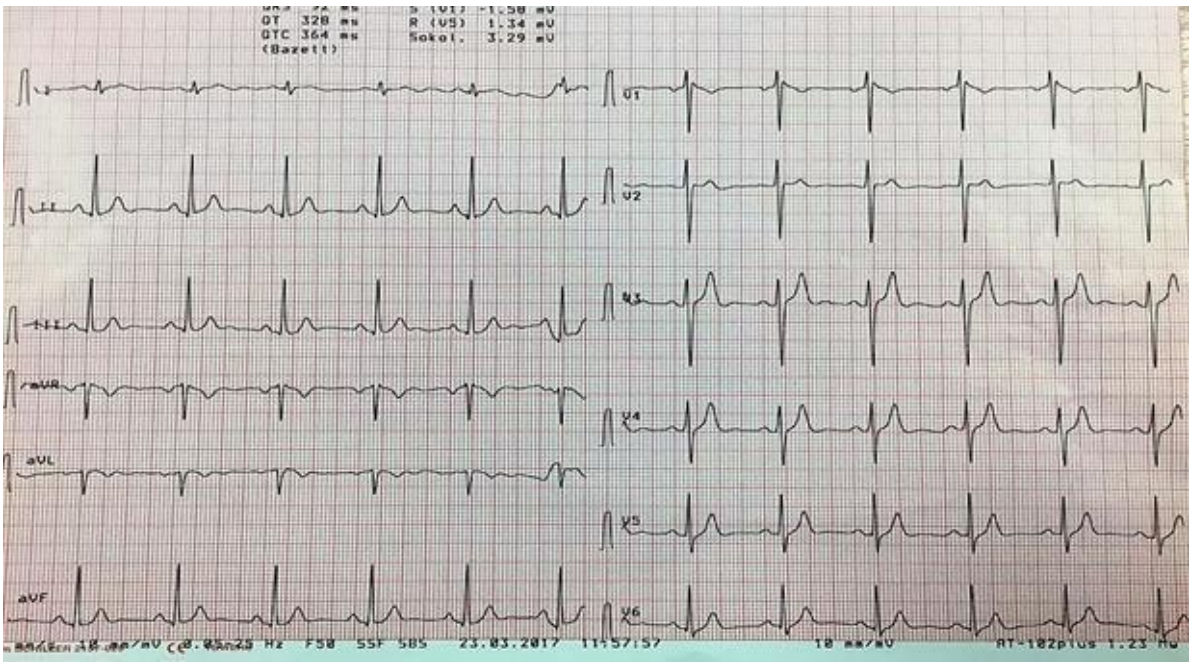
BS is diagnosed when a spontaneous type 1 ECG findings in addition to one of the following clinical situations: Documented polymorphic ventricular tachycardia, ventricular fibrillation, unexplained syncope, family history of sudden cardiac death at age younger than 45 years, family history of type 1 Brugada pattern ECG changes, inducible ventricular tachycardia during electrophysiology study, nocturnal agonal breathing. There are three types of ECG abnormalities in BS (figure 4). Type 2 and 3 are not definitive for brugada syndrome, but only suggestive. Brugada ECG pattern is dynamic, variable and can alternate between three types. The patients having only typical ECG changes are described as ''idiopatic Brugada ECG pattern or Brugada phenocopy'' not BS.

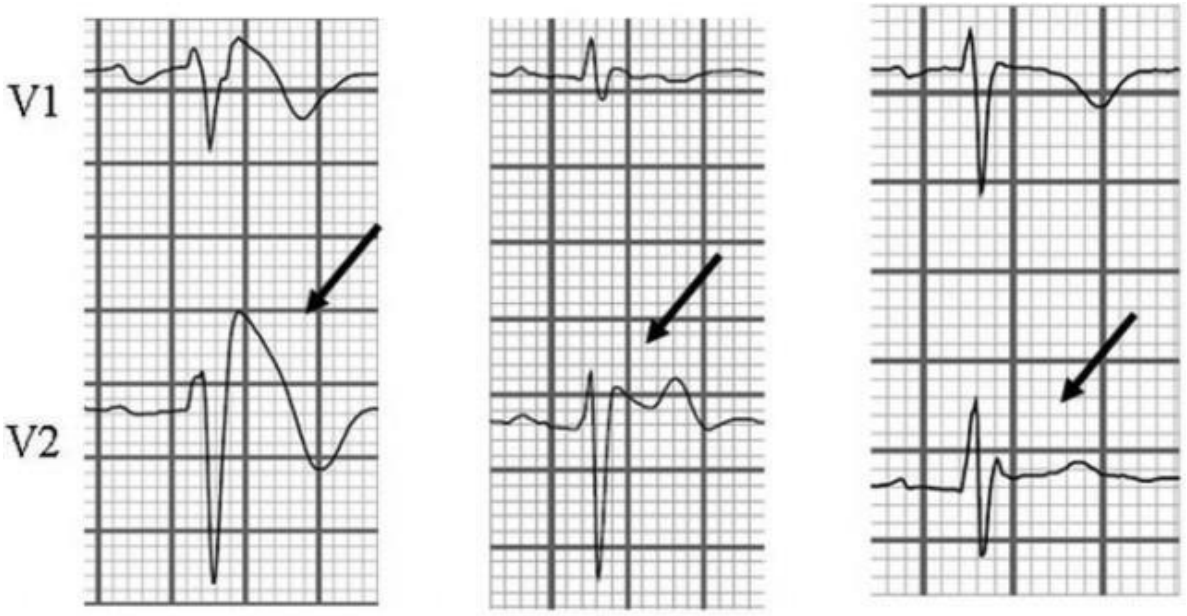
In this case, we report a male presented with type 1 Brugada ECG pattern unmasked by accidental drinking of diesel fuel which has not been reported before. Inhalation of gasoline vapors can unmask the Brugada typical pattern and was reported by Kranjcec et al. Petroleum derived diesel is composed of %75 saturated hydrocarbons and %25 aromatic hydrocarbons. Alcohol and petroleum products have nearly identical subunits like hydrocarbons. Alcohol intoxication and inhalation of gasoline is thought to have pro-arrythmic effects by inhibiting sodium-channel gating. Diesel oil may induce the typical ECG findings in the same way.

In conclusion, Brugada ECG pattern is concealed, can be triggered by various conditions and may be misdiagnosed as ST-segment elevation myocardial infarction like in this case. Pysicians should consider Brugada pattern in differential diagnosis.


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6


ID:
Name:
Sex:Male
Birth Date:
Years
Symptoms:
10 mm/mV 25 mm/s Filter: 850 d 35 Hz
Medication:
History:
10 mm/mV
Mar-21-2017 3:05 PM
84 bpm
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6


QT 328 ms
QTC 364 ms
(Bazett)
R (V5) 1.34 mV
Sokol. 3.29 mV
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
10 mm/mV
25 mm/s
F50
SSF 585
23.03.2017 11:57:57
10 mm/mV
AT-102plus 1.23 MU



Type 1: **Type 2:** **Type 3:**

ID: **398**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Poster**

RARE COMPLICATION OF CATHETER ABLATION: SUCCESSFUL REMOVED OF THE FRACTURED CATHETER FRAGMENT

Hatice Rahimova, Çağlar Özmen, Ali Deniz, Mehmet Kanadaşı

Çukurova Üniversitesi, Adana, Turkey

**Corresponding Author (rahimli.89@mail.ru)*

INTRODUCTION

The treatment of cardiac arrhythmias by RF ablation technique is an effective and safe method. In the following case, we demonstrated that the fractured catheter fragment, which is a rare complication of catheter ablation, was successfully removed by snare.

CASE

Seventeen - year - old male patient presented to our clinic with palpitation. The patient was scheduled for EPS and RF ablation with the diagnosis of Wolf-Parkinson-White syndrome. The patient underwent RF application through the proximal coronary sinus to eliminate accessory pathway transmission. At the end of the procedure, seeing that the CS catheter was inserted during removal. Fluoroscopy revealed that the catheter tip was held in the left iliac vein. We decided to remove the fractured catheter fragment percutaneously.4 –FR judkins right catheter was contrasted from the right and left femoral vein to visualize the fractured catheter fragment, and it was removed from the proximal by snare. One day later, the patient was discharged without any complications.

DISCUSSION

The complication rate of radiofrequency catheter ablation has been reported to be approximately 3% depending on patient characteristics and procedure. The fractured catheter fragment is a rare complication of catheter ablation. Percutaneous transcatheter removed is usually the first choice in the treatment of these complications. Techniques for non-surgical removal of impurities include simple snare, basket catheter, pigtail catheter, and suture. Cook flexible myocardial biopsy forceps is an important option in difficult cases Nowadays there are various types of snare drum which enable efficient catheter uptake. Due to its properties, it is the most preferred and widely used method. Therefore, we decided to use the simple snare method fort his treatment of the case. We used snare to capture the fragment of catheter, the we hold this catheter by snare, and then we removed it.

CONCLUSION

Catheter breakage with or without embolization can cause fatal complications and in most cases should be removed. Because of its safety and success, percutaneous transcatheter uptake using a loop-snare should be the preferred technique. We recommend percutaneous transcatheter technique for removal of embolized or broken catheter fragments prior to surgery.

a) b)

Figure 1

(a) Removed catheter fragment (b) Angiographic image during percutaneous transcatheter removal

ID: **468**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Poster**

A CASE OF ICTAL BRADYARRHYTHMIA IN TEMPORAL LOBE EPILEPSY: EPILEPTIC ASYSTOLE

Çağlar Kaya[1], Hülya Özkan[1], Mustafa Yılmaztepe[1], Leyla Baysal Kıraç[1], Yüksel Aksoy[2]

[1]*School of medicine, Trakya University, Edirne, Edirne, Turkey*

[2]*school of medicine, Trakya University, Edirne, Edirne, Turkey*

[*]*Corresponding Author (caglarkaya2626@gmail.com)*

Some of the SUDEP cases are cardiogenic sudden deaths triggered by seizures. In this group, ictal arrhythmias, notably ictal asystole, are significantly detected. A 24-year-old female patient with a diagnosis of drug-resistant epilepsy was admitted to the Neurology Clinic video EEG monitoring unit (VEM) to record her seizures. Although the patient was using anti-epileptic drugs, her seizures were reported to be 1-2 times a month. VEM was performed to patient. During the VEM, asystole, which persisted for 20 second was observed immediately after epileptic discharges and starting with bradycardia (Figure 1). During this 20-second asystole period, the patient's head dropped, and she developed myoclonic jerks of the trunk. The patient's clinic returned to normal spontaneously without any medication shortly after normal cardiac rhythm. After consultation between neurology and cardiology, pacemaker was implanted to the patient. We wanted to draw attention to this diagnostic challenge which is rarely reported in our country. Furthermore, we think that neurology and cardiology departments should focus on this subject in order to prevent this situation which may lead to sudden unexpected death, and to make more effective evaluations

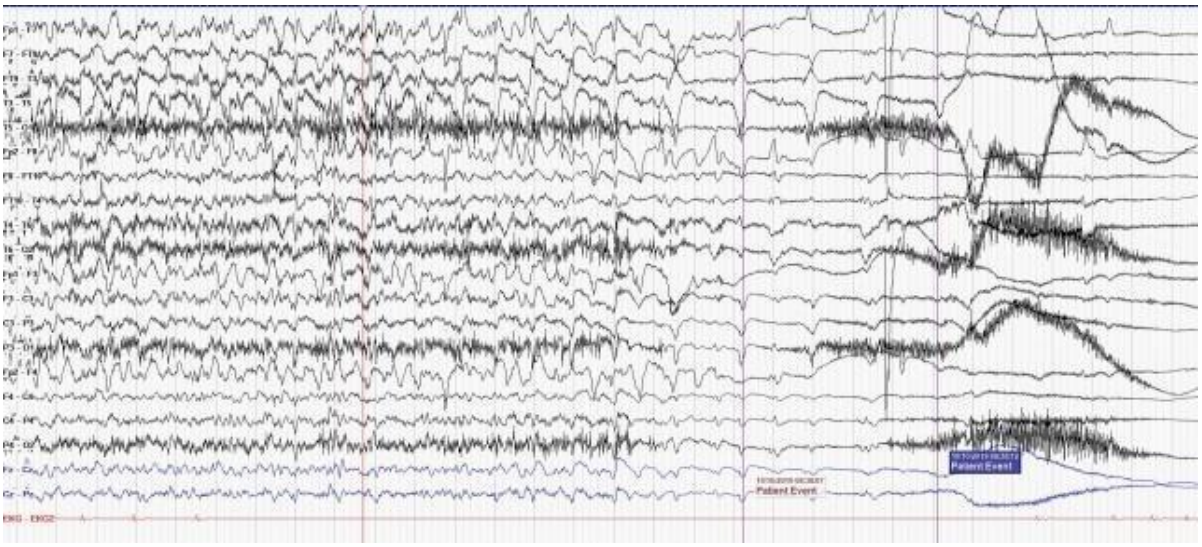


Figure 1: Simultaneous electroencephalogram and electrocardiogram recordings of the patient showing the asystole lasting 20 seconds.

ID: **15**

Topic: **Cardiology » Inherited arrhythmia syndromes**

Presentation Type: **Poster**

PRESENCE OF SUPERNORMAL CONDUCTION OF ACCESSORY PATHWAY IN A PATIENT WITH CONGENITAL AV BLOCK

Kerem Can Yilmaz[1], Orcun Ciftci[2]

[1]*Baskent University Medical School, Ankara, Turkey*

[2]*Baskent University Medical School, Ankara, Turkey*

[*]*Corresponding Author (keremcny@hotmail.com)*

Objective:

We want to present a rare case with congenital AV block and accessory pathway. Also we discussed supernormal conduction in this accessory pathway.

Methods:

A 48-year- old male patient with congenital AV block referred to our hospital for cardiac pacemaker evaluation. His coronary angiography was normal. His electrocardiogram showed complete AV block, narrow QRS complexes and intermittent accessory conduction. Electrophysiologic study (EPS) was performed.

Results:

In EPS, VA conduction was dissociated, HV distance was 35 msn. There was 1:1 conduction by accessory pathway from 430 msn to 320 msn with intravenous dobutamine infusion, and blocked under 320 msn. So we showed supernormal antegrade conduction of this accessory pathway. In this examination we showed left posterior accessory pathway. Ablation was not performed, as the patient was asymptomatic and the accessory pathway contributed to AV conduction from time to time. Ablation and pacemaker implantation is planned if the patient is symptomatic. Antegrade conduction over accessory AV pathways is considered the main determinant of the risk of sudden cardiac death. This risk can be estimated by noninvasive methods including the resting ECG and the behavior of ventricular preexcitation during exercise. Complete electrophysiology, study although invasive, is the most reliable method to assess antegrade and retrograde conduction over an AP. Supernormal conduction (as opposed to the gap phenomenon) is defined as a conduction that occurs at a time when block is expected. It can occur in the abnormal His-Purkinje system as well as in accessory pathways with prolonged refractory periods. Linking in an accessory A–V pathway occurs when antegrade conduction over the normal AV conduction system modifies the conduction properties of an accessory pathway through retrograde concealed activation. But in our patient VA conduction was dissociated. And accessory pathway refractory period was 330 msn with iv dobutamine.

Conclusion:

There was no malign arrhythmia risk for this patient. So we decided to follow up our patient till he has symptoms linked with AV block or accessory pathway.


A
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ID: **18**

Topic: **Cardiology » Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

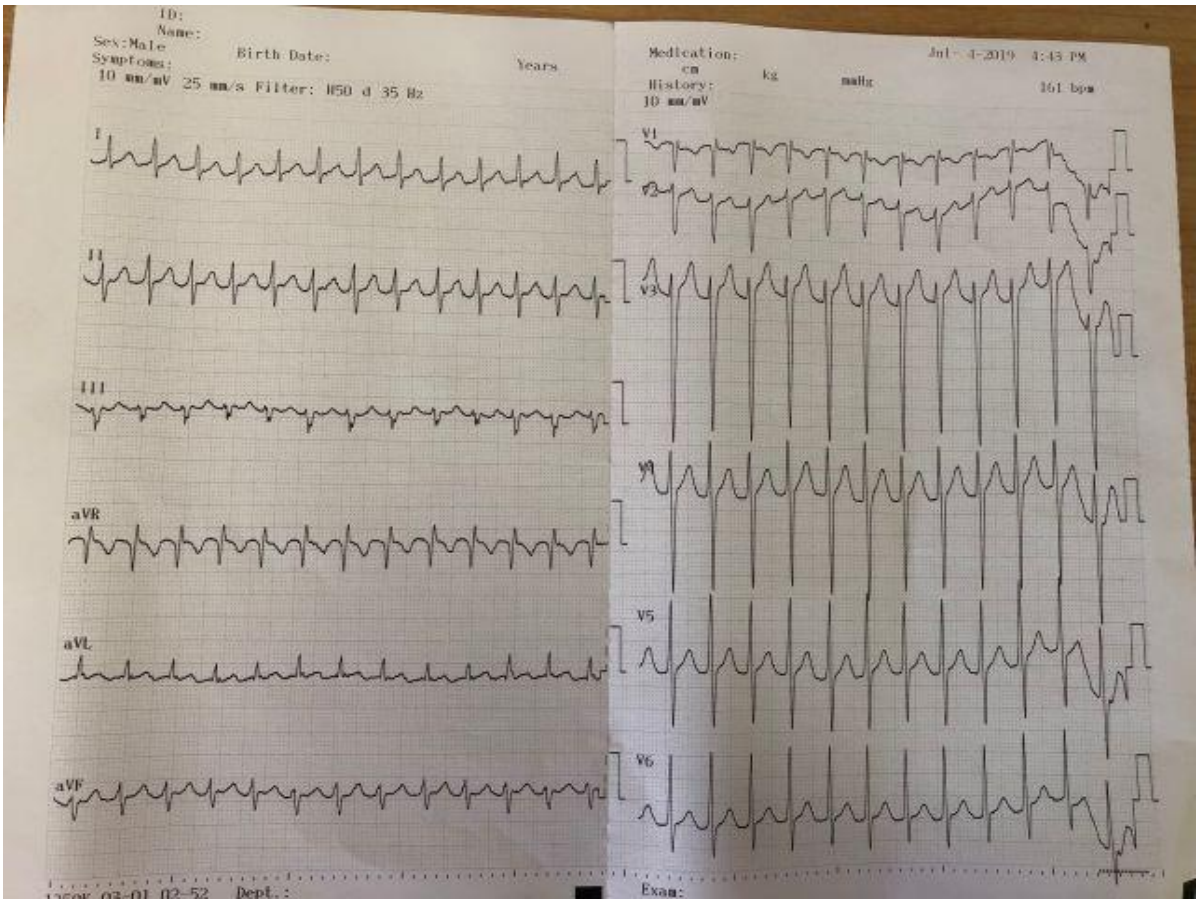
A CASE OF ATRIAL FLUTTER FOLLOWING MARIJUANA ABUSE AND ITS MANAGEMENT

Kamal Isgandarov

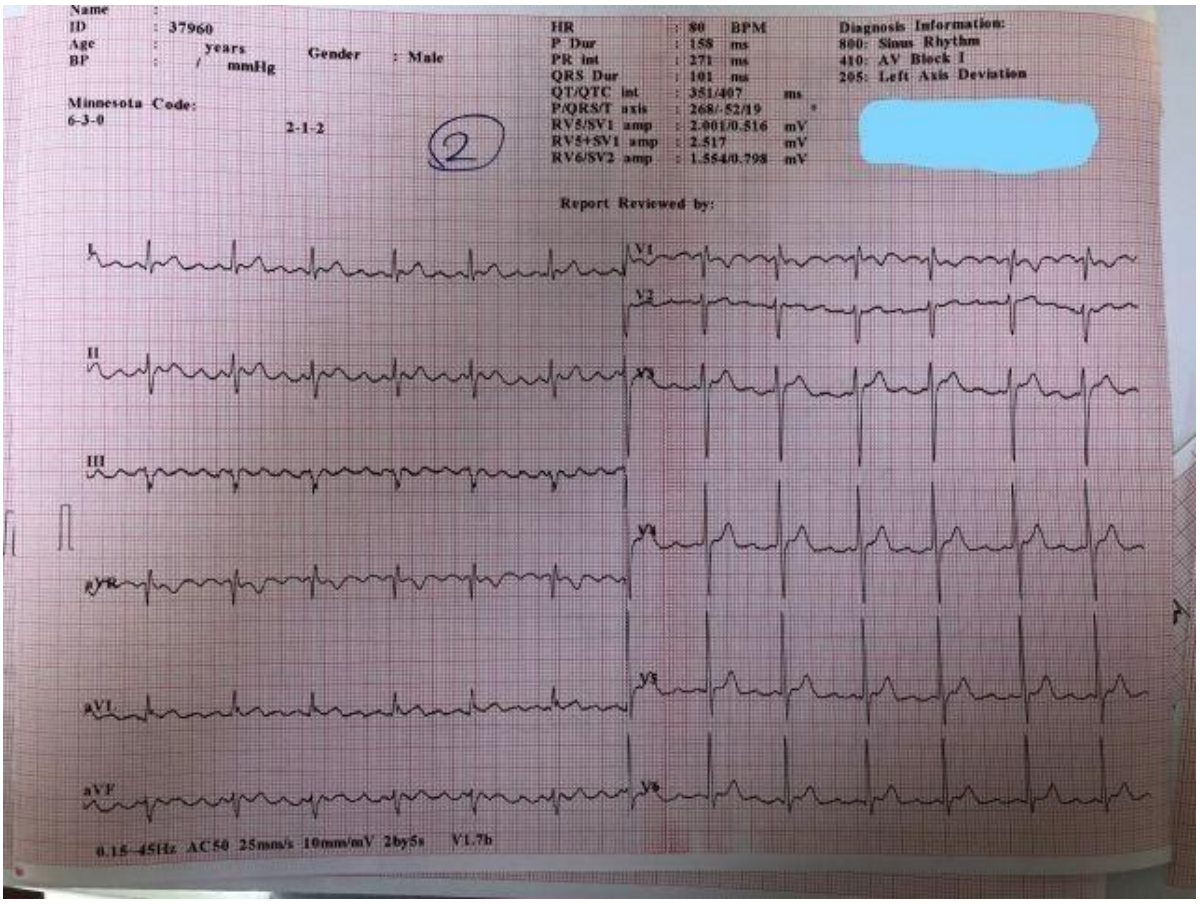
ÖZEL ESKİŞEHİR ANADOLU HASTANESİ, ESKİŞEHİR , Turkey

**Corresponding Author (kemalazeri@hotmail.com)*

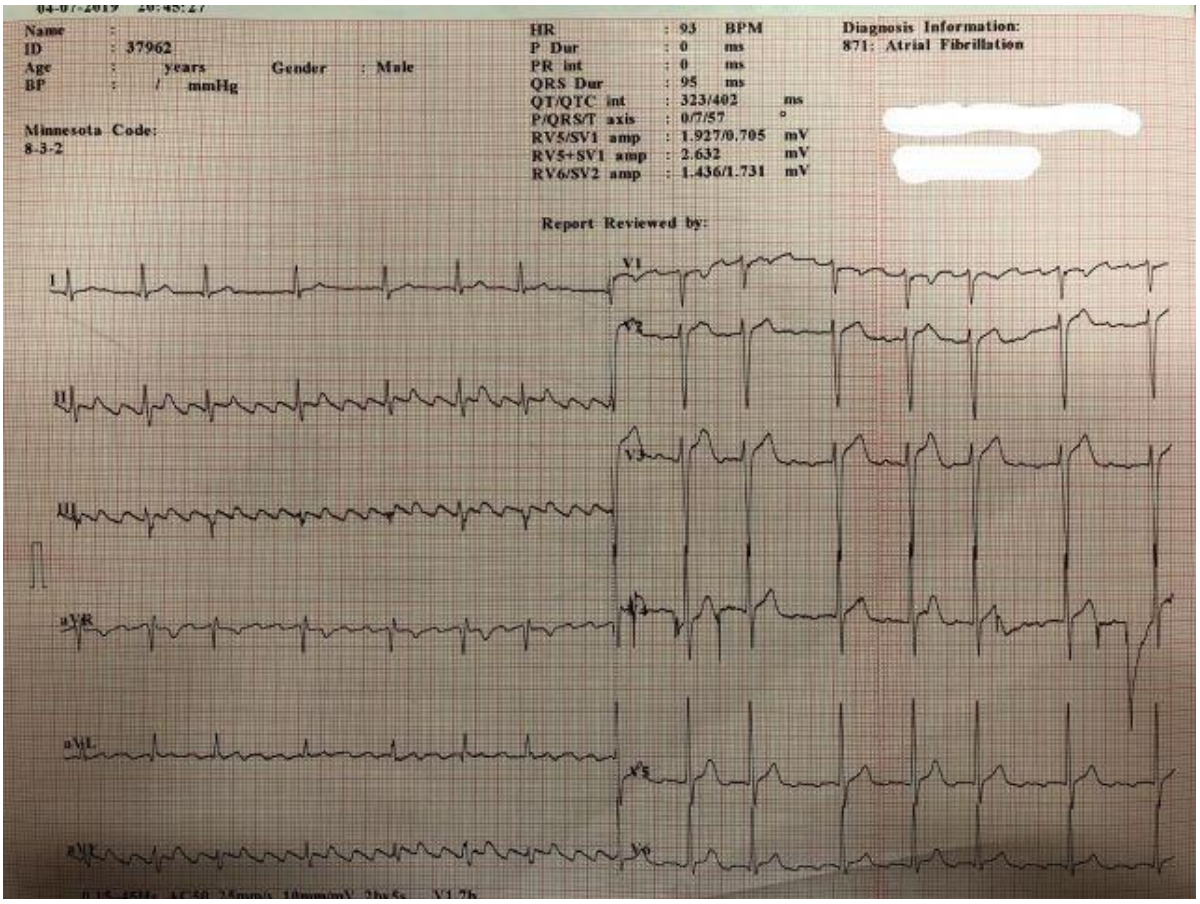
Introduction: Marijuana is mostly associated with neuropsychiatric effects and cardiovascular complications. Since its use is prohibited in our country, information on its effects and complications are mostly obtained from cases. We frequently encounter coronary complications of cannabinoids. We present a rare case of atrial flutter due to marijuana abuse.
Case: A 28-year-old male patient was admitted to the clinic with palpitation which started 17-18 hours ago. He expressed that had no previous disease. On physical examination, patient was tachyritmic and blood pressure was 130/75 mmHg. In ECG, supraventricular tachycardia was observed which is P wave could not be seen clearly (Figure 1).



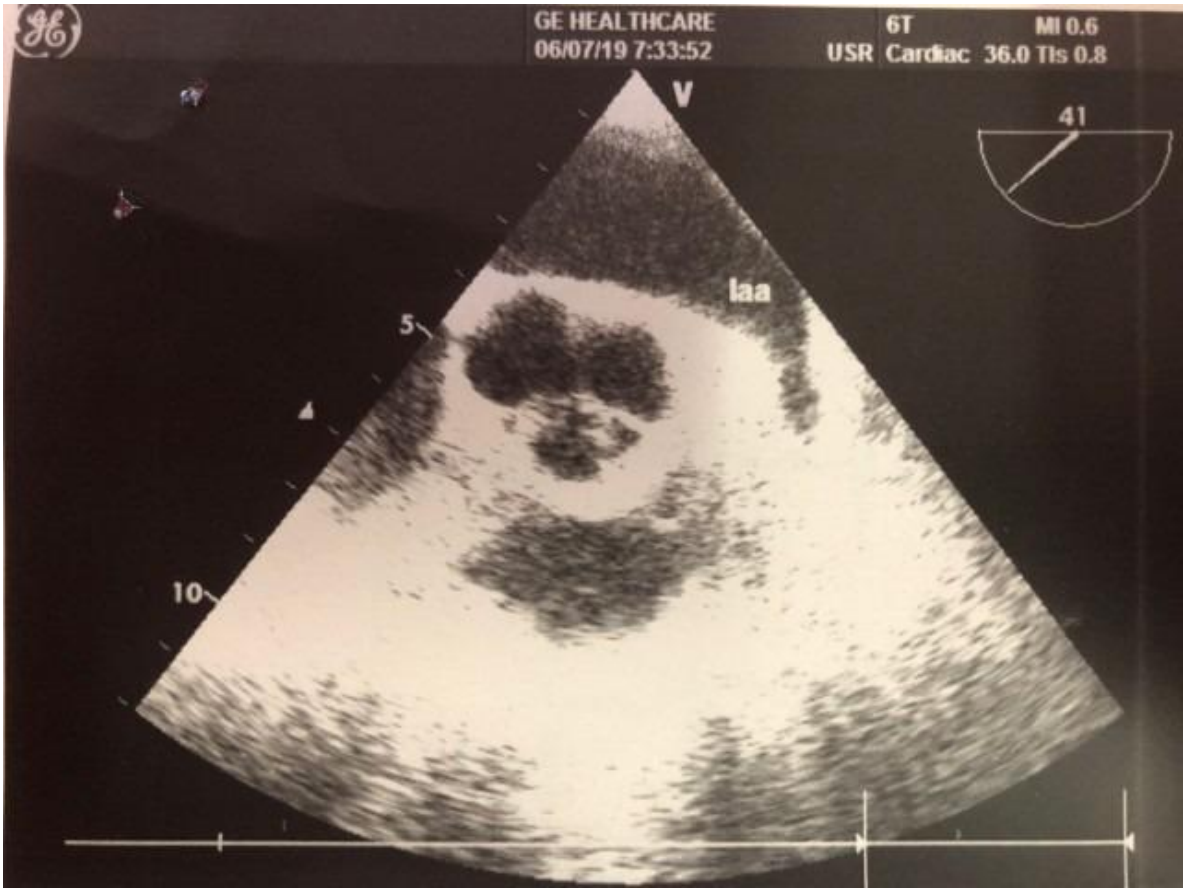
Blood tests were normal. Echocardiography showed no abnormality. During echocardiography the patient reported that he abused marijuana before the onset of palpitation. 6-6-12 mg adenosine was administered. Although AV block response was obtained, it could not be detected with ECG. After subcutaneous 6000 anti-Xa IU / 0.6 ml enoxaparin, 1 amp IV diltizem was injected and atrial flutter with AV block was observed (Figure 2).



After 2-3 hours, 600 mg propafenone PO was loaded for rhythm control. After 6 hours sinus rhythm could not be restored and iv amiodarone was started 300 mg in the 30 minutes followed by 1200 mg in 24 hours and enoxaparin 0.6 ml was ordered. During the 24-hour infusion of amiodarone, atrial flutter with variable-grade AV block was observed and DCS was planned (Figure 3).

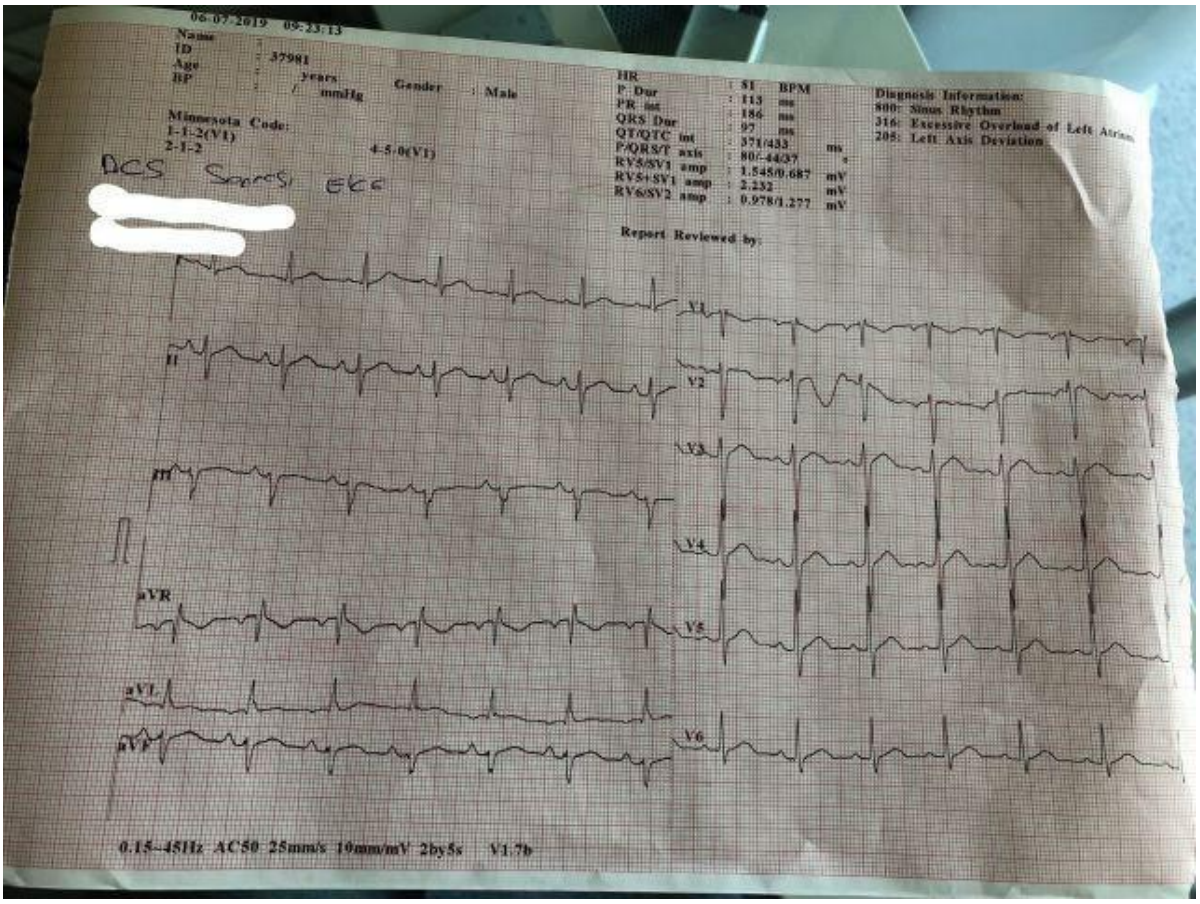


LAA was clear in TEE (Figure 4,5).





In the absence of adequate sedation with 5 mg midazolam, propofol was injected and DCS was performed with 150 J and sinus rhythm was restored (Figure 6).



The patient was discharged with no rhythm abnormality after 20 hours of follow-up. The patient has been followed-up for 9 months in daily rhythm with both a symptom and a "smart watch". During the follow-up patient had no complaints.

Discussion: There are a limited number of case reports on the arrhythmogenic effects of cannabinoids. In epidemiological studies, it has been reported that dose-dependent sinus tachycardia is frequently observed after marijuana abuse (1,2). Other reported arrhythmias are sinus bradycardia, second-degree AV block, and atrial fibrillation (3-5). The arrhythmogenic effects begin a few minutes after abuse with a biphasic effect on the autonomic nervous system, reach the peak within 30 minutes and show this effect up to 90 minutes (1-6). It creates sympathetic activation in low doses and parasympathetic activation in higher doses. Both vagal and adrenergic stimulation can lead to atrial tachyarrhythmias (7). With vagal stimulation, the duration of action potential (AP) is reduced, the atrial refractory period is shortened and cellular hyperpolarization occurs. It allows the development of AF by the re-enterant mechanism as a net effect of decreasing the wavelength of atrial activation (7). On the other hand, adrenergic stimulation shortens the AP duration, triggers the formation of atrial tachyarrhythmias with abnormal automatism, triggered activity and micro-re-entries by disrupting the electrophysiological integrity of the atrial tissue (7). Our case was an atrial flutter due to sympathetic activation of marijuana. The case is also important in terms of careful examination of the patient's history and sometimes questioning the patient alone to show that the cause - effect relationship can be understood without detailed tests.

Key words: marijuana, atrial flutter, atrial fibrillation

Eye Catching Findings in Cardiovascular Imaging

ID: **453**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Poster**

ASSESMENT OF AORTIC BIOPROTHESIS VALVE THROMBOSIS: TWO- AND THREE-DIMENSIONAL TRANSESOPHAGEAL ECHOCARDIOGRAPHY STUDY

Emrah Bayam, Semih Kalkan, Gokhan Kahveci

kartal kosuyolu kalp hastanesi, Istanbul, Turkey

**Corresponding Author (semihby1@gmail.com)*

A 66 years old male patient with history transcatheter aortic valve replacement (TAVR) 8 months earlier, type 2 diabetes mellitus and hypertension, had admitted the emergency department with New York Heart Association Class III symptoms. On admission, cardiac auscultation revealed pathologic 4/6 systolic murmurs, electrocardiography demonstrates sinus tachycardia. Bedside transthoracic Echocardiography (TTE) indicated increased bioprosthetic aortic valve gradient (Max gr: 74 mm-Hg Mean Gr 52 mm hg), the normal ejection fraction of left ventricle, moderate mitral regurgitation and mild tricuspid regurgitation. Further investigation with two-dimensional (2D) and real-time three-dimensional (RT-3D) transesophageal echocardiography (TEE) revealed thrombus like image and obstruction, on mid-esophageal long-axis view at bioprosthetic aortic valve (Fig 1,2 and Movie 1,2). However, bioprosthetic valve thrombosis (BVT) is thought to be uncommon beyond 3 months of implantation, so we had to brighten the pathology. Subsequently, on deep transgastric long-axis view (TG LAX), the aortic valve was assessed distinctly. We achieved precious information with TG LAX 2D (Fig 3 and Movie 3) and RT-3D (Fig 4,5,6 and Movie 4,5) images and ensured that the pathology was the obstructive thrombus. After the diagnosis the patient treated with systemic anticoagulation therapy with vitamin K antagonist with a target international normalized ratio (INR) of between 2 and 3, Follow-up TEE performed after 10 weeks of anticoagulation revealed significant improvement in AV gradients and thrombus formation was resolved.

Valvular heart disease affects more than 100 million patients worldwide. Since the last decade, there has been a shift from mechanical to bioprosthetic valve replacement. This could be explained by the mechanical heart valve's restrictions. Prosthetic valve thrombosis, long term warfarin usage, and its complications are important ones. In spite of less thrombogenic, bioprosthetic valve thrombosis (BVT) can also lead to bioprosthetic valve dysfunction.

BVT incidence may vary depending on the valve type. It might be underestimated because valve imaging is not routinely performed post-valve implantation and the limitations of current imaging techniques. TEE and computed tomography (CT) are both good for BVT because the image quality is generally good with fewer artifacts in comparison with the mechanical heart valve.

However, except tertiary referral hospitals, cardiac CT experts cannot be reached easily. Hence, in daily practical transgastric TEE plans are should be used more frequently to provide precious data about BVT. The case presented above emphasize the importance of 2D and RT-3D transgastric TEE plans to evaluate bioprosthetic aortic valve thrombosis.

ID: **485**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Poster**

AORTO- RIGHT ATRIAL FISTULA: INCIDENTAL DETECTION IN ASYMPTOMATIC PATIENT 10 YEARS AFTER AORTIC VALVE REPLACEMENT

Duygu Ersan Demirci

Antalya Education and Training Hospital, Antalya, Turkey

**Corresponding Author (duygu_ersan@yahoo.com)*

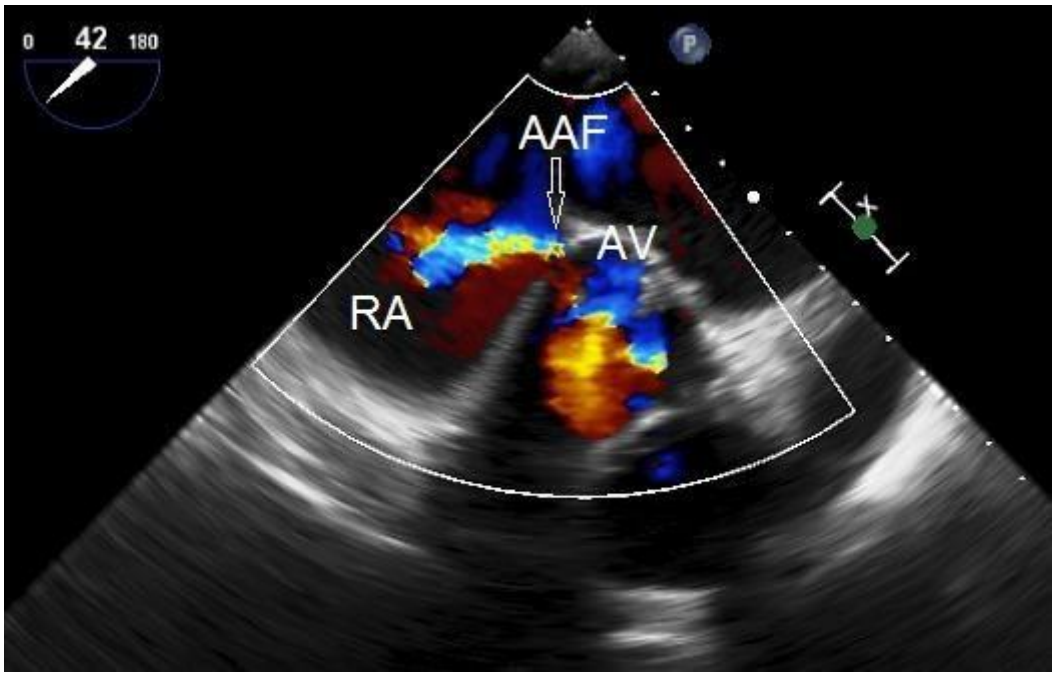
Introduction

An aorto-right atrial fistula after aortic valve replacement is an extremely rare complication. Herein we report a case of incidentally diagnosed aorto-right atrial fistula 10 years after aortic valve replacement.

Case Report

A 78-year-old male patient, hospitalized with lower gastrointestinal bleeding, was consulted to our clinic for cardiac evaluation. He had history of hypertension and surgery of coronary artery bypass grafting and aortic valve replacement 10 years ago. In physical examination, blood pressure was 120/70 mmHg, heart rate was 80 b.p.m. A grade 3/6 continuous murmur was heard over the left sternal border. Electrocardiogram showed normal sinus rhythm. No evidence of clinical heart failure or infection was noted. Transthorasic echocardiography demonstrated normally functioning bioprothesis aort valve. Mitral regurgitation was severe, tricuspit regurgitation was moderate and left ventricular ejection fraction was 45% with wall motion abnormality. Color Doppler revealed an unusual continuous flow from aorta, above the noncoronary cusp toward the right atrium throughout the cardiac cycle but mainly in systole.

Transesophageal echocardiography (TEE) confirmed the diagnosis of aorto-right atrial fistula (Figure 1).



AV: aortic valve, AAF: aorto-atrial fistula, RA: right atrium

The patient was hemodynamically stable and asymptomatic. Because of the high operative risk and the comorbidities of the patient, an initial conservative medical treatment was initiated.

Discussion

Aorto-right atrial fistulas (AAF), abnormal connections between the aorta and the right atrium, are rare pathophysiologic conditions of the aorta. These fistulas can be congenital or mostly caused by aortic dissections or infective endocarditis. They can also result from operations involving the aorta or aortic valve. Acquired aorto-right atrial fistula after AVR is extremely rare. There are only few cases which have no evidence of aortic dissection or infective endocarditis. Very late detection after surgery is also a rare entity, as in our case. The most common fistula tracts are the right coronary sinus to right ventricle, the noncoronary sinus to right ventricle and the left coronary sinus to left atrium. The fistula formation between the aortic root and right atrium is relatively rare among intracardiac fistulas.

Since physical exam in this condition may be misleading, definitive diagnosis can be made by a through echocardiographic evaluation. Computer tomography and cardiac catheterization can also be used for diagnosis.
In conclusion, aorto-right atrial fistula after aortic valve replacement is an extremely rare complication. If a continuous heart murmur is heard in a patient with aortic valve replacement, aorto-cameral fistula should be considered, even if the patient is asymptomatic.

ID: **93**

Topic: **Cardiology » Cardiac imaging - Echocardiography**

Presentation Type: **Poster**

A RARE ETIOLOGY OF PERICARDITIS; BRUCELLA SPP.

Tuba Tatlı Kış, Mehmet Kış

Silopi state hospital, Sirnak, Turkey

**Corresponding Author (tubatatlii@hotmail.com)*

OBJECTIVE: Brucellosis is one of the most common zoonotic diseases in the world. It is transmitted to humans by contact with the fluids of infected animals, by consuming infected meat, unpasteurized milk and dairy products, or accidentally transmitted to laboratory personnel working on infected body fluids. Because it affects many organs and tissues, it presents with many different clinical manifestations and therefore difficulties in diagnosis are encountered. Cardiovascular involvement is a rare complication of the disease and has been reported in 1-2% of patients. The most common cardiovascular complication of brucellosis is endocarditis. Pericarditis is a complication usually associated with endocarditis and it is rarely reported as isolated pericarditis. Our case is a rare case of isolated pericarditis due to brucellosis presenting with cardiac signs and symptoms.

CASE REPORT: A 19-year-old male patient was admitted to the outpatient clinic with complaints of severe chest pain, fever, joint pain and weight loss for about one week. The patient had been living as a shepherd and he had lost 5 kilograms in the last month. The patient complained of joint pain especially in the knee joint and occasional fever, and a sharp chest pain was added to his complaints for the last week. Chest pain was reduced by leaning forward and sitting. In his animals had a history of miscarriage and he was described eating fresh cheese. On physical examination, no pathological findings were detected except frotman. Complete blood count, biochemical tests were normal, erythrocyte sedimentation rate: 63 mm / h, C-reactive protein (CRP): 4.9 mg / dL. Autoimmune markers were normal. Brucella Rose Bengal test was positive and Wright tube agglutination test was 1/5120 positive. Two peripheral blood cultures were requested. Echocardiography (Echo) was performed in the patient who had widespread ST elevation on ECG. Echo showed normal LV and RV ejection fraction (EF), 1-2 degree mitral regurgitation, mitral valve prolapse, and mild pericardial effusion with no evidence of compression in the LV posterior and increased pericardial luminescence. No vegetation / abscess / mass echogenicity was observed in all heart valves and papillary muscles. Brucella spp. reproduction was detected. The patient was prescribed doxycycline 2x100 mg, rifampicin 1x600 mg, trimethoprim sulfamethoxazole 160/800 mg 2x1 and ibuprofen 3x400 mg with a diagnosis of Brucella pericarditis. In the third month of antibiotherapy, clinical and laboratory responses were obtained, and control echo showed decrease in pericardial brightness and regression in effusion.

DISCUSSION: Brucellosis is one of the diagnosis that should be considered in the differential diagnosis of pericarditis in patients living in endemic areas. Pericarditis is rarely seen during the course of brucellosis as an isolated cardiac symptom. It may be clinically asymptomatic or manifest with chest pain and ECG changes, and may mimicking ischemic heart disease. Clinical suspicion, adequate antibiotic therapy and a multidisciplinary approach result in complete recovery in brucellosis, where the main cause of death is heart disease.

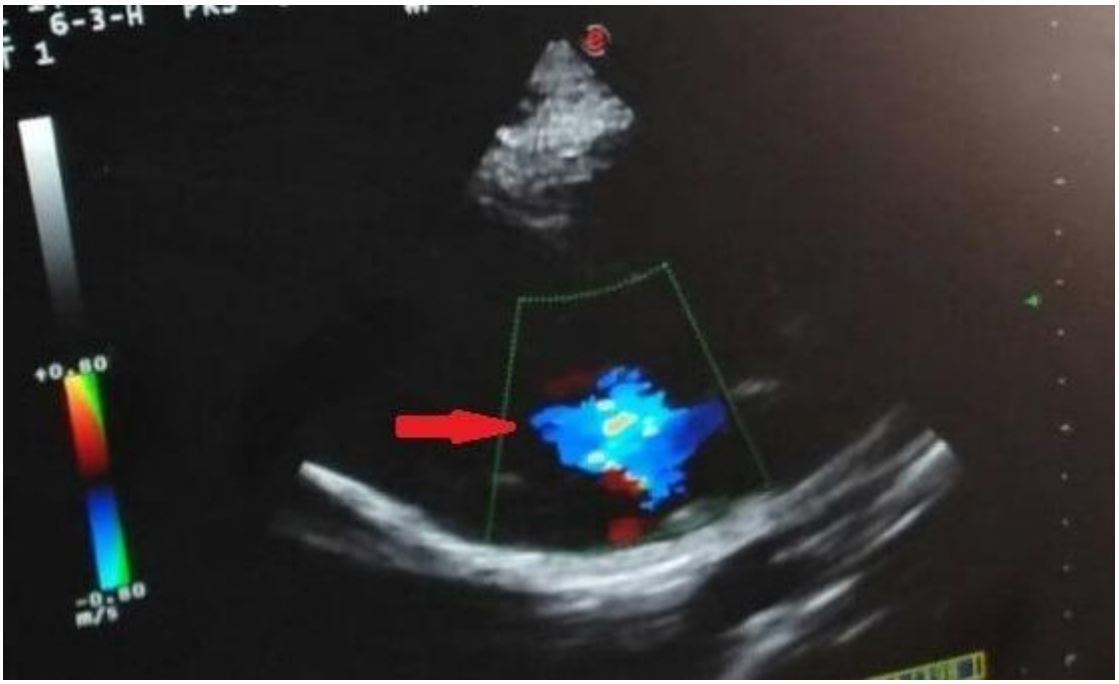
Figure 1: Echocardiography showed pericardial effusion in the left ventricle posterior and increase in pericardial brightness



Figure 2: Echocardiography showed the non-classical type MVP



Figure 3: Appearance of moderate mitral regurgitation on echocardiography


6-3-H
1
+0.80
-0.80
m/s

Cardiac Involvement by Tumors and Hydatid Cyst: Unusual Pathologies

ID: **109**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

SURGERY OF EMBRYOSARCOMA OF HEART IN 05 YEAR OLD GIRL: CASE REPORT

Redha Lakehal, Bendjaballah Soumaya

Ehs Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The primary cardiac tumors are extremely rare. 25% of primary cardiac tumors are benign. Primary cardiac sarcomas remain exceptionally rare. The rhabdomyosarcoma account for 10% of the sarcomas. They are diagnosed by various methods of cardiac imagery, such as echocardiography, the imagery by magnetic resonance and the tomodensitometry. The goal of this work is to bring back this rare case and to show its gravity.
Methods: We report the observation of a 05 year old girl to the antecedents of right cardiac decompensation Pulmonary radiography: CTI at 0.55. ECG: RSR. Echocardiography: LV:24,5/18,6 mm. Operational exploration: Pericardial outpouring of great abundance , infiltration of the LA, the RA, the SVC by taking space interaorticocave and inter aortopulmonary returning the control of these structures and difficult cannulation of the VCS and presence of adenopathies .The IVC were much infiltrated. Exploration after cardiac arrest: Bilobate, friable tumor of yellowish color taking all the RA and extending towards the valve tricuspid, the VCS and the IVC. The gesture: Resection of the mass carrying with it the wall of the RA, of the SVC, IVC and the IAS and the septal tricuspid valve. Closing of the IAS by a synthetic patch, reconstitution of the right atrial wall and the SVC by a synthetic patch.

Results: The postoperative course was unfavorable with impossible exit of heart tumor and death of patient by rebels cardiogenic operationally shock. The anatomopathological study returned in favor of a heart embryosarcoma.

Conclusion: The sarcomas account for 90% of the malignant tumours. The cardiac observations are given mainly by the localization of the tumour and the intracavitary degree of obstruction. Relative incidence of rhabdomyosarcoma is: Adults:11%, Children: 41%, Young and children: 50%. These tumors are intracavitary, or diffuse and infiltrating, the echocardiography is a tool for initial tracking realise effective. The CT and the MRI offer a higher characterization of soft fabrics and make it possible to determine the extent of the infiltration of the tumor. The extremely poor forecast in spite of their complete resection, chemotherapy as well as the autotransplantation. New therapies are thus necessary to improve the survival of the patients at which one diagnosed this aggressive tumor.

Key words: Cardiac, embryosarcoma, surgery, cardiopulmonary bypass.

ID: **105**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

SURGERY OF CARDIAC PARAGANGLIOMA : CASE REPORT.

Redha Lakehal, Bendjaballah Soumaya

Ehs Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

The cardiac paraganglioma is a very rare tumor, constituting only 1% of the cardiac tumors, of slow evolution what pose a diagnostic and therapeutic problem. The localizations carotidienne and jugulo-tympanic are most frequent, very seldom the aortic localization. The association of two, three or four localizations is possible in the multiple forms. These forms are generally met within a family setting. The surgical exerese is the treatment of first intention of these tumors. The surgical exerese is the treatment of first intention of these tumors. In the multiple forms, the therapeutic strategy must be adapted to each case: one starts generally initially, by the localization carotidienne. We report the observation of 57 year old woman, diabetic presenting since one month palpitation and peaks hypertensives whose exploration echocardiography revealed the presence of a cardiac mass. It is the anatomopathologic study which confirmed diagnoses it. The originality of this observation rests on the one hand the scarcity of the cardiac localization and on the other hand on the typical mode of the clinical expression of the cardiac paraganglioma.

Keywords: Paraganglioma, heart, surgery, cardiopulmonary bypass.

ID: **106**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

SURGERY OF LEFT VENTRICULAR TUMOR IN CARNEY COMPLEX: CASE REPORT.

Redha Lakehal, Bendjaballah Soumaya

Ehs Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The Carney complex is a genetic disease characterized by the association of pigmentary anomalies of the skin, myxoma, tumors or dysfunction of the endocrine tumors and the schwannomists. The prevalence is unknown. The goal of this work is to bring back a case of Carney complex.

Methods: We report the observation of 10 year old boy to the antecedents of testicular tumors having a mass in intraventricular left will. Pulmonary radiography: CTI at 0,50. ECG: RSR. Echocardiography: Bilobate homogeneous mass has broad base of establishment with the level of the left ventricle. Preoperative exploration: Mass 07/05 cm has broad base of implantation encrusted in the left ventricular wall. The gesture was section of the ventricular mass carrying its base of implantation sent for anatomopathologic study.

Results: The immediate postoperative course was favorable.

Conclusion: Affection rare a dominant autosomic transmission responsible for myxomas, cutaneous pigmentation and endocrine hyperactivity. The cardiac myxoma appear at any age and meet in any cardiac cavity. The cardiac myxoma must be withdrawn by surgery. The treatment of the other demonstrations must be discussed and can include a follow-up , surgery or a medical care according to the localization of the tumor, its size , the existence of clinical signs of tumoral mass or hormonal excess, and of the suspicion of a malignant tumor.

Keywords: Myxoma, Carney complex, familial, surgery, cardiopulmonary bypass.

ID: **187**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

PRIMARY MALIGNANT HEART TUMORS: CASE REPORTS

Mustafa Dağlı[1], Ali Sarıgül[2]

[1]*Health Sciences University, Konya Education and Research Hospital, Konya, Turkey*

[2]*Medicana Hospital, Konya, Turkey*

[*]*Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Heart tumors may be seen in primary form, sometimes they are seen a spread of a neighboring tumor and a metastasis of a distant tumor. Myxoma is the most common primary benign heart tumors. Primary malignant tumors are rare and mostly sarcomatous. Secondary heart tumors originate mainly from lung and breast or occur during hematologic malignancies. Heart tumors are seen myocardium, endocardium, epicardium, pericardium, or all of these together. The most common localization of metastasis is pericardium. Clinical findings are generally nonspecific and variable and occur late. Transesophageal and transthoracic echocardiography is used primarily as a diagnostic method. Magnetic resonance and computed tomography have also been used. Treatment of benign tumors is in principle surgery and usually has a good prognosis. As the surgical treatment of malignant tumors is often incomplete, the approach should be discussed according to the case. Despite adjuvant chemotherapy, postoperative deaths occur quickly due to metastases. Cardiac metastases are treated symptomatically with exceptions.

We present two cases of intracardiac rare malignant mesenchymal tumors and discuss further treatment.

Case 1 : A 52-year-old male patient. He was admitted to the hospital with dyspnea for 2 weeks. On admission to hospital, the patient crp was high and diagnosed with hypertension. Echo was detected mass in the right atrium (4 * 4.2 cm) and pericardial effusion. The patient was operated after coronary angiography and the mass was diagnosed as **angiosarcoma** by pathology (*malignant mesenchymal tumor*). The location of the mass in the right atrium was clearly visible from the outside (image 1). The patient was discharged on the 6th postoperative day without any problem and oncology control was recommended.

Case 2 : A 61-year-old female patient. She was admitted to the hospital with dyspnea. Echocardiography revealed a 3 * 2.5 cm diameter mass in the posterior leaflet, second degree mitral regurgitation and pulmonary hypertension (45 mmhg). The patient underwent mitral valve replacement and the pathology reported that the mass was **malignant fibrous histiocytoma** (*malignant mesenchymal tumor*). The patient was discharged on the 6th postoperative day without any problem and oncology control was recommended.

Angio sarcomas are the most common primary malignant heart tumors (37 %) and constitute more than half of the cases. These tumors usually originate from the right atrium. Malignant fibrous histiocytoma is a sarcoma and less common (11%).
The signs and symptoms of heart tumors are related to their anatomic location rather than their histological type.

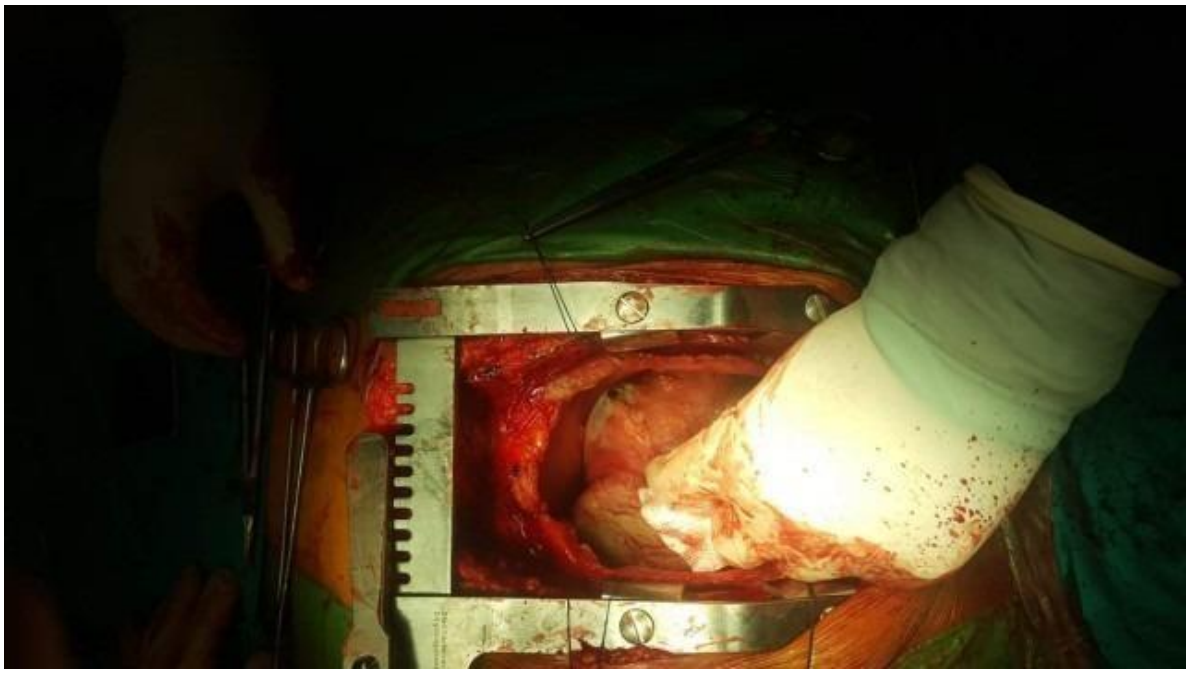
Although malignant tumors are diagnosed early by echocardiography, their prognosis remains poor despite the improved treatment methods. Paraneoplastic syndrome in metastatic tumors treatment may be symptomatic and rarely are also utilized.

CONCLUSIONS

A satisfactory primary tumor of the heart surgical intervention is rarely possible; complete excisions usually is not possible. What is currently available for these is to follow up metastatic spreads that chemotherapy cannot prevent. Malignant tumors that have not metastasized yet a widely accepted treatment option is complete resection and cardiac transplantation.

Recurrence in malignant tumors risk is available. The use of rare donors in this indication leads to questioning.

Recently, the success of targeted therapeutic agents in metastatic diseases has increased hopes.



ID: **191**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

LEFT VENTRICULAR TUMORS: ABOUT 03 CASES.

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Left ventricle tumors are rare, less frequent than left auricle ones. Often responsible of repeated syncope, those tumors can remain in rare asymptomatic cases and fortuitous discovery during an echocardiography.
The aim of our work is to show 03 cases of left ventricle tumors.

Methods: From January 2000 to December 2015, among 100 open heart surgery for cardiac tumor we deplore 03 cases of left ventricle tumors; 01 man and 02 women. An average age of 27 years old (younger10 – older 44years old). The symptomatology: the youngest patient had a Carney complex, the second an important dyspnea, the third patient had palpitation. CTI: 0.47-0.50. ECG: regular sinus rhythm. The echocardiography allowed the diagnosis of left ventricular wall mass in all 03 registered cases. The surgical treatment under cardiopulmonary bypass for all cases.

Results: No operational mortality is deplored and the postoperative course was favorable. The anatomopathological examination showed a myxoma in all the cases.

Conclusion: The diagnosis of heart tumors in general and those of the left ventricle in particular is facilitated by echocardiography; especially in the asymptomatic forms which are of fortuitous discovery. However, purely surgical management poses a serious problem in our developing countries.

ID: **193**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

CARDIAC ANGIOSARCOMA OF THE RIGHT VENTRICULAR: A CASE REPORT

Khacha Khaled[1], Lakehal Redha[2]

[1]*EHS Mokhtar Djaghri, Constantine, Algeria*

[2]*EHS Mokhtar Djaghri, Constantine, Algeria*

[*]*Corresponding Author (kh3khaled@gmail.com)*

Introduction: The cardiac angiosarcoma is the most frequent of cardiac differentiated sarcomas (37% of sarcomas). Reaches the adult man. Its favorite location is the right auricle in 90% of cases. The goal of this work is to present this rare type of malignant cardiac tumors.

Methods: We report an observation of a 60 years man old with medical history of parotid gland carcinoma, operated then treated in July 2014 by chemotherapy and radiotherapy presentant a mass of the right ventricular. The Patient presented a dyspnea; atypical thoracic pain. ECG: sinusal regular rhythm.CTI:0,56.
Echocardiography: Presence of a homogeneous round mass, infiltrating the free wall of the right ventricular and the atrio ventricular junction. Exploration reveals: An induration of the right ventricular which appears infiltrated by a tumoral process. The patient operated under circulatory assistance. Exploration finds: An infiltrating mass of right ventricular wall extended until the right atrium. One proceeded to: A biopsy of the tumor: partial tumorectomy.

Results: The immediate postoperative course was simple, anatomopathologic study showed an angiosacroma, the patient oriented to chemotherapy.

Conclusion: The angiosarcoma and the undifferentiated cardiac sarcoma are the most frequent primitive cardiac tumors. The treatment is surgery associated with chemotherapy. the prognostic is poor.

ID: **194**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

CARDIAC HYDATID CYST IN LEFT VENTRICULAR WALL: CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: It is extremely rare 0.5-2% in all hydatid cases. Although it is generally asymptomatic. The diagnosis might be difficult on account of varying clinical presentations and non specific symptoms. Serious complications such as pericardial tamponade, pulmonary embolism. Surgical excision is the preferred treatment. This new report case is an opportunity for us to make a reminder of this little-known entity.

Methods: We report the case of an 11 years old child who was admitted in our hospital, he presented dyspnea and persistant fever. Physical exam revealed nothing unusual. A chest radiography showed a cardiomegaly. Computed tomography and magnetic resonance thoracic imaging wasn't realised. An echocardiography revealed a large left ventricular posterior wall cyst measured 63/50 mm. the ELISA (enzyme-linked immunosorbent assay) was positive for echinococcus. We decided to excise the hydatid cyst. Surgical approach by median sternotomy and the patient placed on cardiopulmonary bypass. The left atrium was vented. Sponges soaked with hypertonic saline solution were distributed throughout the pericardial cavity. Don't found a cyst at the time of opening the left atrium chamber but after cardiac luxation. We aspirated the entire contents of the cyst, removed its germinative membrane, and washed the cavity with hypertonic saline solution. Capitonnage was performed, and the incision was closed with the use of Teflon felt.

Results: The immediate postoperative course was simple. At the routine follow-up examination 2 months postoperatively, the patient was in NYHA functional class I, with no trace of cysts on echocardiography.

Conclusion: Patients who have cardiac echinococcosis can present with a variety of clinical manifestations. Cardiac hydatid cyst should be considered, particularly in endemic regions, in the differential diagnosis of patients with chest pain.

ID: **195**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

CARDIAC HYDATID CYST IN CHILD: REPORT OF 2 CASES

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: hydatic cyst cardiac localization is extremely rare 0.5-2% in all hydatid cases. Although it is generally asymptomatic. The diagnosis might be difficult on account of varying clinical presentations and non specific symptoms. Serious complications such as pericardial tamponade, pulmonary embolism. Surgical excision is the preferred treatment. This review Focus our results on this technique in our institution.

Methods: It is a retrospective and monocentrique study from January 2012 to June 2016. We analyzed the results of mortality and morbidity in post operative follow-up.

Results: The immediate postoperative course was simple. There were no early deaths. Intensive care unit stay was 02 days; hospital stay was 6-8 days. Mean age is 11 years. Without sex predominance. All patients had fever and dyspnea. Physical exam revealed nothing unusual. A chest radiograph showed a normal cardiothoracic ratio. Computed tomography and magnetic resonance imaging Thoracic CT don't realizable. ELISA was positive for echinococcus antibodies. The diagnostic of cyst was made by echocardiography Doppler. All patients were placed on cardiopulmonary bypass. Sponges soaked with hypertonic saline solution were distributed throughout the pericardial cavity to prevent local invasion by the parasite. We aspirated the entire contents of the cyst, removed its germinative membrane, and washed the cavity with 20% hypertonic saline solution Capitonnage was performed, and the incision was closed with the use of Teflon felt. All patients were in NYHA functional class I, with no trace of cysts on echocardiography.

Conclusion: Patients who have cardiac echinococcosis can present with a variety of clinical manifestations. Cardiac hydatid cyst should be considered, particularly in endemic regions, in the differential diagnosis of patients with chest pain, even for those who do not have a history of hydatid disease.

ID: **197**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

LEFT ATRIUM TUMOR COMPLICATED BY ACUTE ISCHEMIA OF THE LOWER EXTREMITY: CASE REPORT.

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine , Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction:

Cardiac masses represent a very mixed group of tumoral and pseudo-tumoral affections, characterized by clinical symptomatology, and morphological imagery diversity. Echocardiography and magnetic resonance imaging have a preponderant place in tumor analysis than computed tomography, give morphological characteristics of the mass and could predict its nature, histological confirmation is required.

We report a case of a mass in the left atrium complicated by member ischemia and splenic infarction.

Methods:

We report the observation of a 37-year-old woman who presented to the emergency room with an outdated right lower member ischemia. The etiological evaluation after amputation revealed the presence of a left atrium mass on echocardiography, and a splenic infarction on abdominal ultrasound. The patient underwent emergency surgery, surgical exploration revealed a left atrium mass implanted near the right pulmonary veins. The mass was sent for anatomopathological study after total resection.

Results:
The immediate postoperative course was marked by an acute bilateral lower members ischemia, having benefited of an arterial obstructions removal. the anatomo-pathological study returned in favor of a myxoma

Conclusion:

The cardiac masses pose an etiologic and diagnostic problem. The echocardiography, the MRI have a dominating place in the analysis of the anatomical and morphological characteristics of the mass, to guide the surgical gestures and to predict the histological nature, confirmation often requires an anatomo-pathological study.

ID: **401**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

HUGE HEART TERATOMA IN A 14-DAY-OLD BABY: CASE REPORT

Redha Lakehal[1], Bendjaballah Soumaya[1], Aziza Baya[2]

[1]*EHS Dr Djaghri Mokhtar, Constantine, Algeria*

[2]*Ehs Djaghri Mokhtar, CONSTANTINE, Algeria*

[*]*Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Heart tumors of the child are rare. Most are found in children under one year old. Rhabdomyomas are by far the most common, followed by fibroids, intrapericardialteratomas, myxomas, and hemangiomas. Echography is the basic examination of diagnosis; it allows their screening in the fetal stage. The objective of this work is to report the discovery of this type of birth-time tumors.

Observation: We report the case of a 14-day-oldbaby, female, from a non-consanguineous marriage, presenting at birth a respiratory distress with hypoxia (arterial oxygen saturation: 85%) and cyanosis. The physical examination reveals a birth weight of 02 kg withnormal chest morphology, the cardiopulmonary auscultation reveals an abolition of cardiac sounds and vesicular murmurs. Chest X ray: huge cardiomegaly with widening of the anterior mediastinum, disappearance of the two pulmonary fields reduced to the buttocks of right and left costodiaphragmatic sacs. ECG: sinusal tachycardia.

Echocardiography: presence of a voluminous intrapericardial mass located on the right and in front of the cardiac mass. The thoracic CT scan confirms the presence of this intrapericardial tumor, of polycystic appearance attached to the base of the large vessels and compressing the heart. The infant was operated on urgently and the gesture consisted in the radical excision of the mass after median vertical sternotomy, the piece was sent for anatomopathological study. The postoperative course was simple. The pathological examination of the operative specimen returned to heart teratoma.

Conclusion: Cardiac tumors of the child remain rares, intrapericardialteratomas are often benign. The complete surgical removal of the tumor is curative and without recurrence.

ID: **408**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Oral**

HYDATID CYST OF LEFT VENTRICLE RUPTURED IN THE PULMONARY ARTERY. A CASE REPORT

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Cardiac localisation of the hydatic disease is rare (<3%) even in the endemic countries. It is an affection characterized by a long functional tolerance and a great clinical polymorphism. We report the case of a 44 year old young man without medical history presenting a respiratory distress with cyanosis following the sudden rupture of the right ventricular hydatic cyst in the pulmonary artery. Peroperative exploration found the rupture of the RV cyst in the pulmonary artery with rock water liquid, membrane and the blisters girls. The surgical treatment consisted on taking away the liquid, membrane and the blisters girls ablation, sterilization by SSH 30% and finally residual cavity padding. The immediate postoperative course was simple.

Conclusion: The surgery of the heart hydatic cyst is formel because of the lethal spontaneous

ID: **413**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

CARDIAC POLYKYSTOSIS: CASE REPORT

Khacha Khaled, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction:

Cardiac localization of hydatid disease is rare (<3%) even in endemic countries. Affection characterized by a long functional tolerance and a great clinical and para-clinical polymorphism. Severe cardiac hydatitosis due to the risk of rupture requiring urgent surgery. The diagnosis is based on serology and echocardiography.

Methods:

We report a 49-year-old woman, with a history of an unoperated hepatic hydatid cyst with polycystic heart disease. Preoperative: NYHA stage II dyspnea. Chest x-ray: ICT at 0.65. ECG: Negative T wave in D I, II, III, V4, V5, V6. Echocardiography: Multiple pericardial cysts surounding the heart, the largest in the left ventricul, multilobed and another compressing the left artium, another compressing the right atrium without signs of poor tolerance. Chest CT: Cardiopericardial polydatidosis. Per operative exploration: multiple cysts that are developed at the heart's expense, located at the level: roof of the left atrium; free wall of the right ventricul; of the interventricular septum and the left ventricul. Gesture: Puncture; aspiration of cysts; Removal of vesicles and sterilization of residual cavities with hypertonic physiologic solution.

Results: The post-operative folow up was simple.

Conclusion:

The simultaneous presence of several hydatid cysts in the heart is not uncommon but cardiac localization is rare; serious and can constitute a real surgical emergency, hence the importance of prevention.

ID: **164**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Poster**

CARDIAC HYDATID CYSTIC DISEASE: A CASE REPORT WITH MULTIORGAN INVOLVEMENT

Halis Yılmaz[1], Yigit Akcali[2], Özgür Karabıyık[2], Yasin Yılmaz[2]

[1]*Erciyes University, Kayseri, Turkey*

[2]*Erciyes University, kayseri, Turkey*

[*]*Corresponding Author (halisy38@hotmail.com)*

OBJECTIVE: Hydatid cystic disease (HCD), is a parasitic infection caused by larvae of Echinococcus granulosus, commonly affects liver and lung. Although cardiac HCD is an extremely rare disease which is seen in only 0.2-3% of patients with HCD, its early diagnosis and treatment is critically important. The aim of this study is to report the presentation, diagnosis and management of a cardiac HCD with multiorgan involvement.

CASE REPORT: A 44-year-old non-smoker male patient presented with chest pain. The patient had a history of previous surgical treatment for cerebral, renal and hepatic HCD, respectively. The cyst was diagnosed firstly on chest X-ray (Figure 1A). Transesophageal echocardiography revealed a cyst of 38X45 mm in the ventricular side of mitral valve posterior annular area (Figure 1B). Cardiac MRI confirmed the cystic lesion in that site (Figure 1C-D).

We decided to treat the patient surgically, followed by 400 mg of oral albendazole twice daily for 5 days. Standard cardiopulmonary bypass and antegrade cardioplegia with aortic cross-clamping was used. Hypertonic saline solution-soaked sponges were placed within the pericardial cavity. Through an incision away from coronary vasculature and without opening adjacent cardiac chambers, we aspirated the entire contents of the cyst, removed its germinative membrane, and irrigated the cavity with 20% hypertonic saline solution. Then, the cavity was obliterated with pledged mattress sutures (Figure 1E-H).

The patient recovered uneventfully. He was prescribed postoperatively oral albendazole of 12 weeks to prevent recurrence and discharged from hospital. Histopathology confirmed a hydatid cyst.

CONCLUSION: Cardiac HCD, is a very rare disease, should be treated surgically without delay. The surgical treatment combined with cystic removal including the germination membrane, and irrigating of the remaining cavity with hypertonic saline solution, is the main method of the management of disease. It is typically complemented by pre-/post-operative albendazole therapy. This way of the management is a safe and recommended approach for this rare and challenging problem. All patients should be investigated for systemic cysts with multiorgan involvement.

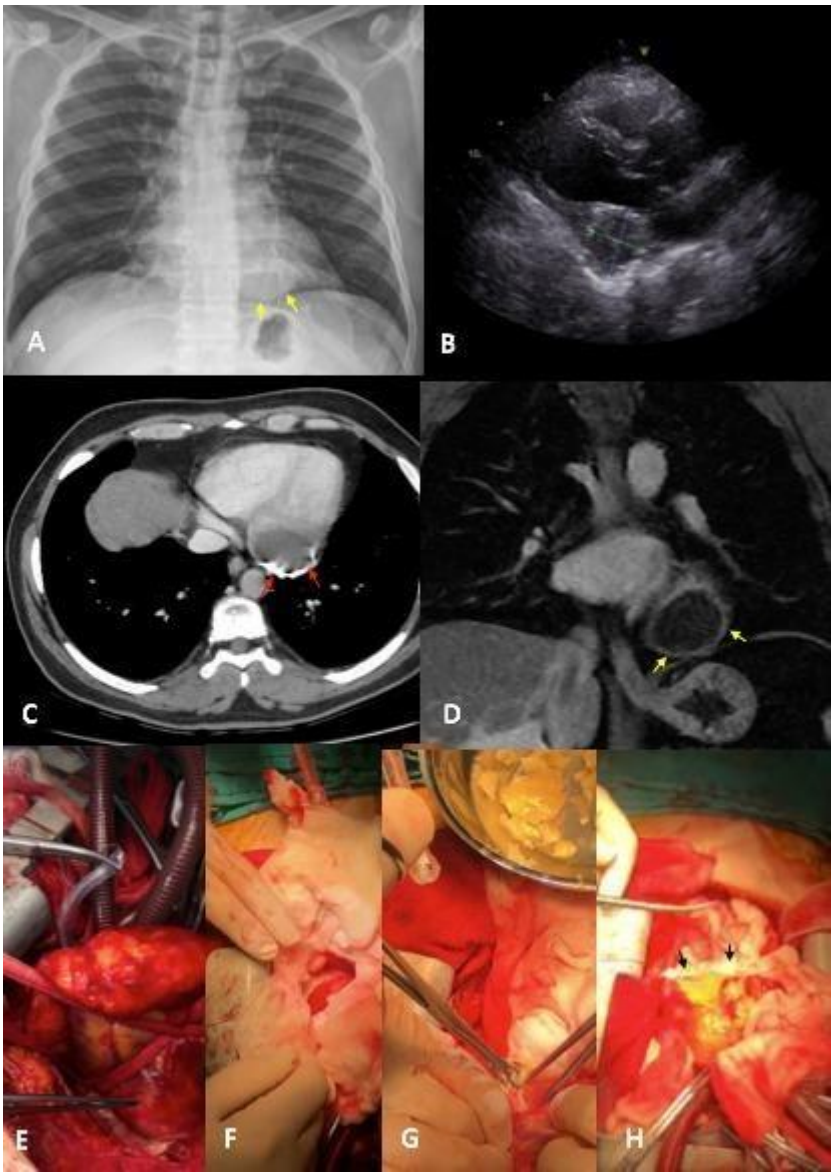


Figure 1. Images of chest X-ray (A), TEE (B) and MRI (C, D) showing the cyst (arrows). In the surgical field, the placement of hypertonic saline solution-soaked sponges into the pericardial space, removal of cystic content with germinative membrane, and obliteration with pledged mattress sutures (arrows) is showed (E-H).

Surgical Details in Coronary Artery Disease

ID: **220**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

GET READY FOR ANY SITUATION IN AORTIC CORONARY BYPASS SURGERY: END-TO-END ANASTOMOSIS OF THE SAPHENOUS VEIN TO THE RIGHT CORONARY ARTERY

Mustafa Dağlı, Hayat Gökmengil

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

There are many complications that may occur during aortic coronary bypass surgery and difficult situations requiring surgical experience. In these cases, the experience and quick decision making of the team increase the success of the operation.
We wanted to present an endarterectomy of the right coronary artery during surgery, stenting of the stented area and right coronary artery rupture after traction and surgical procedure.

Anastomoses are usually performed in the lateral side in aorta coronary bypass operations. But in our case; anastomosis was performed end to end.

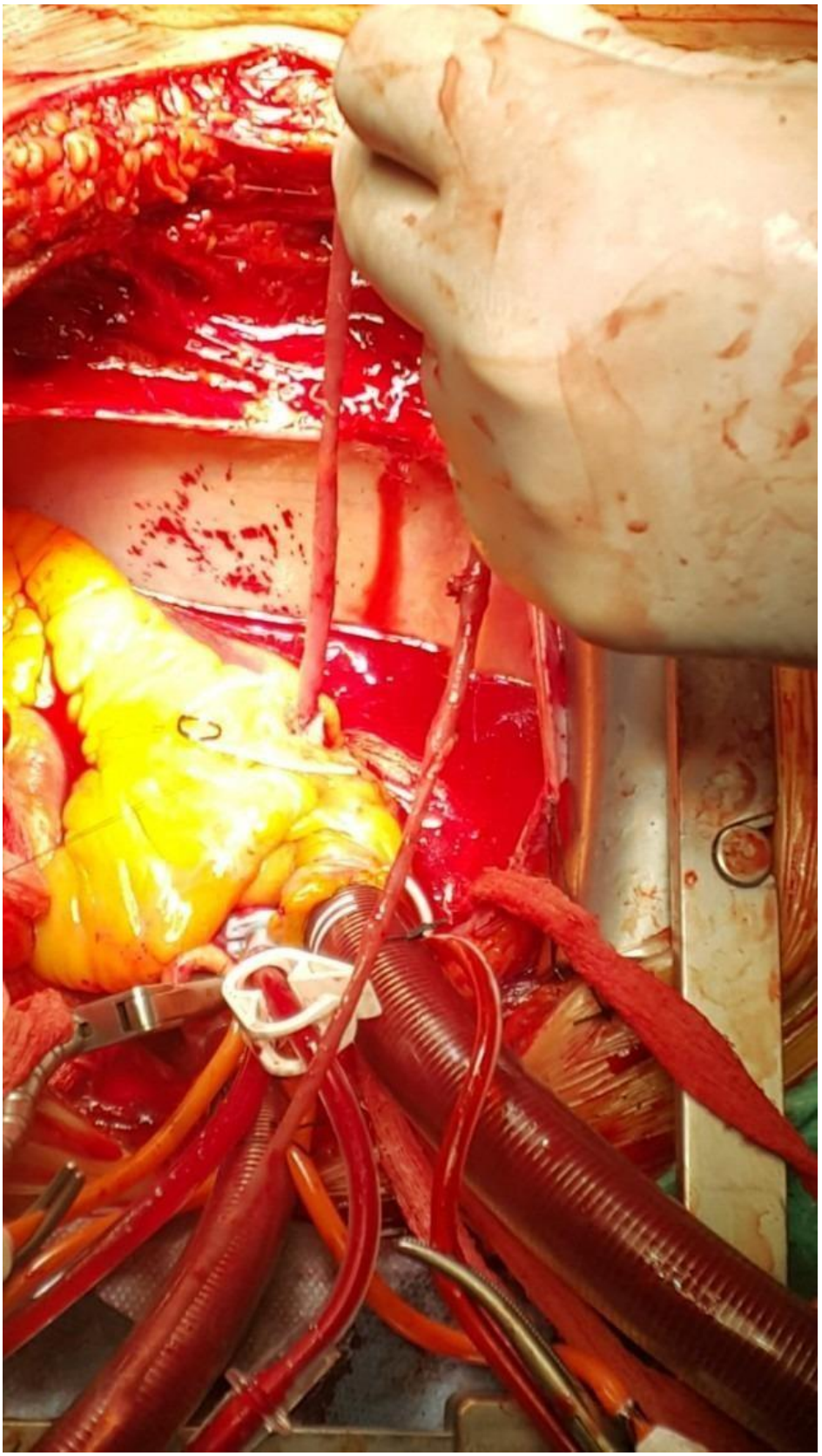
CASE

A 66-year-old female patient underwent bypass after coronary angiography because of 3-vessel disease. Bypass operation was performed with a heart lung machine. The right coronary artery was reached in a small area in the crux region. Other anatomical structure of the right coronary artery could not be observed due to excessive fat. Arteriotomy was performed to the right coronary artery. Endarterectomy was decided to be performed because of the irregular and not good vascularity. Extreme adhesion was observed during endarterectomy. Endarterectomy with right coronary artery and stent was removed during traction. Right coronary artery rupture was observed. Since the proximal section of the right coronary artery was irregular, a guide was sent through it. The right coronary mouth was closed with prolene because the guide didn't proceed. One clip was placed. The patient had known coronary angio, and since the right coronary proximal flow was known to be good, no new bypass was considered. After correcting the tip of the distal right coronary artery, anastomosis was performed end-to-end with saphenous vein (Image 1). There was no leakage from the proximal right coronary artery during the operation. We did quadruple bypass on pump. The patient was extubated on the same day. There was no significant drainage. He was discharged on the third postoperative day.

If the proximal right coronary artery was injured, the guide would advance and if the angios were unknown, a bypass would be required in the right coronary proxial segment.
This problem which disease of the distal part of the previous stent during aortic coronary bypass surgery, including excessive fibrosis and adhesion was overcome with the experienced and rapid decision of the surgical team, although it caused extra cardioplegia during the case.

CONCLUCIONS

Because of the problems that may be encountered during open heart surgery, the ability of the surgical team to make quick decisions and coolness is the key to success.



ID: **217**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

A RARE CASE OF AORTIC CORONARY BYPASS SURGERY: PLEURAL PLAQUE

Mustafa Dağlı, Hayat Gökmengil, Mustafa Çalık

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

In open heart surgery, aorta coronary bypass surgery without pleural opening is becoming more common. It is known that this method has many contributions on the morbidity of the patient.

Asbestos-bound fibrous plaques, which have no previous findings, are divided into two as malignant and benign. Benign forms are pleural plaque, diffuse pleural thickening and benign pleural effusion. At the time of intraoperative diagnosis, total excision is required in some cases.

We wanted to present the effect of the patient and his family on the comfort of life after the pleural plaque in the thorax wall which was accidentally opened during open heart surgery was sent to pathology.

A 66-year-old male patient underwent coronary artery bypass grafting for three-vessel disease after coronary angiography performed in a cardiology clinic for chest pain.

During the preparation of the internal mammarian artery, a rigid and yellowish white plaque seen from the accidentally opened pleura was consulted with intraoperative thoracic surgery. Plaque removed with cautery (3 * 2 * 0.5 cm) and subsequent plaques continued along the left thorax (Image 1).

On the chest x-ray, it was stated that only a certain part of the plaque was sent to the pathology because the costafrenic sinuses were open (Image 2). The pathology plaque was reported to be fibrous plaque. The patient was extubated on the day of operation. There was no significant drainage. He was followed up in the intensive care unit for one day. He was discharged on the 4th postoperative day without any problem.

It was learned that the patient was living in the asbestos region. The patient and his family were informed. Medical treatment was given by the thoracic surgery team with the necessary discourse. The living area of the patient and his family was changed and migration was provided. The patient was closely monitored due to the risk of mesothelioma.

It is known that pleural plaques reflect significant asbestos exposure and increase the risk of mesothelioma and bronchial carcinoma in these individuals (1).

CONCLUSIONS

Pathological examination of the intraoperative pleural plate should be performed and it should be remembered that total excision may be required. As a preventive medicine; it is clear that the patient and his family will have a positive effect on mortality and morbidity.



ID: **505**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

A RARE CONDITION IN CARDIAC SURGERY: CORONARY ARTERY ANEURYSM

Mustafa Dağlı, Selçuk Öztürk

Health Sciences University Konya Education and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

Coronary artery ectasia and aneurysm is a rare coronary artery disease and seen in 3-8% of patients undergoing coronary angiography, alone or in combination with stenotic lesions.

In this study, we aimed to present a patient with coronary artery aneurysm and planned coronary artery bypass to other vessels.

Case Report

A 72-year-old male patient was found to have left main coronary artery disease on chest pain after compressive chest pain.
Vascular disease was seen in the right coronary artery, which also appears ectasic but should be defined as aneurysm (Figure 1). His blood pressure was 110/60 mmhg. There was no diastolic hypertension.

Echocardiography showed ejection fraction of 30% and mitral regurgitation as second degree. It was decided to perform TEE. Central 1-2 degree leakage was observed in mitral valve. Carotid doppler ultrasonography was performed and carotid MRA was performed due to severe stenosis. 60-70% was reported as stenosis. Levosimendan infusion was given. It was decided to undergo aortocoronary bypass surgery before carotid endarterectomy. Operational risks were re-discussed with patients and their relatives. However, the patient and his relatives gave up the operation due to the risk of surgery.

Coronary artery ectasia is dilatation of an arterial segment to a diameter at least 1.5 times that of the adjacent normal coronary artery. Coronary artery aneurysm is dilatation of an arterial segment to a diameter at least 2 times that of the adjacent normal coronary artery. Coronary artery ectasia is attributed to atherosclerosis in 50% of cases, whereas 20% - 30% are considered to be congenital in origin.

Coronary dilatation is isolated ectasia or aneurysm, in association with connective tissue disorders such as scleroderma, in Ehlers–Danlos syndrome, different types of ANCA- related vasculitis and also in syphilitic aortitis and Kawasaki disease.

There is no correlation between ectasy at the coronary arteries level and extasy in other arteries of the peripheral vascular system, although they may co-exist in some cases.

For patients with coexisting obstructive lesions and symptoms or signs of significant ischaemia despite medical therapy, percutaneous and/or surgical coronary vascularisation can safely and effectively restore normal myocardial perfusion. Coronary artery bypass grafting has been used for the treatment of significant coronary artery disease co-existing with ectatic coronary segments.

Thrombosis is one of the most common complications in patients with coronary artery aneurysms. Embolism and coronary artery rupture may cause sudden death.

Conclusions

Good evaluation of these patients, informing their relatives and evaluating them with control cardiac computed tomography is important for preventive medicine.
Mortality and morbidity can be significantly reduced even with acetylsalicylic acid treatment, which will be initiated when ectasia is detected in the relatives of the patient.

In patients with coronary artery aneurysm or ectasia who do not benefit from medical treatment, aortic coronary bypass surgery can be performed safely.


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ID: **240**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Poster**

VERY RARE MALPOSITION OF A CENTRAL VENOUS CATHETER INTO THE LEFT INTERNAL MAMMARY VEIN IN A PATIENT WITH CORONARY ARTERY DISEASE

Elif Coskun Sungur[1], Levent Altınay[2], Anıl Tekin[3], Ufuk Tutun[3]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Dıskapı Yıldırım Beyazıd Education and Research Hospital, Ankara, Turkey*

[3]*Bulent Ecevit University, Zonguldak, Turkey*

[*]*Corresponding Author (drelfco@gmail.com)*

Background

Central venous catheterization, an interventional technique which is commonly used to aid in diagnosis and treatment in hospitalized patients, may also lead to complications such as malposition and rupture.

Methods

We wanted to evaluate a very rare catheter malposition to left internal mammarian vein (LIMV) during preoperative preparation of coronary artery bypass graft surgery.

Results

Although this unexpected catheterization into the left internal mammary vein has been reported in the literature. This case seems to be the first report of malposition detected intraoperatively in a patient with coronary artery disease.

Conclusion

In conclusion malposition should be remembered during central venous catheter application when no imaging and monitoring methods are used. Even if it is performed by experienced persons under ultrasound guidance, it should be skeptical and need verification after process.

Keywords: central venous catheterization, catheter malposition, left internal mammarian vein

(Figure-1: Intraoperative detected catheter in LIMV.)

ID: **108**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Poster**

MEDIASTINAL TEXTILOME: CASE REPORT.

Redha Lakehal, Bendjaballah Soumaya

Ehs Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Foreign bodies post operating are scarce. In the majority of cases of abdominal location. 80% of those foreign bodies are essentially abdominal location textilomes. The aim of our work is to bring a new observation.

Methods: We rapport a case 66 year old adult .In the history of CABG since one month, allowed for exploration of the sternotomy wound flow .The chest x ray shows an opacity not systematized of the lower part of the mediastinum .Echocardiography that highlighted a mass pleural hyper echoic absorbing sronglyechoes and accompanied by a shadow rear cone 5 cm large axis surround by parenchymatous condensation evoking a textilomes. Chest CT scan revealed a mediastinal condensation. Fistulographie mediastinal: mediastinal fistula. It enjoys a removal of compression after dissection substernal and sent to bacteriology examination.

Results: The operating suites were simple.

Conclusion: The mediastinal textilome was scarce by its frequency, but remains a disease potentially serious clinical consequence and medico-legal.

ID: **338**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

THE SUCCESSFUL USE OF CATHETER-DIRECTED ULTRASOUND-ACCELERATED THROMBOLYSIS ON A PATIENT WITH MASSIVE PULMONARY EMBOLISM AFTER CORONARY ARTERY BYPASS SURGERY: A CASE REPORT

Irem Iris Kan, Murat Biçer, Tunay Şentürk, Orhan Güvenç, Mustafa Yalçın

Uludag University School of Medicine, Bursa, Turkey

**Corresponding Author (iriskan64@hotmail.com)*

OBJECTIVE: Pulmonary embolism (PE) carries a high risk of mortality and morbidity. PE is an uncommon event after cardiac surgery. It is associated with an unexpected hemodynamic instability and severe desaturation without other typical changes. Catheter directed thrombolysis is an effective treatment for patients who are not suitable for systemic thrombolytic treatment. In this case, we present the successful use of catheter directed thrombolysis with the EkoSonic System (EKOS) on a patient with massive pulmonary embolism after coronary artery bypass surgery.

METHODS: A 64-year-old patient who had unstable angina was referred to our hospital and underwent coronary artery bypass surgery. Cardiopulmonary bypass was achieved via the cannulation of ascending aorta and right atrium. The distal anastomoses were performed on LAD, diagonal branch and RCA posterior descending with saphenous vein grafts. The operation was completed uneventfully. The patient was taken to the intensive care unit (ICU). But his blood pressure (BP) sharply decreased and saturation of pulse oxygen (SpO2) fell to 88%. There were no abnormal findings in auscultation and intubation tube. He required vasopressor support. A bedside transthoracic echocardiogram was performed, showing an enlarged RA, RV and pulmonary hypertension (PAP 64 mmHg), EF 60%. Nitric oxide was administered via endotracheal tube Immediately Enoxaparin was commenced with a dose of 1 mg/kg twice a day due to suspicion for pulmonary embolus. He didn't have a clinical manifestations of deep venous thrombosis (DVT). Absence of DVT was confirmed by using bedside ultrasound. Computed tomography was performed and showed a massive pulmonary embolus. There was no change in the patient's haemodynamic parameters. After explaining the risks and benefits of catheter directed thrombolysis with the EkoSonic System to the patient's family, the patient was transferred to the catheter laboratory on postoperative day 5. First, EKOS catheters were placed in the right pulmonary artery and thrombolytic therapy was performed for a total of 12 hours with a tissue plasminogen activator (tPA) flow rate of 1 mg/h then the catheters were placed in the left pulmonary artery and the same process was repeated. Then the patient was transported to the ICU again.

RESULTS: After EKOS, the clinical findings and haemodynamic parameters of the patient significantly improved. Hemorrhagic complication was not observed. Therapeutic anticoagulation was restarted after EKOS. The patient was extubated 1 day after EKOS. The ICU stay was 8 days and the patient was discharged within 10 days after the procedure.

CONCLUSIONS: Massive PE is associated with increased morbidity and mortality. After cardiac surgery, PE should be considered if hemodynamic instability and decrease in spO2 persist after exclusion of other common causes. In appropriate patients, EKOS may be life-saving.

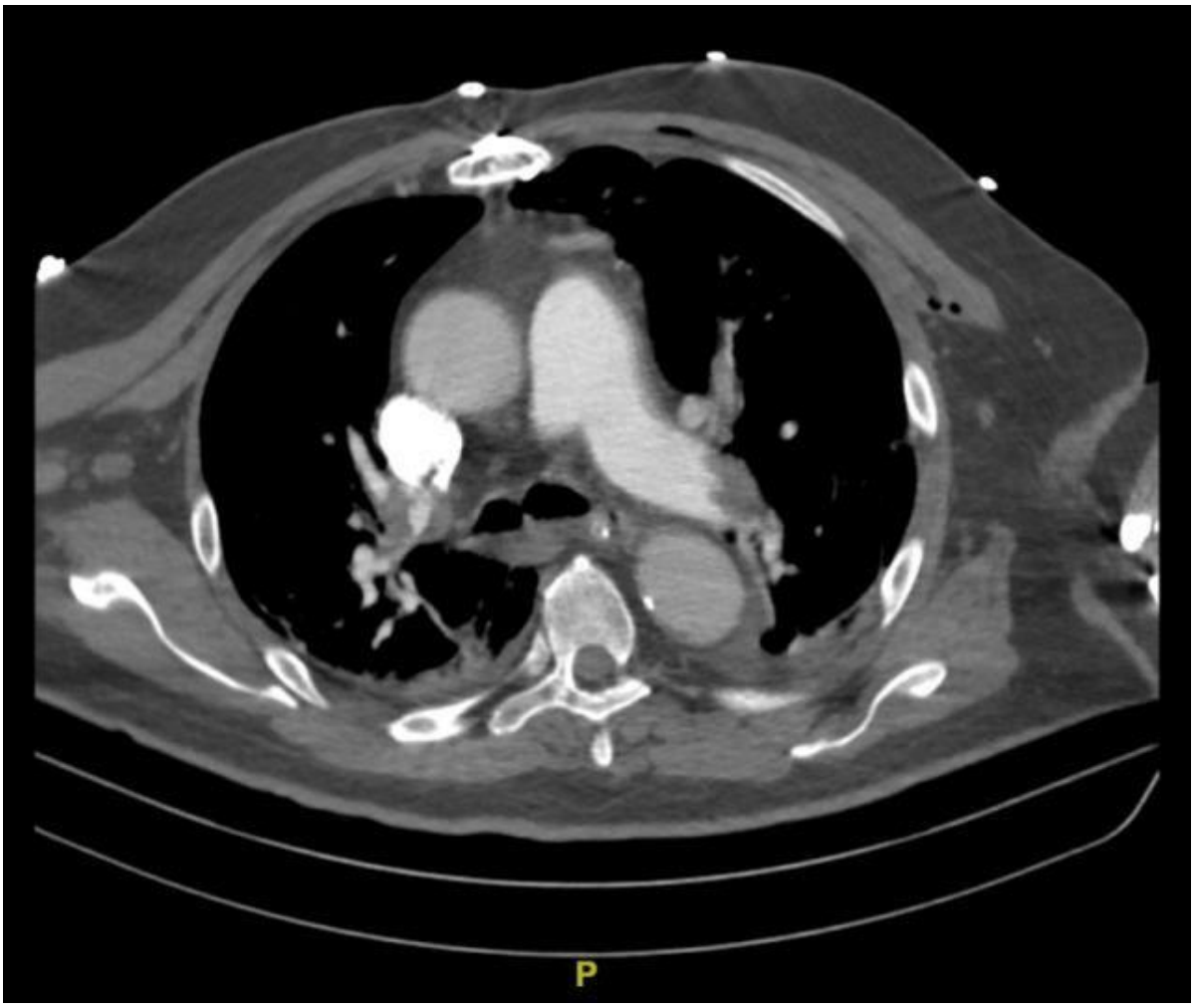


IMAGE: Contrast-enhanced CT showing the pulmonary embolus

ID: **491**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

SADDLE LEFT MAIN CORONARY ARTERY THROMBOSIS IN ASYMPTOMATIC PATIENT

Erdal Simsek, **Emre Kulahcioglu**, Kanat Özışık, Muhammed Sefa Saglam, Seyhan Babaroglu, Alp Yildirim, Serdar Gunaydin

Ankara City Hospital, Ankara, Turkey

**Corresponding Author (erdaldr@yahoo.com)*

Background

Left main coronary artery thrombus is a rare event. Based on previous experiences, clinical presentation usually arises with ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (NSTEMI), unstable angina (USA), cardiogenic shock, or sudden cardiac death. The clinical manifestation is estimated to be low, but this is thought to be an underrepresentation given sudden LMCA thrombus may present with sudden cardiac death.

Case

Here we present a case, with no previous history of angina or cardiac symptoms diagnosed with saddle LMCA thrombus after coronary angiogram following suspected calcified coronary lesions on control CTA. A 55-year old man, with no known risk factors for atherosclerotic heart disease and history of angina or shortness of breath, undergone control Cardiac CT Angiogram due to family history of sudden cardiac death. On CT, it was reported that Agatson Calcium Score of coronary arteries, 830 for LAD; 936 RCA; 255 Cx as total of 2021, very high calcific burden specifically for LAD and RCA, supporting initial diagnosis of atherosclerotic cardiovascular disease (Figure 1). It was also noted, ectopic origins of proximal RCA and LAD, as well as first diagonal branch of LAD. Flow characteristics showed, 50-60% stenosis of ostial LAD, and mild stenosis on mid LAD and Diagonal branches. Most importantly, the patient underwent an exercise-induced ECG 1 week ago and had completely normal ECG findings, asymptomatic.

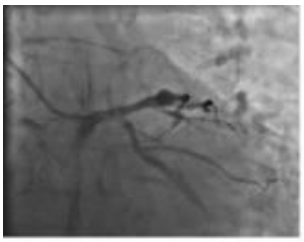
Based on this findings, coronary angiogram was conducted to further examine coronary artery morphologies. Saddle thrombus located on proximal LAD, partly blocking entrance of cirfumflex arteries (Figure2), confirming prior diagnosis reported by CT scan. Interventional Cardiologists at our institute referred him to our department, to seek surgical treatment as lesion characteristic wouldn't be suitable due to potential thrombus dislocation which might cause rapid deuteriation of cardiac function (MI, Cardiogenic shock etc.) during PCI for stent implantation.

After patient was discussed in conjoined Cardiovascular Surgery and Cardiology council which recommended CABG as treatment of choice, verbal and written consent was taken for operation.

Conclusion

Here, we present a case of a native coronary thrombus that developed in asymptomatic patient with no history of cardiac disease. This provides substantial prof that clinicians should be aware of this entity, as delay in treatment can be life threatening. Cathater directed manipulation might cause unwanted complications, thus surgical treatment in experienced hands should take into consideration in such cases.





ID: **509**

Topic: **Cardiovascular Surgery » Coronary Bypass Surgery**

Presentation Type: **Poster**

SURGICAL STRATEGY AND TACTICS OF MYOCARDIAL REVASCULARIZATION ON A BEATING HEART IN PATIENTS WITH CORONARY ARTERY DISEASE

Atabek Djumniyazov

Republican Specialized Scientific and Practical Medical Center for Cardiology, Urgench, Uzbekistan

**Corresponding Author (otabek7705@mail.ru)*

Purpose of the study: Development and improvement of the surgical strategy and tactics of myocardial revascularization on a beating heart in patients with coronary heart disease and assessment of their effectiveness.

Materials and research methods: In Urgench branch of the Republican Specialized Scientific and Practical Medical Center for Cardiology from 1 to 10 January, 2020 20 coronary artery bypass grafting (CABG) operations on a beating heart (OPCABG - off pump coronary artery bypass grafting) were performed in patients with coronary artery disease, of which, in three cases, due to unstable hemodynamics and large heart sizes, CABG was performed on a beating heart on parallel perfusion (on pump coronary artery bypass grafting on beating heart). Material analysis: men 14, women 6, the age of patients ranged from 48 to 78 years and averaged 60.9 ± 1.62 years. Postinfarctioncardiosclerosis was observed in 9 patients. Of the concomitant pathology, 14 patients suffer from grade III arterial hypertension, 4 patients suffer from diabetes mellitus, and grade II-III obesity was observed in 16 patients. Monovascular lesion was noted in 3 patients, multiple lesions of the coronary arteries in 17 patients. In our practice, we performed the stabilization of the coronary arteries with the original stabilization device of the compression type of the company Genzyme (USA).

Results and discussion: Using the method of CABG on a beating heart after its mastering helped ensure 100% myocardial revascularization. The average number of grafts per patient was 2.84 ± 0.5, which is evidence of the possibility of performing a complete myocardial revascularization on a beating heart and corresponds to the number of most frequently bypassed arteries. Performing CABG on a beating heart made it possible to carry out early activation of patients, which resulted in a reduction in the terms of stay of patients in the intensive care unit up to 2 days and in general in the hospital up to 6.7 ± 2.1 days. The strategy of CABG on a beating heart involves a sequential reduction in the area of ischemia after each superimposed distal anastomosis. To achieve this goal, the following sequence is fundamentally important: first, isolate the internal thoracic artery and venous grafts, apply proximal anastomoses, unless the hemodynamic situation requires rapid anastomosis of the internal thoracic artery and the anterior descending artery (anterior interventricular branch), bypass collateralized coronary arteries, those arteries that “give away” the collateral are bypassed last. With equivalent lesions and the absence of collaterals, the anterior descending artery (anterior interventricular branch) should be bypassed first. If stabilization and occlusion of one of the affected coronary arteries leads to deterioration in hemodynamics, extracorporeal circulation must be connected.

Conclusions: CABG on a beating heart made it possible to ensure complete myocardial revascularization, reduce the number of complications associated with the use of a cardiopulmonary bypass and shorten the days of patients in hospital; get good early and nearest results.

Unusual Experiences in Aortic Surgery

ID: **377**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Poster**

LATE OPEN SURGICAL CONVERSATION FOLLOWING ENDOVASCULAR ABDOMINAL ANEURYSM REPAIR: A CASE REPORT

Eren Karpuzoğlu, Uğur Kısa, Merve Sebil Şen, Kandemir Baş, Cevdet Uğur Koçoğulları

Dr. Siyami Ersek Hastanesi, Istanbul, Turkey

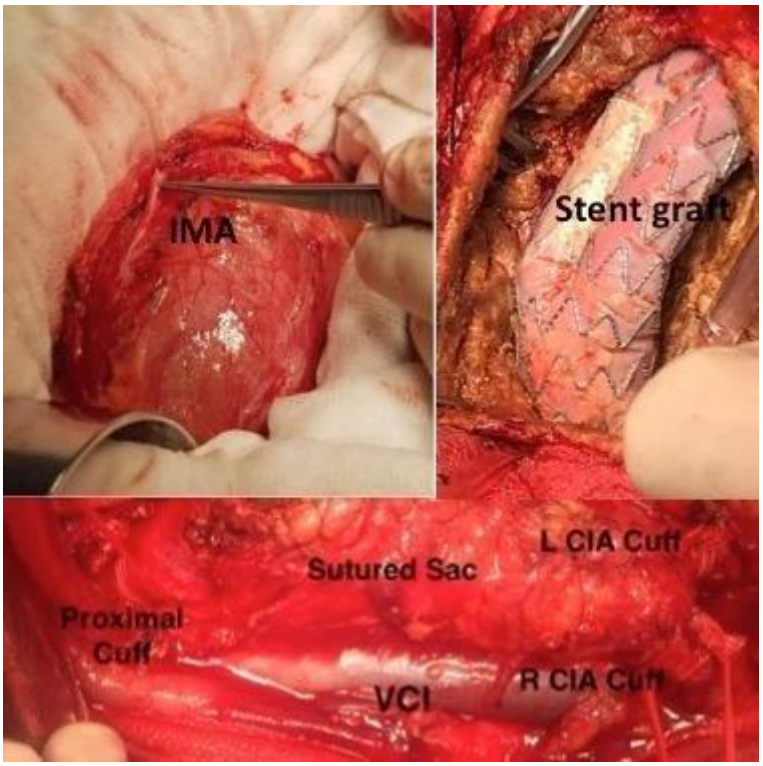
**Corresponding Author (erenkarpuzoglu@yahoo.com)*

BACKGROUND: Late open surgical conversation following endovascular abdominal aortic aneurysm repair (EVAR) is a rare but very serious situation due to technical difficulties. We present a case of open surgical operation for abdominal aortic aneurysm (AAA) sac enlargement 2 years after EVAR.

METHODS: The patient was a 63 years old male, with a history of coronary artery bypass grafting, carotid stenting and EVAR for AAA. Serial computed tomography angiograms revealed enlargement of the aneurysm sac.

RESULTS: Angiography was performed. There weren't any Type I or III endoleaks, Type II endoleak originated from SMA couldn't be identified. The open surgical conversion was performed via median laparotomy and endoclamping with an aortic balloon through the right common femoral artery for proximal control was used. Distal control was done by simple clamping of the common iliac arteries at the level of the distal legs of the endograft. The sac was opened, all the debris and coagulum were evacuated, 2 large-bore lumbar arteries and suspicious-looking inferior mesenteric artery (IMA) were identified. All the orifices were suture ligated. Endoclamp and cross clamps were released and stent-graft was investigated for Type I and III endoleaks, none was seen. Sac was wrapped around and sutured over the graft. Proximal and distal necks were cuffed and sutured tightly with Dacron grafts as a prophylactic measure for potential Type I endoleak in the future. The patient had an uneventful postoperative period and discharged on the 6th day.

CONCLUSION: Complete removal of the endograft is neither possible nor necessary for all of the cases. Proximal hooks of suprarenal fixation of several stent-grafts were hard and may be hazardous to extract. Endoclamping is a safe alternative for proximal control instead of higher level clamping (proximal to the renal arteries) or clamping at the level of bare metal struts of the stent graft. Surgery should be targeted to solve the main problem without leaving any potential gaps.


IMA
Stent graft
L CIA Cuff
Sutured Sac
Proximal
Cuff
R CIA Cuff
VCI

ID: **297**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Poster**

VASCULAR SUTURE LINE WRAPPING FOR AORTOILIAC ANASTOMOSES FOLLOWING OPEN SURGICAL REPAIR OF INFRARENAL BEHÇET'S AORTOILIAC ANEURYSMS

Ahmed Mousa[1], Ossama M. Zakaria[1], Mohamed Neinaa[1], Mai A. Elkalla[2]

[1]*College of Medicine, King Faisal University, ALAHSA, Saudi Arabia*

[2]*Faculty of Medicine, Helwan University, Cairo, Egypt*

[*]*Corresponding Author (aelkaua@kfu.edu.sa)*

BACKGROUND: This study was conducted to evaluate our local experiences of adjunctive mechanical prosthetic wrapping for aortoiliac vascular anastomoses as a prophylactic measure following surgical repair of Behçet's aortoiliac aneurysms. The goal of prosthetic wrapping to reinforce the vascular anastomoses by mechanical protection to reduce the bleeding complications, and consequently pseudoaneurysm formation. This was aided by the administration of pre- and postoperative immunosuppressive therapy as an adjuvant treatment.

METHODS: A seven-year retrospective study was conducted between January 2006 and December 2012, retrieving data of patients with Behçet's aortoiliac aneurysms. All patients underwent open surgical repair using a heparin-bonded synthetic Dacron® graft. Data for all patients were retrieved and analyzed for diagnostic procedures, graft selection, as well as, different methods of surgical repair. Graft-related complications such as anastomotic pseudoaneurysms, occlusion, and thrombosis were also reported.

RESULTS: Sixteen patients were recruited in this study. There were 11 (69%) males and 5 (31%) females with the male to female ratio 2:1. The patients' age ranged between 25 and 47 years with the mean of 36.4 ± 7.3. All Behçet's aortic/aortoiliac aneurysms were repaired by the application of heparin-bonded Dacron® tube and bifurcated grafts. The anastomotic wrapping technique was performed for both the proximal and the distal vascular anastomoses. The technical success of aortoiliac aneurysm and wrapping techniques was achieved in 100% of patients. All patients were given pre- and postoperative systemic immunosuppressive therapy. No graft-related complications were reported except for only one anastomotic pseudoaneurysm that developed at one of the right iliac anastomoses that developed within 24 months after follow up.

CONCLUSIONS: Mechanical prosthetic wrapping for vascular anastomoses in patients with Behçet's aortic/aortoiliac aneurysms is a feasible, simple, and reliable technique with low morbidity and mortality. It was performed as a prophylactic measure to avoid the development of postoperative anastomotic pseudoaneurysms. It must be performed for all patients with Behçet's arterial aneurysms whenever possible. Furthermore, the supplemental administration of pre- and postoperative systemic immunosuppressive therapy should be considered as an important factor for the prophylaxis and prevention of anastomotic pseudoaneurysms and other graft-related complications.

ID: **361**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

AORTIC DISSECTION DURING PERCUTANEOUS CORONARY INTERVENTION AND LEAD INDUCED RIGHT VENTRICULAR PERFORATION: CASE REPORT

Mustafa Dağlı, Ahmet Nihat Baysal, Ilyas Selim Yılmaz

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Acute aortic dissection during cardiac catheterization and lead-induced right ventricle perforation rate are a very rare complication. Simultaneous complications of these two complications are rare in one patient and we wanted to present this situation.

CASE

A 78 year-old female complaining of unrelieved chest pain for 5 hour was admitted to the Emergency Hospital. After definitive diagnosis, a percutaneous coronary angiography was implemented. Aortic dissection in the ascendan aorta
was found (Image 1). The patient entered an atrioventricular complete block during angiography and transient pacemaker implanted in the right ventricle at the outer center. Cardiologist sent the patient cardiovascular surgery to our hospital by urgently surgery. In the hospitalization, the patient blood pressure was 80 mmhg with inotropic support dopamine and pulse 60 / min with pace maker. Echocardiography showed pericardial fluid, aortic failure 1-2 degrees and dissection flap could not be seen clearly. Computed tomography was performed and dissection flap was observed in the ascending aorta. There was fluid in the pericardium. The patient had severe back pain. Patient and relatives were informed about the operation. Consent was obtained.
Percutaneous cannulation was performed from the right axillary artery and right femoral vein. This cannulation method was preferred for less traumatized and rapid intervention. Blood and hematoma were observed in the pericardium. When aortotomy was performed, dissection was observed between the left and right coronary arteries and the region of the aortic valve falling on the noncoronary cusp. Dissection was seen that it was formed with a smooth incision of 1.5-2 cm and that the aortic tissue was extremely thin. The dissected part of the ascending aorta was excised until non-coronary cuspis. Right and left coronary arteries were preserved. Distal graft was interposed when total circulatory arrest. Heart worked spontaneously. Venous hemorrhage was observed and right ventricle was injured due to pace maker lead and repaired with plegit sutures.

Acute aortic dissection during cardiac catheterization is a very rare complication. (overall incidence, 0.02%) and occurs more frequently in the emergency setting of acute myocardial infarction. (0.19%) than in an elective setting (0.01%).
Lead-induced right ventricle perforation rate is reported as 0.1-0.8% in the literature.
In patients with aortic dissection, almost half of the patients die before they reach the hospital. The risk of death in these patients increases by 2% every hour until they reach the hospital.

CONCLUSION

Although gentle touches are done during coronary interventions, complications may develop. How quickly these complications are intervened, the mortality rates will be lower.

ID: **372**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

ACUTE AORTIC DISSECTION IN A PATIENT APPLIED TO THE EMERGENCY DEPARTMENT WITH ISCHEMIC STROKE

Mustafa Dağlı, Ilyas Selim Yımaz

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Acute aorta dissection and ruptured aorta aneurism are prominent causes of death in cardiovascular diseases. This situation, which threatens life, was recently classified as acute aortic syndrome. Acute aortic syndromes are defined as an emergency in the clinic and they may be listed as aorta dissection, intramural hematoma without intimal rupture, penetrant atherosclerotic ulcer and ruptured or almost ruptured aorta aneurism. The frequency of developing neurological complications in aortic dissections is reported to be between 2 to 8%.

Stroke is more common in dissections involving the proximal aorta, but paraparesis is more common in distal aortic dissections due to circulatory impairment in the spinal arteries. In our study, we found it worth presenting a case of acute aorta dissection in the ascending aorta that arrived without chest and/or back pain and atypically with left hemiplegia and syncope and caused ischemic stroke.

CASE

The 47-year-old male patient was referred to our emergency service from an external center with diagnosis of acute ischemic stroke. The patient had experienced loss of strength on his left side and had syncope one hour before in the classroom. He had a history of hypertension. In the examination of the patient at the external center, his general status was moderate, the Glasgow Coma Scale score was 9-10, and the left side of the patient was hemiplegic. After his physical examination, the patient received computerized brain tomography and diffusion MR imaging with the pre-diagnosis of acute stroke. For the patient who had an appearance of acute diffusion restriction in the right parietal region in the diffusion MR imaging and had a chance of thrombolytic treatment, thrombolytic treatment was planned. However, the general status of the patient was worsened in this checkup examination, and his Glasgow Coma Scale score regressed down to 7. This blood pressure decreased down to 80/60mmHg. For the patient with a high score of NIH Stroke Scale, thrombolytic treatment was found not appropriate, and thus, not provided. In the electrocardiography of the patient, sinus tachycardia and troponin values were positive. Echocardiography is performed and aortic dissection is detected. Aorta dissection, which may progress with clinical signs of stroke, was considered for the patient, and as an advanced test, dynamic thorax CT angiography was taken. In the dynamic thorax CT angiography of the patient, aneurism in the ascending aorta and aortic dissection were observed.
The patient underwent emergency surgery and supracoronary hemiarc replacement was performed. Our patient was discharged after the operation and started physical therapy applications. The patient returned to his teaching position and joined active life.
In our case, the patient did not have chest and/or back pain. The arrival of the patient with left hemiplegia and syncope led us to acute ischemic stroke as a pre-diagnosis. As seen here, we may encounter aorta dissection with several different clinical issues that are impossible to consider at first.

CONCLUSION

Keeping dissection in mind is the most important factor in the diagnosis of acute aorta dissection. This is why appropriate examinations should be carried out by keeping the diagnosis of aorta dissection in mind in patients who visit emergency services with symptoms that are not expected for aorta dissection such as syncope, altered consciousness, hypotension, atypical abdominal pain and loss of strength in the extremities.

ID: **157**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

ACUTE AORTIC DISSECTION ON ANEURYSM OF THE ASCENDING AORTA IN A PATIENT MARFAN DISEASE: CASE REPORT

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Marfan's syndrome is a rare genetic disease. It is characterized by the achievement of one or several organs may cause problems notably skeletal disorders (big size, scoliosis), ophthalmique (myopia), cardiac (aorta dilatation) .The prevalence of this syndrome is estimated at one person for 5000 births.

Methods: we report the observation of 36 year young woman with family history of Marfan (two brothers ,form major, mother: minor form) came to the emergency for chest pain who plays for a week with dissection of aorta and aortic insufficiency and left ventricular function correct in echocardiography. AngioCTthoracic: aortic dissection type A on expansion anevrysmale of sinus 69/67 mm. Chest x-ray; scoliosis .Clinically: we have a marfanoid aspect with signed kyphoscoliosis, anachnodactylie, adolichosteomelie, thumb and wrist myopia and dislocation of cristallin. Biology is correct. The decision of medico chirurgical staff is to challenge this patient given the importance of the chest deformities and altered general status.

Results: case exceeded and patient discharged to home.
Conclusion: The announcement of the diagnostic is an integral part of the throughcare process. Management is multidisciplinary and continues. The key elements of the monitoring are the aortic root, the mitral valve, the headset, and the complication musculosquelitiques.

Key words: Marfan disease, malformation s, dissection, aneurysm.

ID: **159**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

FALSE ANEURYSM OF THE AORTIC ARCH FISTILISE IN THE LEFT LUNG: CASE REPORT

Redha Lakehal, Bendjaballah Soumaya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

Corresponding Author (lakehal.redha@gmail.com)

Introduction: Aneurysmal location in the aortic arch is outstanding, rarer than the ascending aorta. This is a serious condition because of the risk of rupture requiring an emergency surgery. The diagnosis is based on the CTA and MRA. This clinical case is an opportunity for us to recall the seriousness of this disease for the patients, and challenges encountered by the surgeons.

Methods: We report the case of 53 year old men, with a history of a 4 meter drop from a building two years ago. Hospitalized for exploration following the discovery of chest X-ray opacity of the upper lobe left lung as a result of hemoptysis average abundance. The suspect image. A .chest angio-CT was performed showing the false aneurysm of the aortic arch. ECG was normal. Laboratory tests showed anemia. The patient was operated on under extra corporeal circulation, established between the femoral artery and femoral vein with deep hypothermia and circulatory arrest. The surgical approach was a left thoracotomy in 4 left intercostal space. After installing a femoral-femoral CPB and detachment of the left lung intraoperative exploration shows a huge pseudoaneurysm of the aortic arch blocked by the upper lobe of the left lung fistulizing of pseudoaneurysm in the latter. The intervention had consisted after flattening of the pseudoaneurysm in compensation for the loss of aortic substance by a lateral Dacron patch under circulatory arrest and closure of the pulmonary breach.

Results: The immediate postoperative were unfavorable with a fatal refractory cardiogenic shock.

Conclusion: Advances in imagery make the angio scanner and the MRA the best exams for detecting false aneurysms of the aortic arch. The indication for surgery is formal in all cases of pseudoaneurysm of the aortic arch because the spontaneous evolution is fatal. In fact, the actual treatment is surgery.

Keywords: false aneurysm, aortic arch, hemoptysis, cardiopulmonary bypass, cardiac arrest.

ID: **190**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

TRAUMATIC ASCENDING AORTA INJURY DURING A REOPERATING CARDIAC SURGERY: CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction: Ascending aorta traumatic injuries during reoperation are infrequent. The diagnosis is based on operative exploration. The prognosis is poor.

Treatment is surgical. The principal objective of this work is to make young cardiac surgeons aware of the seriousness of this type of incident.

Method: We report the observation of a 35 years young man old, operated at 21 for subaortic stenosis, a few months ago he showed dyspnea on exertion with syncope. Echocardiography: a sub aortic stenosis with a circumferential membrane. Left ventricul: 54/32mm. After iterative sternotomy an aortic injury occurred during steel wires removal, expressed by a sinificative pulsatil bleeding. After emergency heparinization, closing of sternum, installation of femoro-femoral cardiopulmonary bypass. the per operative exploration after retrosternal dissection found a 1cm ascending aorta wound, controled by partial aortic clamping. The repair was performed by stitches reinforced with teflon-felt pledgets.

Results: Postoperative follow without complication incidents.

Conclusion: Intraoperative incidents are serious and exceptional, requiring rapid and effective surgical intervention.

ID: **207**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

A RARE CASE: TRAUMATIC AORTIC SACCULAR ANEURYSM

Mustafa Dağlı

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Aortic injuries may occur following major blunt chest traumas. Although majority of them are acute traumatic aortic rupture, rarely they can become chronic posttraumatic saccular aneurysm. Saccular aneurysm is a small, unstable aneurysm that develops on one side of the aorta. Saccular aneurysms cover only a portion of the aortic wall. Chronic posttraumatic aortic saccular aneurysm may develop after a 3-week period following blunt chest trauma.

Case: A 55-year-old male patient was admitted to our clinic with recurrent back pain. His history revealed that he had a traffic accident two years ago. On physical examination, blood pressure measured in four extremities was within normal limits and there were no pathological differences. There was no pathological change in her resting ECG. Routine biochemistry, blood, bleeding / clotting time were normal. Chest X-ray showed a larger than normal mediastinum. The patient underwent thoracic tomography and a 22x15mm saccular type aneurysm was observed in the proximal section of the descenden aorta from the pattern and with a 13 mm neck in the left lateral wall of the aorta (image 1). Aneurysmatic formation of the descending aorta 4 cm distal to the left subclavian artery was observed. TEVAR was performed because of high risk of rupture of saccular aneurysms.

CONCLUSIONS

Saccular aneurysms should be operated primarily because of the risk of rupture. Endovascular interventions are used as a rapid and effective treatment modality.

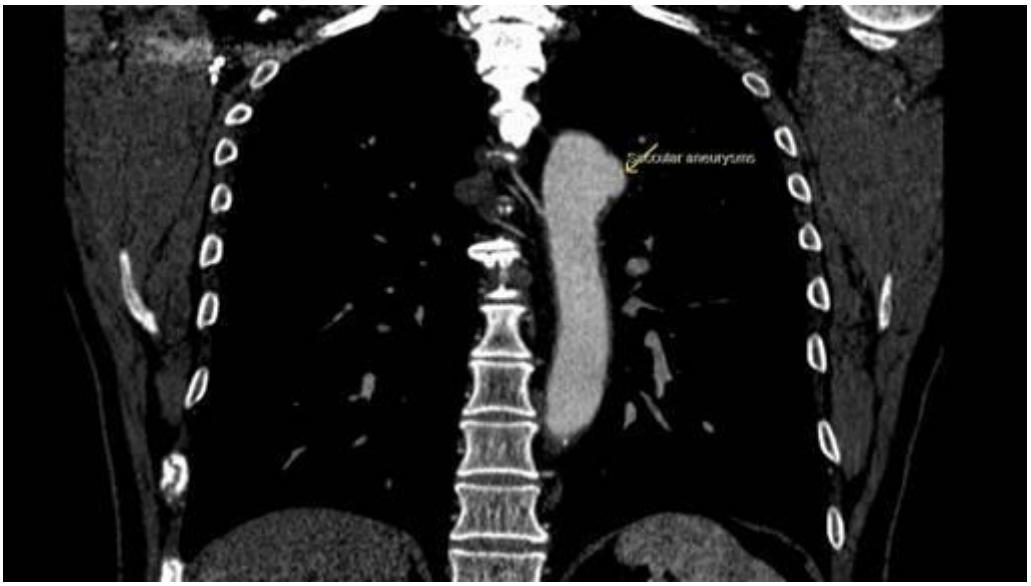


İmage 1 : Saccular aortic aneurysm

ID: **242**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Poster**

LIFE SAVING ENDOVASCULAR AORTIC REPAIR IN SPONTANEOUS RUPTURES: REPORT OF TWO EMERGENCY CASES

Elif Coskun Sungur[1], Levent Altınay[2], Anıl Tekin[3], Ufuk Tutun[3]

[1]*Ankara City Hospital, Ankara, Turkey*

[2]*Dıskapı Yıldırım Beyazıd Education and Research Hospital, Ankara, Turkey*

[3]*Bulent Ecevit University, Zonguldak, Turkey*

[*]*Corresponding Author (drelfco@gmail.com)*

Background

The general management of aortic ruptures include emergency surgical repair of medical treatment but advancement of covered stent grafts provided a third option in treatment of these patients. The advancements in this technology and increased experience of cardiovascular surgeons in this treatment technique, broadens the anatomical spectrum of this pathology that can be treated with endovascular interventions.

Methods

In the case of an aortic rupture, urgent evaluation of the patient and planning the patient specific treatment are crucial. However, anatomy of the pathology should be suitable for this kind of intervention.

Results

We represent a case of spontaneous rupture in the aneurysm of arcus aorta and a case of spontaneous rupture in the abdominal aortic aneurysm which were successfully treatment with endovascular interventions.

Conclusion

In conclusion, the endovascular treatment option is chosen in 'selected patients' in many recent studies. We believe that endovascular or hybrid procedures will be more common as the technology of these products advances.

Keywords: Endovascular aortic repair, spontaneous aortic rupture, life-saving treatment

Figure 1A. Sagittal CT angiography imageFigure 1B. Transverse CT angiography image. The rupture in the aorta wall (arrow) and hemothorax (circle)

Figure 2A. The hematoma caused by the rupture in the abdominal aortic aneurysm (circle) and the abdominal aorta (arrow). Figure 2B. The 3D image of the rupture in the infra-renal abdominal aortic aneurysm wall.

ID: **301**

Topic: **Cardiovascular Surgery » Abdominal Aortic Aneurism**

Presentation Type: **Poster**

SURGICAL TREATMENT OF A GIANT ABDOMINAL AORTIC ANEURYSM

Burcin Abud, Ayse Gul Kunt

University of Health Sciences İzmir Tepecik Research and Education Hospital, Izmir, Turkey

**Corresponding Author (burcinabud@hotmail.com)*

Introduction

Abdominal aortic aneurysms are the most frequent type of aortic aneurysm (%75). The rate increases especially in male patients over 65 years of age. Depending on the size and location of the aneurysm endovascular surgery or open surgery can be used for the treatment. Open abdominal surgery is necessary if the aneurysm is very large. We present treatment of a case with a giant abdominal aortic aneurysm.

Case

A 84 years old man who had visited our emergency due to abdominal pain was referred to our cardiothoracic surgery department following thoracoabdominal computed tomography and a diagnosis of abdominal aortic aneurysm. On physical examination a pulsing mass was seen on the abdomen. Computed tomography imaging of the abdomen revealed a giant abdominal aortic aneurysm 12cm in diameter (Figure 1). On two-dimensional transthoracic echocardiography; valvular morphologies and heart segments were natural. The coronary arteries were normal.

Surgery Technique

Following transabdominal approach we opened the abdomen and removed the aneurysmatic section of the aorta. We replace it with a synthetic aortobifemoral graft (Dacron, 16-8mm) which is seen in Figure 2. The operation completed without any complications and the patient discharged at the fifth day.

Conclusion

Giant abdominal aortic aneurysm is a rare aortic abnormality and can be a reason for sudden death. Treatment choice of these patients is emergent surgery.

Figure 1.

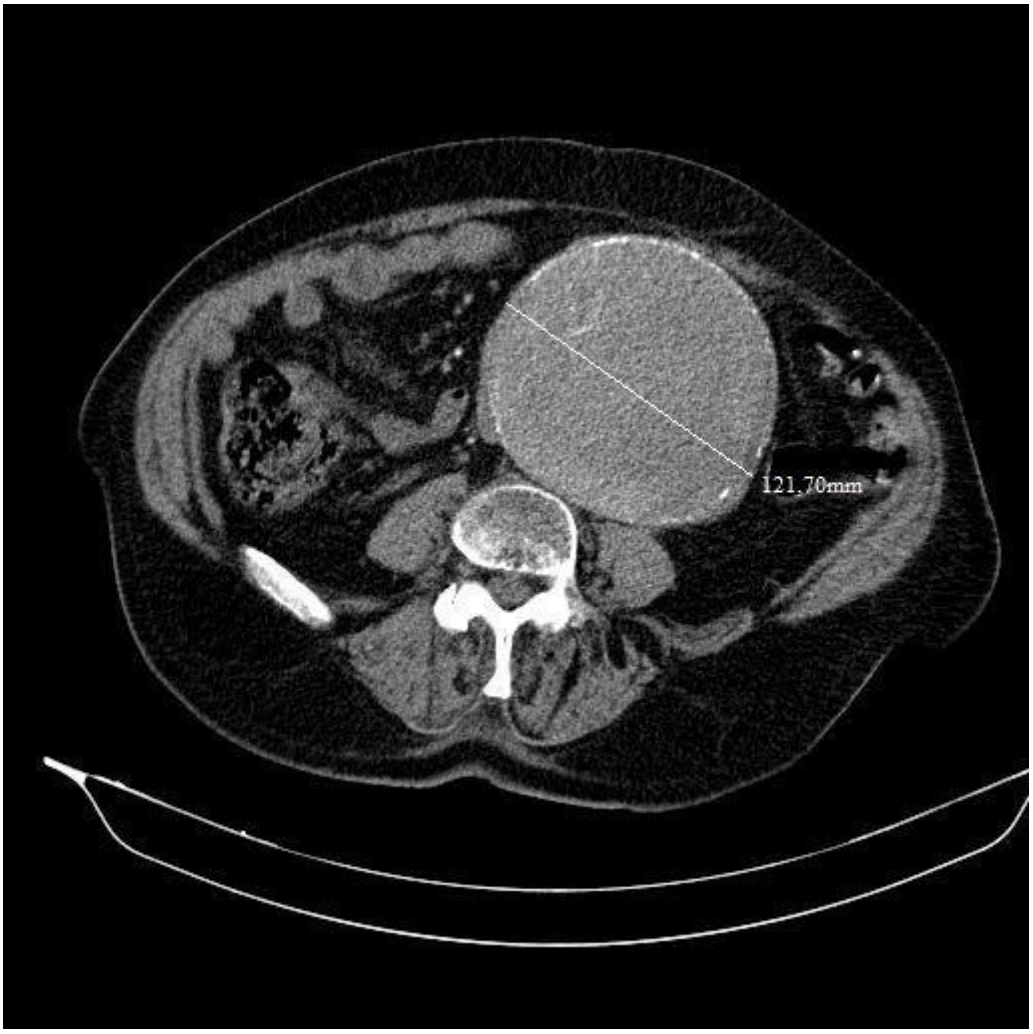
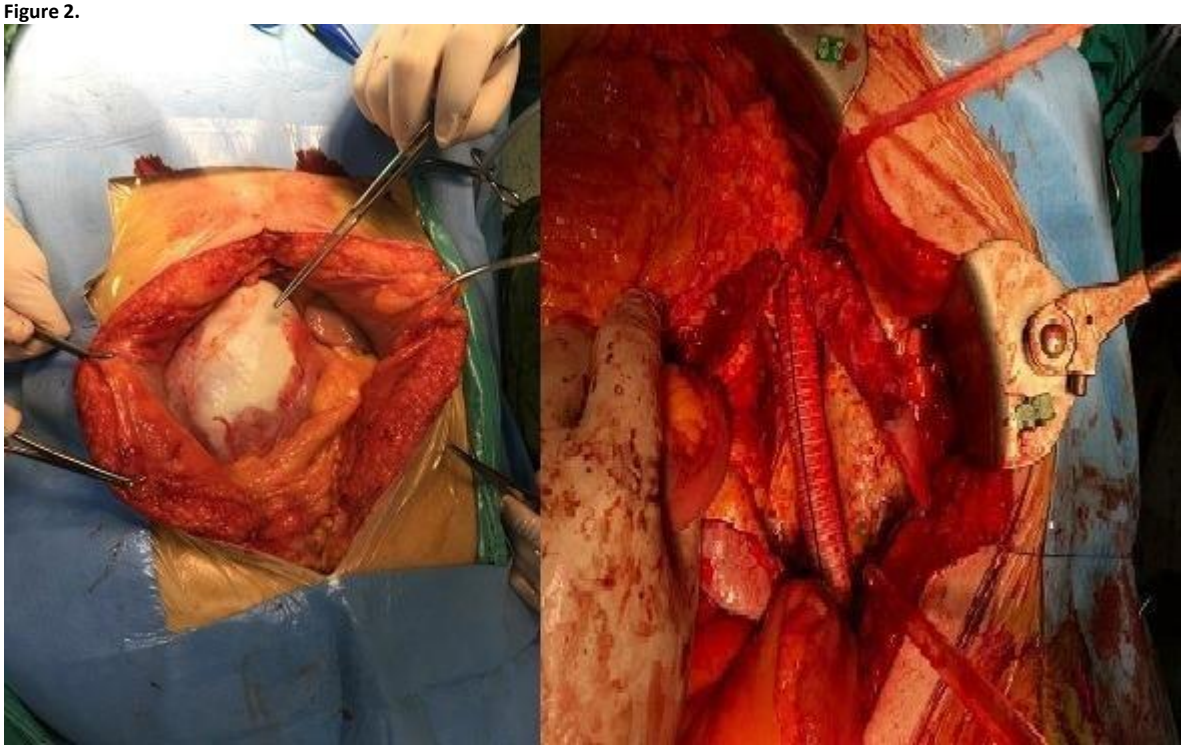


Figure 2.



ID: **38**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

HYBRID PROCEDURE IN A CASE OF TYPE B AORTIC DISSECTION WITH A PREVIOUS BENTALL'S PROCEDURE

Sweta Ramani Salla

Yashoda Hospitals, HYDERABAD, India

**Corresponding Author (dr.swetaramani@gmail.com)*

INTRODUCTION: Aortic dissection (AD) is one of the most challenging vascular diseases. Conventional surgical techniques are associated with significant risks in terms of mortality and morbidity. This case report describes the management strategy of a type B Aortic dissection with a prior aortic root surgery.

CASE REPORT:

A 48 year old gentleman, a case of Marfan's syndrome, was diagnosed with aortic root aneurysm in 2006. He underwent modified Bentall's procedure then using a Dacron graft tailored in with 21mm St.Jude's mechanical valve. Patient was under regular follow-ups. 7 months ago, the follow-up CT aortogram showed mild Stanford Type B Aortic dissection in the DTA. He was medically managed then and reviewed after 5 months. The repeat CT Aortogram, showed increasing false lumen upto 27mm in diameter of DTA, arising just distal to the arch vessels extending upto the renal arteries (Fig 1).

The hybrid procedure was performed. A Left Carotid Subclavian bypass grafting was done using 8mm PTFE graft followed by Transcatheter endovascular stent graft (TEVAR) of 30x150mmValiant Thoracic stent graft (Fig 2), from distal portion of the arch to the level of D5-6 vertebrae on the same day. Patient was extubated on 1st POD and was discharged home by 4th POD.

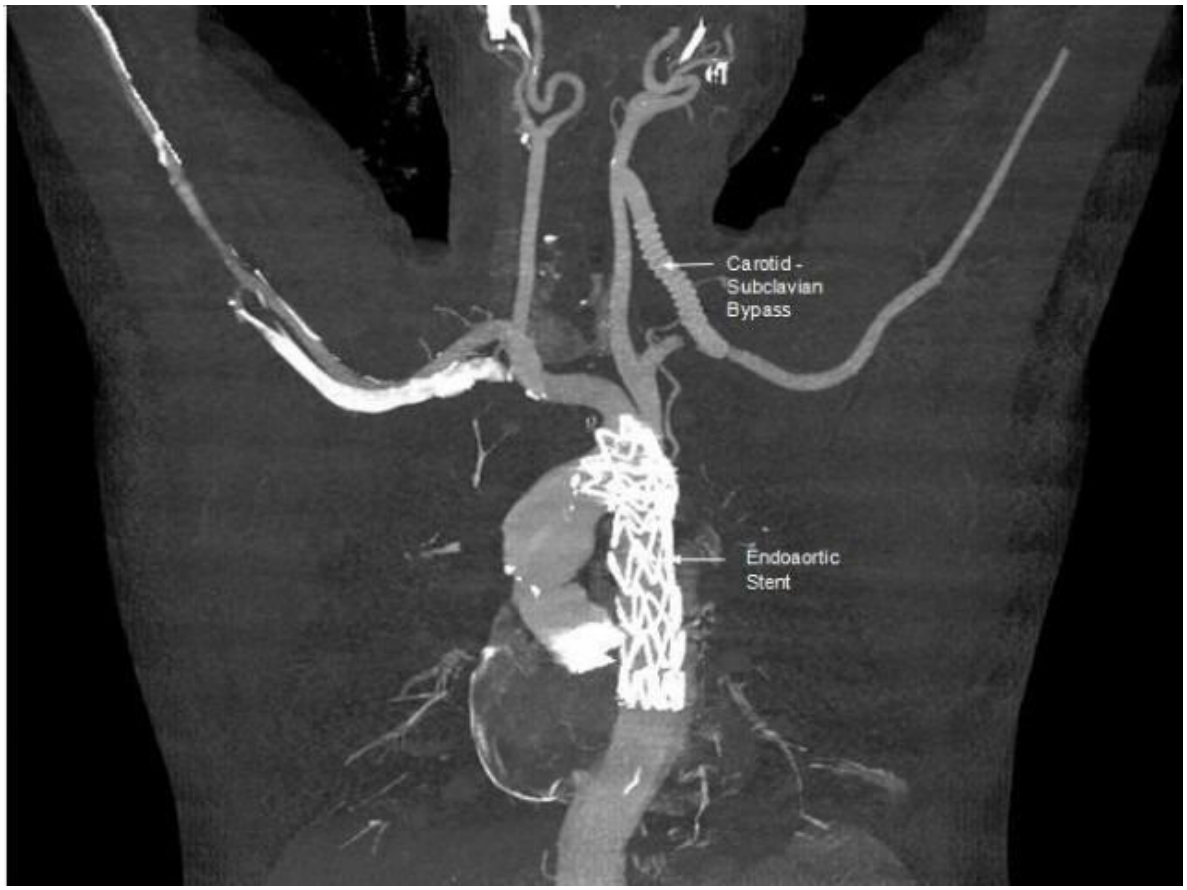
DISCUSSION:

The classic surgical approach to AD requires cardiopulmonary bypass and deep hypothermic circulatory arrest. Despite surgery, a residual dissection flap persists in 64 to 90 % of cases leading to distal malperfusion syndrome with an estimated mortality rate ranging from 6.6%–19%. With recent advancement, a much lesser invasive novel catheter based techniques were introduced. The thoracic endovascular aortic repair (TEVAR), devised with the use of nitinol based covered stent grafts that resulted in reduced operative time, length of stay, improved recovery and much lesser mortality rates, as low as 2.1%.

Though TEVAR has dramatically altered the treatment of thoracic aortic pathology, it is not free of limitations. The key limitation is the necessity of adequate, disease-free seal zones likewise in our patient. In order to prevent compromising on the Left subclavian artery ostia (increasing the risk of stroke, spinal cord and upper extremity ischemia) left carotid-subclavian bypass was done thus securing the blood flow in the arch vessels keeping the true lumen patent.

Thus, Hybrid procedure is a viable and relatively safe treatment strategy for patients with AD.


ACSD AORTA
TRUE LUMEN
THORACIC AORTA
FALS LUMEN
<A>
ABD AORTA


Carotid -
Subclavian
Bypass
Endoaortic
Stent

ID: **368**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

CASE REPORT: REPAIR OF VASCULAR RING AND THORACAL AORTIC ANEURYSM BY HYBRID OPERATION

Akın Turan

ZBEU, Zonguldak, Turkey

**Corresponding Author (akintu@gmail.com)*

OBJECTIVES:

With the increasing use of endovascular aneurysm repair, combined use of TEVAR as an alternative to surgical aortic repair reduces mortality and morbidity for selected patients. In this article, we describe the application of TEVAR antegrade access through the ascending aorta in a patient who could not undergo femoral intervention after a selective arch bypass.

METHODS:

In the elderly patient who presented with dyspnea; The left subclavian artery was ringed and pressed into the trachea, and aortic aneurysm extending from the ascending aorta to the descending aorta was detected. Because of the comorbidities, innovative, carotid and subclavian arteries were bypassed by open surgery, and TEVAR was taken to the angiography unit. Retrograde vascular access was not achieved due to femoral dissection and angulation. Sternotomy was performed from the ascending aorta starting from the anastomoses and two grafts were placed as antegrade. On the third postoperative day, the patient died due to recurrent malignant arrhythmias and respiratory problems.

RESULT:

The vascular ring is a rare condition. As in our patient, a hybrid treatment option should be considered in patients with high comorbid risks associated with an arcus aorta aneurysm. Again, in cases where femoral intervention is not possible, antegrade TEVAR application from the ascending aorta may be possible.

ID: **114**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

AORTIC ARCH REPLACEMENT USING MODIFIED BRANCH GRAFT TECHNIQUE, IN A CASE OF CHRONIC PSEUDOANEURYSM OF AORTIC ARCH INVOLVING THE ARCH VESSELS – A CASE REPORT

Sweta Ramani

Yashoda Hospitals, Hyderabad, India

**Corresponding Author (dr.swetaramani@gmail.com)*

BACKGROUND:

Over the past few decades, several techniques were devised to improve the surgical results of total arch replacement. This case report describes our modified branch graft technique we implemented in a case of aortic arch aneurysm extending into the arch vessels.

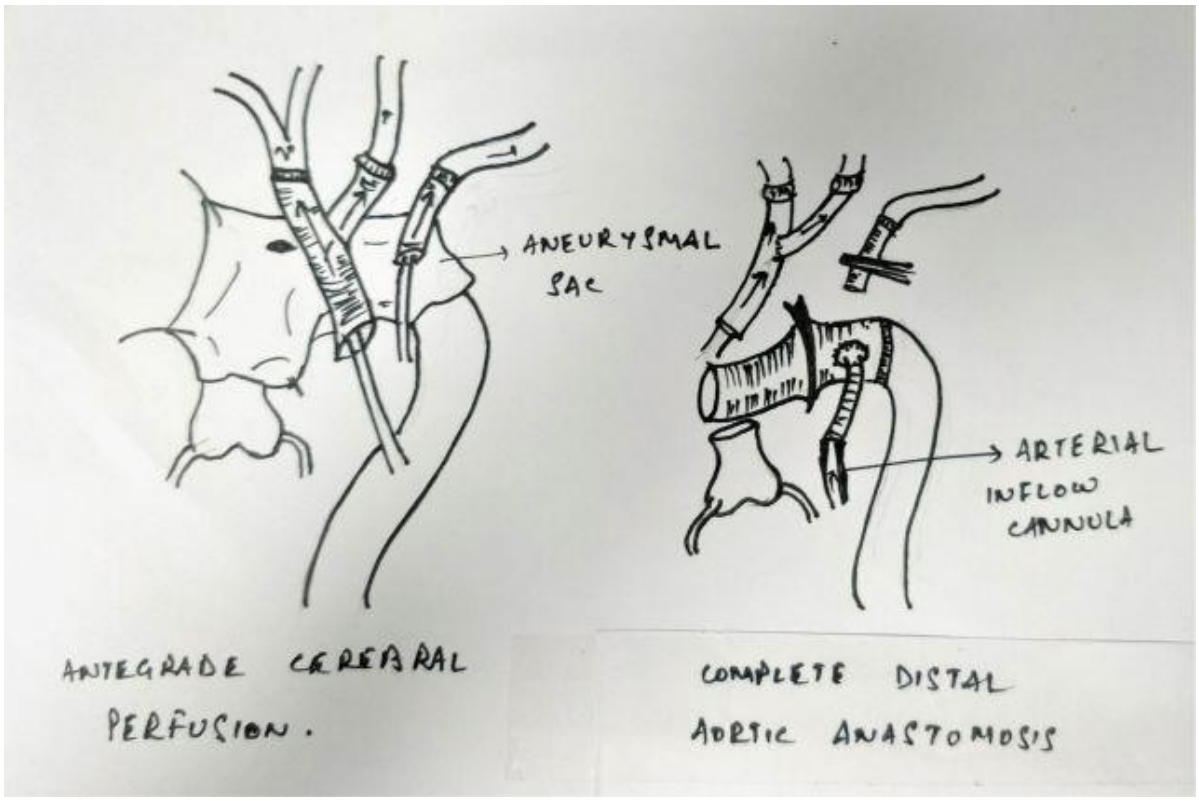
CASE REPORT:

51 year old gentleman presented with complaints of hoarseness of voice since 6 months. CT Aortogram revealed a fusiform aortic aneurysm with eccentric thrombus involving the entire length of transverse aortic arch till 7cm distal to the origin of Left subclavian artery (LSA), along with fusiform ectasia of thoraco-abdominal aorta at hiatus (3.7cm), and occluded superior mesenteric artery with well-formed gastroepiploic collaterals. Patient was reviewed after 4months and an increase in arch aneurysmal segment by 0.3cm (6x6cm dilatation) was noticed (Figure 1).

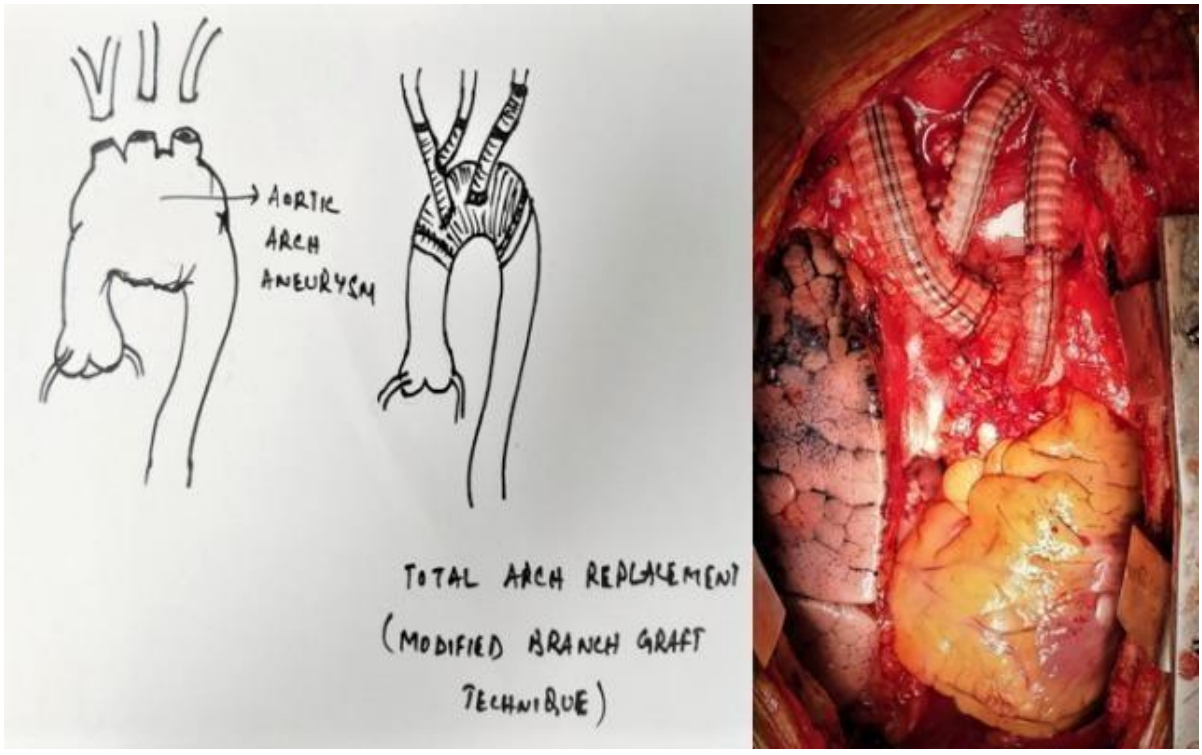


Total arch replacement was planned.

The procedure was performed through median sternotomy with incision extending onto the left supraclavicular fossa, anterior to the sternocleidomastoid muscle. Left Subclavian artery (LSA) was dissected in the left supraclavicular fossa and an 8mm dacron graft was sutured. Procedure was performed under profound hypothermic circulatory arrest (HCA) with bilateral selective antegrade cerebral perfusion through a 'Y graft' inserted into right innominate artery and left common carotid artery. The aneurysmal sac along with the thrombus was excised. The aortic reconstruction was performed using 28mm gelatin-sealed woven polyester Dacron conduit and the Y graft was used onto the anterior portion of the aortic conduit, for the arch vessels. A separate side branching 8mm graft sutured to the left of the Y graft for the arterial inflow cannula and circulation was re-established (Figure 2)



. The total circulatory arrest and pump times were 60mins and 75mins respectively. The LSA graft was tunneled under and anastomosed end to end to the side branching graft. Thus, the reconstruction of transverse aortic arch and arch vessels, was completed (Figure 3).



DISCUSSION:

In cases of aortic arch aneurysms involving the arch vessels, surgical repair proved beneficial over transcatheter endovascular stenting. In this patient, we have implemented the branch graft technique over the conventional separate graft or en-bloc techniques inorder to avoid aortic manipulation thus reducing the embolic load to the brain and also to lessen the stress on the suture line of distal anastomosis of the aortic graft. A Y graft and a separate graft for arterial cannulation were used in restarting CPB after circulatory arrest. The anastomosis of

the vessels can be perfused sequentially as each anastomosis is done and the corresponding branch is opened, reducing the interval of HCA. Thus, reducing the associated cardiac and cerebral ischemia.

ID: **492**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

TREATMENT OF TRAUMATIC PSEUDONEURYSM IN ISTHMUS OF DESCENDING AORTA WITH GOTT SHUNT

Erdal Simsek, **Muhammed Sefa Saglam**, Ahmet Saritas, Emre Kulahcioglu, Muhammed Selim Yasar, Soner Yavas

University of Health Sciences Turkiye Yuksek Ihtisas Training and Research Hospital, Ankara, Turkey

**Corresponding Author (erdaldr@yahoo.com)*

Introduction

Thoracic aortic pseudoaneurysms after blunt trauma rarely seen and incidence is %2-%5. The most commonly affected site is isthmus. Diagnosis could be missed at first admission because most patients had no sign on first examination. We will present a case, which is rarely seen isolated pseudoaneurysm of the aorta.

Case

A 27 years old male, who had a motor vehicle accident, the patient had multiple rib fractures, several non-vital wounds and hoarseness. After first interventions on emergency room patient had a CT angiography scan. On CT scan a pseudoaneurysm seen at isthmus area of aorta. There was no transection, but only a pseudoaneurysm of descending aorta in this patient (Figure 1). We performed an aortic graft interposition with left thoracotomy, used a 28 mm dacron graft (Figure 2). We had to use Gott shunt (Figure 3) after cross clamping and patient had a cerebro spinal fluid (CSF) catheterization. After the surgery patient followed at ICU for one day and sixth day of surgery patient discharged uneventfully and with good condition.







Conclusion

We did not use an extracorporeal membrane oxygenator (ECMO) to avoid complications in this case. We used a gott shunt for contuniuty of peripheral circulation. Together with, we used an intraoperative blood salvage system (cell-saver) for minimizing blood loss.
Open surgical interventions or endovascular techniques can be use at aortic pseudoaneurysms. We performed an open technique, because patient was young and pseudoaneurysm was close to aortic arch. It's important to early diagnose and right management on cases with aortic pseudoaneurysms.

ID: **262**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Poster**

SUPRAVALVAR AORTIC STENOSIS IN WILLIAM SYNDROME - CASE REPORT

Rajeev Thilak Chellasamy

JIPMER, Pondicherry, India

**Corresponding Author (rajeev.jipmer89@gmail.com)*

Background

Williams syndrome is a congenital, multisystem disorder involving the cardiovascular, connective tissue, and central nervous systems. Williams Syndrome usually occurs due to deletion of chromosome 7q11.23, occurs in 1 in 10,000 live births. Familial cases involve deletion of 26 to 28 genes, including the ELN gene, which codes for the protein elastin.
Supravalvular aortic stenosis (SVAS) is an anomaly in which there is a narrowing at sinotubular junction. It may be localized to sinotubular junction or may affect the ascending aorta, arch and its branches.

Methods

We report a 14 year old boy who came to our department with chief complaints of dyspnoea on exertion and history of respiratory tract infections for 2 to 3 month. Patient was diagnosed to have Supra valvular stenosis with Williams's syndrome at the age of 5. Patient lost follow up. On examining he had ejection systolic murmur in the Aortic area. Echo showed supravalvular aortic stenosis with a gradient of 55 mmHg. Cath study reported the same. Patient was taken up surgery. Patch repair of supravalvular aortic stenosis with right pulmonary artery path augmentation was done.

Results:

Supravalvular Aortic stenosis is mainly due to deletion in chromosome 7q1123 which causes deficiency in production of precursor of elastin, tropoelastin leading to loss of elasticity of the vessel wall. The stress caused due to blood pressure, stimulates fibrosis and hypertrophy of the muscle cells and collagen formation in the middle layer.

Most of the patient are asymptomatic and are usually diagnosed during evaluation of heart murmur. These patients have systolic murmur which is more prominent at the upper right sternal border which usually radiates to suprasternal notch and to the neck. Due Coada's effect, blood pressure in the right arm is usually higher than that of left arm.
Untreated Supravalvular aortic stenosis may result in cardiac hypertrophy followed by cardiac failure. Balloon dilatation and stent placement can be tried but since the aortic valve and coronary orifices are in close proximity, surgery has become the main modality of treatment. There is no clear indication for the surgery but the presence of symptoms warrants surgery for the patients.

Conclusion:

Supravalvular aortic stenosis is one of the rare causes of LVOTO and is frequently associated with Williams's syndrome. Isolated supraaortic aortic stenosis is less frequent. Clinical evaluation and echocardiography is more important in treatment and improvement of outcomes.

ID: **369**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Poster**

THE ARTERIOVENOUS HEMANGIOMA OF THE RIGHT VENTRICLE: CASE REPORT AND LITERATURE REVIEW

Nemanja Karamarkovic, Aleksandar Dj. Mikic, Dragan M. Ivanisevic, Milos D. Matkovic

Clinical Centre of Serbia, Belgrade, Serbia

**Corresponding Author (nemanja_bg89@hotmail.com)*

Abstract
Cardiac hemangiomas of the right ventricle are very rare and mostly asymptomatic benign tumors. The surgical excision is the first line treatment. We report a case of 69-year old woman with an asymptomatic arteriovenous hemangioma of the right ventricle. Compete surgical excision was performed with the use of cardiopulmonary bypass and the patient was discharged on postoperative day 6 with no relapse at the six months follow-up. The review of the literature showed that this procedure can be performed safely with excellent long term results.

Introduction
Hemangiomas of the heart are exceptionally rare benign tumors constituting 1- 2% of all cardiac tumors, which may occur in all cardiac layers: pericardium, myocardium or endocardium. Their location in the right ventricle is highly uncommon and usually without any symptoms. Cardiac hemangiomas are clinically classified into three subcategories: capillary, cavernous and arteriovenous type. (1) This report accounts for a case of arteriovenous cardiac hemangioma, an extremely rare subtype of this tumor.

Keywords: cardiac hemangioma, right ventricle, surgery

ID: **457**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Poster**

SURGICAL TREATMENT OF A RUPTURED RIGHT CORONARY SINUS OF VALSALVA ANEURYSM INTO THE RIGHT ATRIUM

Burcin Abud, Ayse Gül Kunt, Dilek Öncel

University of Health Sciences İzmir Tepecik Research and Education Hospital, Izmir, Turkey

**Corresponding Author (burcinabud@hotmail.com)*

Aim

Rupture of the sinus of valsalva with a left to right shunt is a urgent cardiac anomaly with a high rate of mortality. It causes acute symptoms of dyspnea and the preferred method of treatment is surgical repair.

Method

A 31 year old patient who had visited the department of cardiology of our institution due to sudden onset of acute dyspnea was referred to our cardiothoracic surgery department following two-dimensional transthoracic echocardiography and a diagnosis of ruptured sinus of valsalva aneurysm. On physical examination a loud continuous murmur and sinus tachycardia were present. Transoesophageal echocardiography showed a left to right shunt from the right coronary cusp to the right atrium. Defect on the ventricular septum and aortic regurgitation were not present. The rupture into the right atrium was confirmed using a coronary CT angiography (figure 1).

Surgical Technique

Following the aorto-bicaval cannulation and aortic cross clamping, we opened the ascending aorta and cardiac arrest was succeeded with direct coronary ostial cardioplegia. We reached the fistula with right atriotomy. The right coronary sinus showed an aneurysm with a hole of 1-1,5 cm leading to the right atrium (figure 2a). We used a bovine pericardial patch to close the hole (figure 2b) After the procedure control transoesophageal echocardiography showed no residual shunt and no aortic regurgitation. The operation completed without any complications and the patient discharged at sixth day.

Conclusion

Ruptured sinus of Valsalva aneurysm with left to right shunt is a surgical urgency with a high rate of mortality if untreated. The use of transoesophageal echocardiography and coronary CT angiography for diagnosis are very useful. Treatment of choice is surgery.

Figure 1

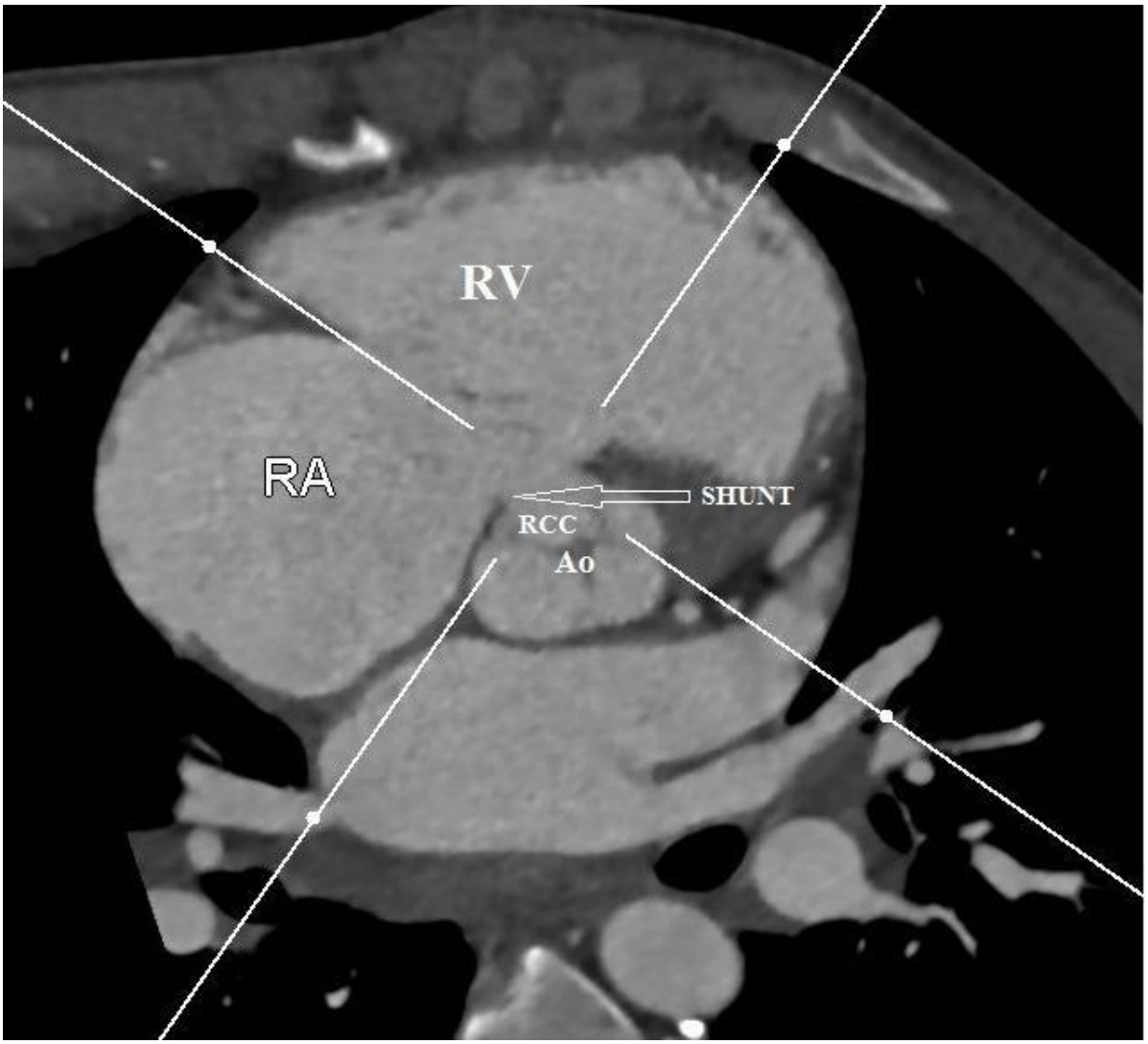
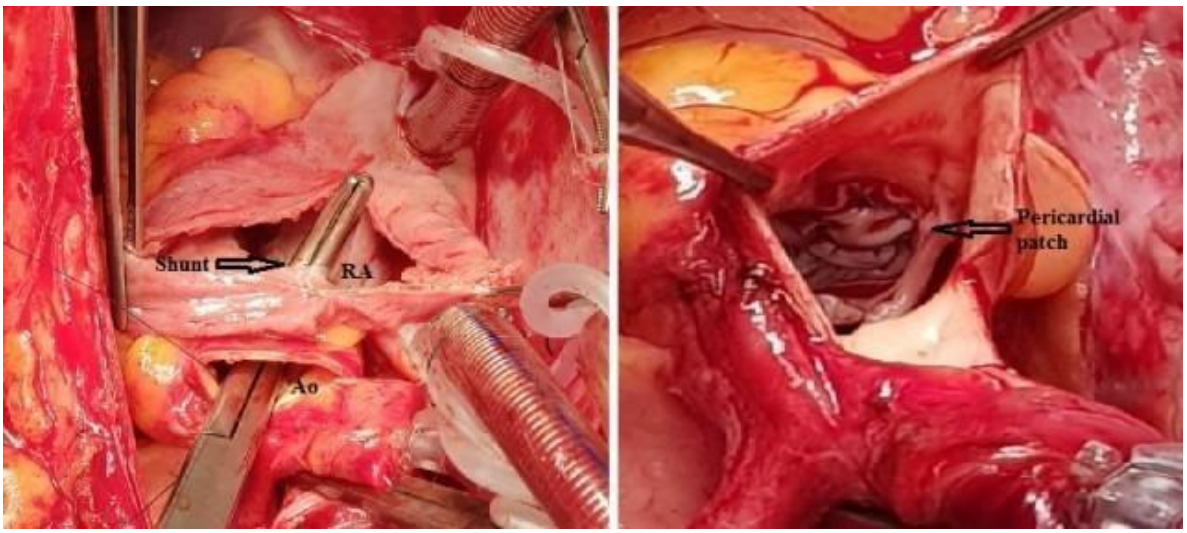


Figure 2a,2b



ID: **310**

Topic: **Cardiology » Interventions for peripheral arterial diseases**

Presentation Type: **Poster**

THE ASSOCIATION BETWEEN BLOOD CELL PARAMETERS AND CAROTID ARTERY STENTING

Bilge Duran Karaduman[1], Hüseyin Ayhan[1], Telat Keleş[1], Engin Bozkurt[2]

[1]*Ankara Yıldırım Beyazıt University, Department of Cardiology, Ankara City Hospital, Ankara, Turkey*

[2]*Medicana Health Group, Medicana International Ankara Hospital, Ankara, Turkey*

[*]*Corresponding Author (bilge_dr@yahoo.com)*

Objectives: Carotid artery stenosis is the leading cause of stroke and is usually caused by atherosclerosis which is associated with systemic inflambition. Recent studies have emphasized several new combined or derived parameters related to blood cells that independently have an important role in the carotid artery stenosis. To date, no study has evaluated the effect of carotid artery stenting (CAS) on these blood cell parameters. In this study, we aimed to investigate the acute effects of carotid stenting on blood cell parameters concerned in inflammation.

Methods: Consecutive patients who underwent CAS were screened in our center. Demographic characteristics, co-morbid diseases and major vascular risk factors, laboratory and imaging results were obtained from medical records. All blood samples were collected 24 hours before and 24 hours after the CAS procedures.

Results: In total, 124 symptomatic and asymptomatic patients with ICA stenosis who underwent CAS were included. Baseline characteristics and procedural details of groups which are shown in Table. The mean age of the patients were 70.0±8.7years and 75% of the patients were male. 53% of the patients had symptomatic carotid stenosis and 48.5% of patients had stenosis in the right carotid artery, 41.9% patients had stenosis in the left carotid artery, and 9.6% patients had bilateral carotid stenosis. Post-procedural stroke and transient ischemic attack were seen in four and three symptomatic group patients, respectively. Eight patients developed hypotension requiring positive inotrope and no other complications were observed. Before and after the CAS, there were statistically significant increased between neutrophils ($p<0.0001$), monocytes ($p<0.01$), NLR ($p<0.0001$) and statistically significant decreased between lymphocyte ($p<0.0001$), platelets ($p<0.0001$), MPV ($p<0.0001$). However, no statistically significant difference was observed in PLR and RDW values. These values were not different between symptomatic and asymptomatic patient groups.

Conclusion: The current study demonstrates that carotid stenting has been shown to have significant effects on blood cell parameters and these are as sensitive marker of systemic inflammation. The effect of this on the inflammatory process needs to be investigated in larger randomized trials.

Parameters	All patients	Before CAS	After CAS
Age (years)	70.0±8.7		
Male (%)	75.0		
DM (%)	38.6		
HT (%)	85.6		
CABG (%)	30.3		
AF (%)	3.0		
Serum glucose (mg/dl)	131.9±51.4		
Creatinine (mg/dL)	1.79±0.94		
Total cholesterol (mg/dL)	189.2±45.2		
Triglycerides (mg/dL)	206.1±168.0		
HDL-C (mg/dL)	39.0±11.9		
LDL-C (mg/dL)	112.4±36.7		

Stenotic carotid artery (%) - Right - Left - Bilateral	48.5 41.9 9.6		
Embolic protection device (%) - Proximal blockage (MoMa) - Distal filter	33.1 66.9		
Stenosis, %, mean (SD)	61.5±37.4		
Stenting (%) - Mean stent length (mm) - Predilatation - Postdilatation	37.3±4.4 69.7 67.4		
Neutrophil (1000/mL)	5.06±1.82	5.60±1.71	
Lymphocyte (1000/mL)	2.12±0.69	1.92±0.74	
Monocyte (1000/mL)	0.62±0.22	0.67±0.27	
Hb (g/dL)	13.5±1.5	11.8±1.8	
Plt (1000/mL)	248.4±69.9	229.2±63.0	
Mean platelet volume (fL)	10.6±1.1	10.4±1.1	
Red blood cell distribution width (fL)	14.2±3.4	13.9±1.5	
Neutrophil/lymphocyte ratio	2.58±1.11	3.33±1.79	
Platelet/lymphocyte ratio	127.2±52.2	133.8±57.6	

ID: **337**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

SURGICAL TREATMENT OF TACHYCARDIA DUE TO A RARE PATHOLOGY: BLOOD CYST RESECTION FROM MITRAL VALVE IN A 3 YEAR OLD CHILD

Nur Dikmen Yaman, Zeynep Eyileten, Ercan Tutar, Suat Fitöz, Adnan Uysalel

Ankara University Faculty of Medicine, Ankara, Turkey

**Corresponding Author (nurdikmen@yahoo.com)*

Introduction

Blood cysts of the heart are rare benign tumors, usually involving the cardiac valves. They regress spontaneously in most of the affected patients by the age of 6 months. Most often, blood cysts within the heart occur on valves or supporting structures of the valve.
We present a patient with blood cyst attached to the sub-valvular apparatus of the anterior mitral leaflet, which was in-cidentally discovered during echocardiography performed for the evaluation of tachycardia.

Case Report

A three year old girl was admitted to hospital with severe tachycardia and dyspnea. A 2 cm sized round mass in left ventri-cle and atrium was seen on echocardiography.
Transesophageal echocardiogram confirmed the exis-tence of a mobile, round, cystic and pedunculated mass (18 × 15 mm) with hyperechogenic walls and hypoechogenic con-tent attached to chordal structures of the anterior mitral leaflet and tip of anterolateral papillary muscle.
A cardiac magnetic resonance imaging revealed an 18 × 15 mm sized lobulated mass attached to the chordae tendinae between the anterior leaflet of the mitral valve and anterolater-al papillary muscle.
During surgery, the cyst was seen attached to chordal structures of anterior mitral leaflet and tip of the anterolater-al papillary muscle. The cystic mass was round to oval shaped, measured 1.5 cm in diameter, white in color. The cystic mass was successfully resected, peroperative transesophageal echocardiogram confirmed mild mitral regurgitation.
Microscopically, the unilocular cyst wall was composed of a dense layer of connective tissue with internal flat lining cells. The results were consistent with endo-thelial cells lining the blood cyst.
The patient had an uneventful recovery from operation. The patient has had no symptoms or recur-rent intracardiac masses for 6 months since the excision.

Discussion

Intracardiac blood cysts are usually asymptomatic, small and congenital. They are mainly seen during autopsy in fetus-es and infants under age of 6 months.
Blood cysts are rarely reported, so there is no consensus or guidelines for optimal management of asymptomatic cas-es. According to some reports, depending on which area of the heart is affected, blood cysts may result in a variety of clinical phenomena, including embolism, valvular dysfunc-tion and heart block. Therefore surgical resection should be considered in patients with symptoms or valvular dysfunction and resection is also suggested to rule out malignancy.



ID: **84**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Poster**

A RARE CASE OF CONGENITAL PULMONARY STENOSIS WITH SECUNDUM ATRIAL SEPTAL DEFECT AND TRICUSPID STENOSIS; SURGICAL APPROACH

Mehmet Kış[1], Tuncay Güzel[2], Tuba Tatlı Kış[1]

[1]*Silopi state hospital, Sirnak, Turkey*

[2]*Dicle University, Diyarbakir, Turkey*

[*]*Corresponding Author (drmehmet.kis@hotmail.com)*

BACKGROUND: Atrial septal defect and severe tricuspid stenosis associated with severe pulmonary stenosis are rare. Since treatment of only one of the existing lesions may result in insufficient hemodynamic improvement, the possibility of simultaneous intervention to multiple lesions by surgical procedure should be prioritized, but definitive diagnosis of combined valvular stenosis and septal defects should be made before surgical repair. We present a 24-year-old patient who was treated surgically with a diagnosis of secundum ASD and tricuspid stenosis accompanying congenital pulmonary stenosis.

CASE REPORT: 24-year-old female patient. The patient had no known chronic disease and had complaints of rapid fatigue and exertional dyspnea. ECG; sinus rhythm, T wave negativity is present in v1-3.Physical examination also no ral, no rhonchi, S1 + S2 + rhythmic, 3/6 systolic murmur on pulmonary focus was present. Echocardiography revealed LV flattened and D-shaped, RVOT hypertrophic, PV max 7.1 m / sec, severe pulmonary stenosis, pulmonary gradient 244/91 mmHg, severe tricuspid stenosis, 2 degree TR, dilatation of RA, and severe hypertrophic RV. The patient was evaluated in the congenital council. Thorax CT angiography decision was taken. In CT; The pulmonary valves are thick, hypertrophic of the RV free wall and interventricular septum, flattened IVS. Pulmonary conus and posterior stenotic dilatation of left main pulmonary artery were detected. There were signs of thickening and stenosis in the tricuspid valve. Pulmonary valve surgery was recommended and the patient was operated. Secundum ASD detected in the operation was closed. Pulmonary artery was excised vertically up to RVOT. The muscle bands in the RVOT were excised. Number 25 aortic bioprosthesis was continuously sutured to the pulmonary region with prolene. The upper part was expanded with a dacron patch and the pulmonary artery and RVOT were expanded. After the tricuspid valve was evaluated with intraop TEE, commissirotomy was performed. In the biopsy of the pulmonary valve sent during the surgical procedure show that heart valve tissue which have showing myxoid changes, valve calcification and pulmonary hyaline degeneration were detected. The patient was taken to the post-operative intensive care unit and discharged on the 6th day after the procedure. In the 2nd year control echocardiography, RV wall thicknesses were found to reach normal levels, Pv max 1.52 m / sec and pulmonary max gradient was 9.25 mmHg. The patient was completely asymptomatic at 2 years postoperatively and was able to perform daily activities easily.

DISCUSSION: With advances in cardiac surgery, cases with combined cardiac anomalies can be successfully corrected. The diagnosis of combined pulmonary stenosis, tricuspid stenosis and ASD is evidenced by the consistency between clinical features and the results of specific tests such as TTE, catheterization and computed tomography. In this case, surgery is great importance in order to eliminate multiple obstacles in the same operation. Percutaneous pulmonary balloon valvuloplasty was not appropriate in our patient because there was accompanying severe TS and secundum ASD.

Figure 1: Cardiac four-chamber image on CT

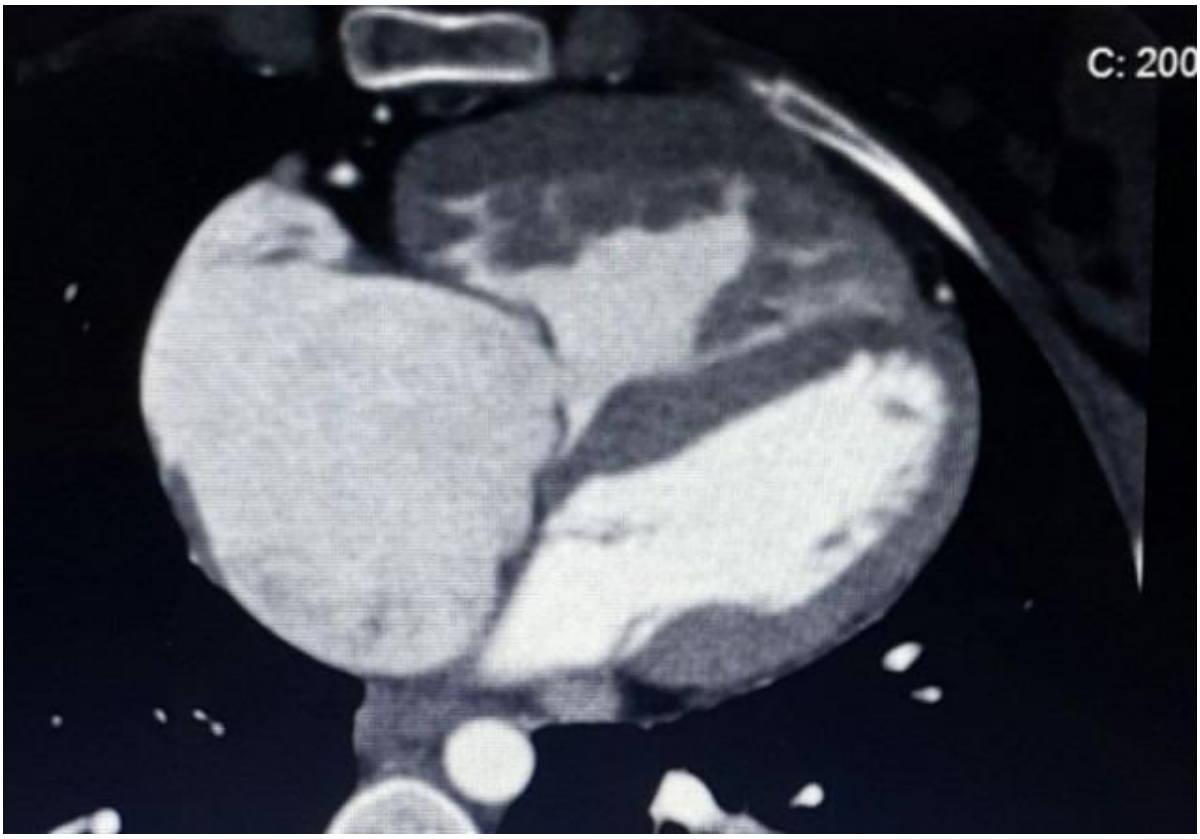


Figure 2: Pulmonary artery appearance on CT

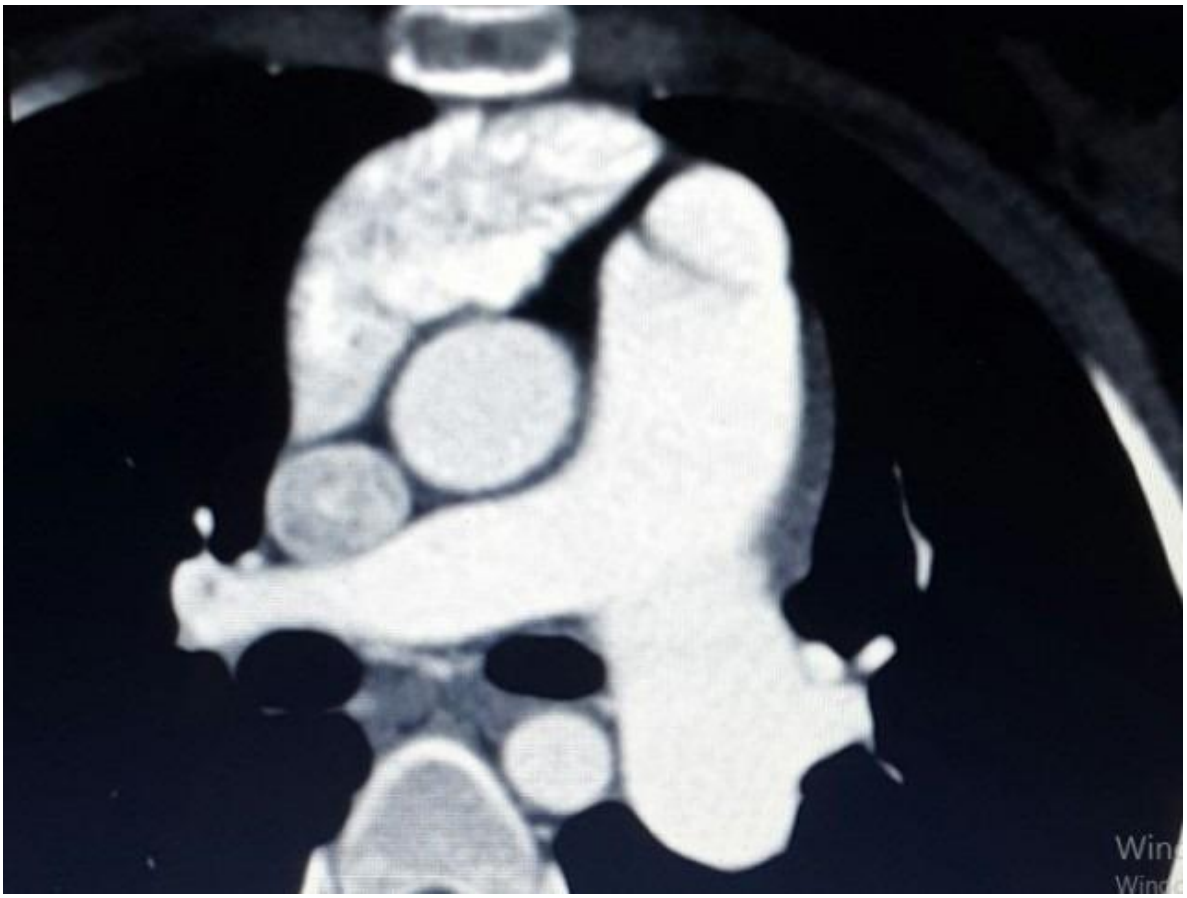


Figure 3: Gradient measurement from pulmonary artery with cw on echocardiography

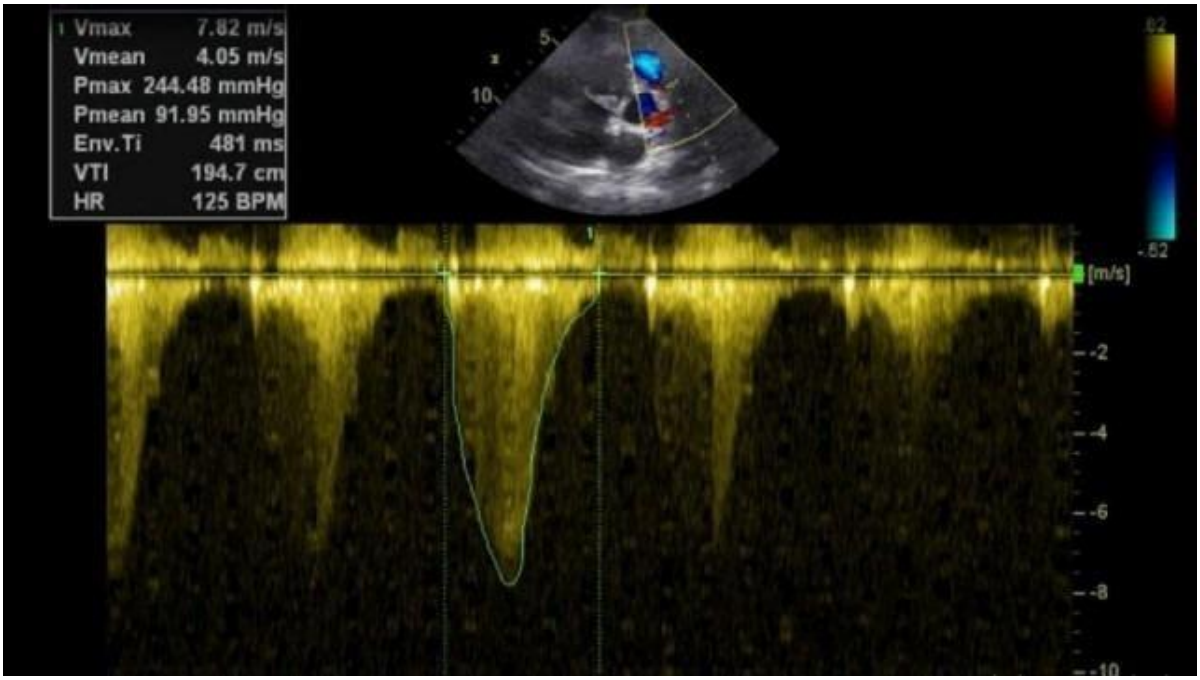


Figure 4: Right ventricular view on echocardiography



Figure 5: 2nd year control echocardiography

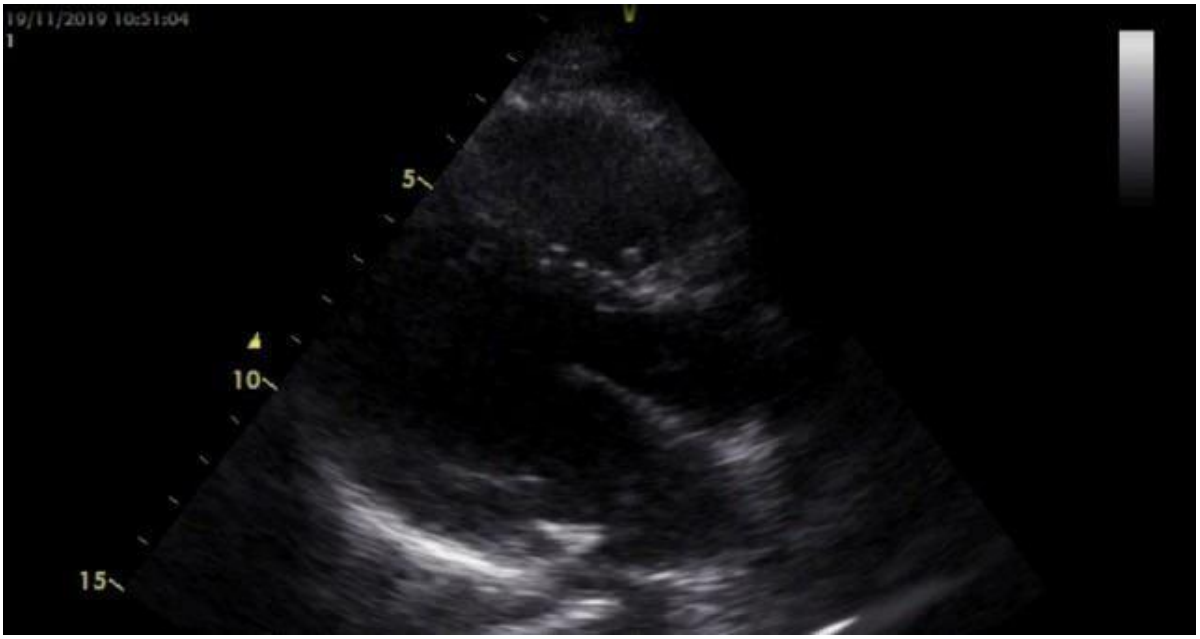
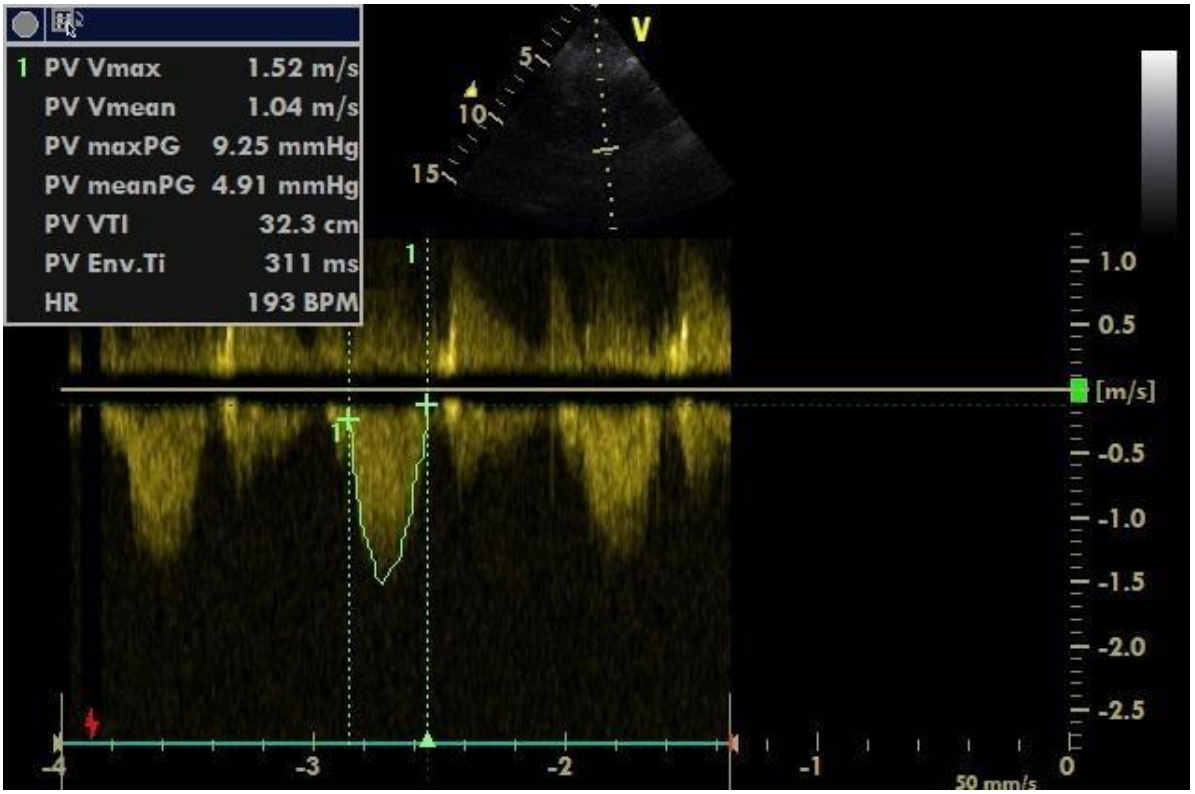


Figure 6: 2nd year control of pulmonary gradient



ID: **303**

Topic: **Cardiovascular Surgery » Adult Congenital Heart Disease**

Presentation Type: **Poster**

SUPRA-VALVULAR AORTIC STENOSIS

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Congenital aortic stenosis are ejectional obstacles of the left ventricle; represent 5-6% of all congenital heart diseases, 10% of which are supra-valvular stenosis. The stenosis should be lifted before irreversible lesions appear in the left ventricular function. Since the first case operated successfully in 1956, various techniques have been developed to remove the aortic valve stenosis.
The aim of our study is to report the short- and medium-term result of a case of operated supravalvular aortic stenosis.

Material and methods: 17-year-old, patient, born form a consanguineous marriage. His pathology was discovered 3 years before his accidental admission by an objectified heart murmur during a school medicine visit; followed then directed to our hospital as soon as the surgical treatment was required. Clinical examination: the patient had palpitations and lipothymia as functional signs; chest x-ray: CTI:0.45; ECG:SRR, signs of left ventricular hypertrophy.
The diagnosis was performed by cardiac doppler ultrasound which revealed a tight supra-valvular aortic stenosis and moderate valve (LV gradient / max aorta 86mmhg and an average of 50mmhg), moderate left ventricular hypertrophy, LV: 45/26, EF 70%, RF 42 %, Bicuspidia type I, with moderately dilated ascending aorta. Chest CT: moderate dilation of the post stenotic ascending aorta.

Results:
The patient was operated under cardio-pulmonary bypass, operative exploration show an hypo development of the left coronary sinus, non stenosing bicuspid aortic valve, with one raphe (type I of Sévers) tested by a size 20 hegar candle, abnormal implantation of the pillar of the anterior mitral valve. The operative procedure consisted in an enlargement of the non-coronary sinus and the right coronary sinus by a Dacron patch according to the Doty technique. Aortic clamping was 92 min, total CPB was130 min. Ventilation 7hours, stay in ICU was 48h, postoperative stay was 09 days. The average gradient at the outlet was 20 mmHg. The patient was checked one year later, a good clinical and ultrasound evolution.

Conclusion:
The supravalvular stenosis diagnosis is echocardiographic, a CT or MRI is often necessary to assess the extent of the stenosis. to avoid complications surgical intervention is necessary as soon as the average gradient exceeds 40 mmhg. Several surgical techniques have been developed which vary depending on the site and the extent of the stenosis.

ID: **526**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

CLOSURE OF SINUS VENOSUS DEFECT TYPE OF ATRIAL SEPTAL DEFECT WITH BOVINE PERICARDIAL PATCH

Fahri Adalı, Fehim Can Sevil, Necip Becit

Afyonkarahisar Sağlık Bilimleri Üniversitesi, Afyonkarahisar, Turkey

**Corresponding Author (drfadali@yahoo.com)*

OBJECTIVE

Atrial septal defects (ASD) are common congenital heart defects. However, a proportion of patients with ASDs, may have their condition complicated by pulmonary hypertension (PH), with a subsequent significant impact on management, morbidity and mortality. We report and evaluate a case in which bovine pericardial patch was used for sinus venosus defect (SVD) type of atrial septal defect (ASD) closure, patent foramen ovale repairing and tricuspid valve annuloplasty.

METHODS

In this case, we repaired a sinus venosus defect type of ASD of a 44-years-old woman who also had right atrial enlargement due to the defect. She has pulmonary arterial hypertension (55 mmHg). After establishing standard bicaval cannulation and total cardiopulmonary bypass, we opened the right atrium with an oblique incision in a superior position to a standard incision. After examining the SVD type of ASD we detected patent foramen ovale(PFO). We closed SVD type of the ASD with bovine pericardial patch and repaired PFO primary with prolen suture. We performed tricuspid valve annuloplasty. After decannulation at intraoperative measurements using catheter from pulmonary artery (PA), PA pressure was 18/8 mmHg, mean was 14mmHg.

RESULTS

During an echocardiographic examination, neither a residual shunt nor perigraft thrombosis was seen on the interatrial septum and also there was no PFO or tricuspid valve insufficiency. The patient was discharged with complete recovery.

CONCLUSIONS

The presence of PH, influences the suitability for defect closure. Pericardial patch is an ideal material for ASD closure, especially in patients having a large right atrium. A complete coaptation was achieved with a close match with the atrial septum.

ID: **402**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

SINGLE AURICLE ASSOCIATED WITH A SUPERIOR LEFT VENA CAVA, AN ABNORMALITY OF THE SYSTEMIC VENOUS RETURN: A CASE REPORT

Redha Lakehal[1], Bendjaballah Soumaya[1], Aziza Baya[2]

[1]EHS Dr Djaghri Mokhtar, Constantine, Algeria

[2]Ehs Djaghri Mokhtar, CONSTANTINE, United States

[*]Corresponding Author (lakehal.redha@gmail.com)

Introduction: The single auricle is a rare congenital heart disease. Treatment is surgery. Prognosis is good after surgery. The goal of this work is to describe a case of single auricle.

Case report: We report the case of a young woman of 17 year old, from a nonconsanguineous marriage without pathological history, complaining a few months before from dyspnea of progressive worsening. Physical examination found laterosternal breath of 5/6. Pulmonary X-rays found a high pulmonary vascularization and a CTI of 0.60. Heart ultrasonography: Single auricle, grade II tricuspid insufficiency; EF: 45 %, LV: 49/32 mm, RV: 29mm, SAPP: 63 mm hg. Peroperative exploration: Vena cava leftsuperior throwing itself in a dilated coronary sinus with abnormal topography and single auricle by complete absence of the interatrial septum. The patient benefitted from an exclusion of the superior left
vena cava during the closing of the inter auricular communication by a pericardial autologus patch under cardiopulmonary bypass. The immediate postoperative course was favorable.

Conclusion: The single auricle is a rare variety of interauricular communication, characterized by the absence of the inter-auricular septum. It can be insulated or associated with other congenital heart diseases.

Keywords: Single auricle; inter-auricular communication; superior left vena cava; surgery.

ID: **396**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

CLEFT MITRAL VALVE ASSOCIATED TO AN OSTIUM SECONDUM ATRIAL SEPTAL DEFECT AND A PERSISTANT LEFT SUPERIOR VENA CAVA: CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction: The left superior vena cava represent the most frequent congenital venous anomaly of the thoracic systemic venous return. It is a rare anomaly, now estimated at around 0.3-0.5% of healthy individuals and 3-10% of patients with congenital heart disease. It results from the abnormal persistence of an embryological vesse in the coronary sinus during fetal life. The purpose of this work is to show persistant left superior vena cava associated with other congenital heart diseases.

Methods: We report the observation of a 07 year old girl from a non-consanguineous marriage with mitral insufficiency grade ll - lll associated to an atrium septal defect ostium secondium with a persistent superior vena cava drained in the coronary sinus . Preoperative: Dyspnoea stage ll of NYHA. Physical examination: systolodiastolic left laterosternal murmur. Pulmonary radiography: Cardiomegaly with CTI: 0.60 Echocardiography: atrial septal defect ostium secondum, Qp / Qs: 3.6, coronary sinus dilation, tricuspid insufficiency grade ll, LV: 39 / 26mm, RV: 31mm, EF: 60%, RF: 27%, Pulmonary pressures: 67 mmHg. aortotricava cardiopumonary bypass. Per operative exploration: Presence of a persistent superior left vena cava upper left, anstomosed in dilated coronary sinus, atrial septal defect ostium secondium 04 /03cm, cleft mitral valve 01cm length responsible for a mitral inssuficency, the two left pulmonary veins flowing into the left atrium through a single venous trunk. Surgical treatment: closing of the mitral slit by separate sutures, closing of the atrium septal defect by autologous pericardial patch.

Results: the post-operative was simple. CPB: 67mn, aortic clamping: 44mn, assistance: 10mn.

Conclusion: It is a congenital anomaly of the systemic venous system. This anomaly is often accidentally discovered during central venous catheterization via the left subclavian or the left internal jugular vein. Isolated, it is generally asymptomatic, but it can cause difficulties in central venous access, implantation of the pacemaker and cardiothoracic surgery. It can be associated with a cumulative incidence of congenital heart diseases, arrhythmias and conduction disorders.

ID: **294**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

TOTAL ANOMALOUS SUPRA-CARDIAC PULMONARY VENOUS RETURN WITH VERTICAL COLLECTING VEIN: CLINICAL CASE

Khacha Khaled[1], Lakehal Ridha [2]

[1]*EHS Mokhtar Djaghri, Constantine, Algeria*

[2]*EHS Mokhtar Djaghri, Constantine, Algeria*

[*]*Corresponding Author (kh3khaled@gmail.com)*

Objectives: The total abnormal pulmonary venous return is a rare malformation encountered in 2% of all congenital heart diseases. The supra-cardiac form is the most frequent anatomical form (50%). The clinical presentation is non-specific. The predominance is male. The diagnosis is based on the cardiac ultrasound.

This is a descriptive retrospective study concerning the analysis of a patient file, operated for TAPVR covering a period of 05 years from the beginning of 2007 to 2012 of a 14 year old child. Since birth, he had persistent cyanosis with exertional dyspnea. Clinical examination: digital hippocratism, lips cyanosis, apex systolic murmur 4/6, absence of weight repercussions. Chest x-ray: cardiomegaly with dilated right atrium overhang and convex left middle arch ECG: SRR, right bundle branch block, Right ventricular hypertrophia. Echocardiography: large sinus vénosus inter auricular communication, LV: 40/24, RV: 37, EF: 71%, arterial pulmonary pressures: 39 mm hg. Cardiac catheterization confirmed the diabnostic. RBC: polycythemia. Intra-operative exploration: very dilated innominate vein, dilated superior vena cava and right atrium, small left atrium and ostium secondum auricular communication 20/20 mm with a common vertical collector of 4 pulmonary veins touching in innominate vein. under cardiopulmonary bypass, confection of the broad anastomosis between the left atrium roof and the collector, on 2 cm with ligature of the collector near its termination and closing of the atrium communication.

Results: The immediate postoperative follow-up was marked by the disappearance of hypoxemia and hypercapnia, extubation around the 48th hour, decrease of pulmonary pressure.

Conclusion: The incidence of this malformation is low. Prenatal diagnosis is possible. Treatment is surgical and the prognosis depends on age, diagnostic delay, blocked form, cardiac dysfunction, residual stenosis and residual Pulmonary hypertension.

ID: **225**

Topic: **Cardiovascular Surgery » Congenital Heart Disease**

Presentation Type: **Poster**

MITRAL PARACHUTE VALVE IN 12-YEAR-OLD CHILD: A CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Parachute mitral valve (PMV) is a rare congenital defect of the mitral valve. seen in infants and young children. In most cases, PMV is associated with other congenital abnormalities of the heart, in particular obstructive lesions of the mitral influx and ejection of the left ventricle from the channels and coarctation of the aorta and is called Shone complex. PMV can also occur as an isolated lesion or in association with other congenital heart defects. Little is known about PMV in adults as an isolated abnormality or in association with other congenital heart abnormalities. The purpose of this work is to report a congenital case of parachute mitral valve.

Methods: We report the observation of a 12 year old girl, presenting a double congenital mitroaortic valvulopathy diagnosed at the age of 02 years, following a dyspnoea and an incessant cough, given the deterioration of her state she was referred to our hospital for surgical management. Physical examination: Weight-delay delay. Pulmonary radiography: TCI 0.55. ECG: SRR. Echocardiography: Parachute mitral valve with LA-LV gradient: 25 mm hg, tight aortic stricture with medium aorta gradient - left ventricle at 58 mm hg associated with grade II aortic insufficiency on thickened aortic sigmoid, aortic ring 12 mm, LV : 24/16 mm, RV: 26 mm, FE: 65%, FR: 35%, PAPS: 69 mm hg. Chest CT: Cardiomegaly associated with dilation of the pulmonary artery. per operative exploration: Absence of patent ductus arteriosus, a single mitral papillary muscle with symphyses of the mitral commissures and retraction of chordaes, the aortic valve has not been explored. The gesture: Mitral valve replacement after failure of a bilateral mitral commissurotomy.

Results: The postoperative was marked by a cardiogenic shock refractory to mechanical and pharmacological support.

Conclusion: Congenital malformations of the mitral valve can be encountered isolated or in association with other congenital heart diseases. As embryology shows, each stage of the mitral valve complex can be reached. This explains the fact that these lesions can sometimes associate with each other. A perfect preoperative evaluation being crucial, a good knowledge of the normal anatomy and malformations is required in order to be able to guide the surgeon specifically in his gesture.

ID: **591**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Poster**

GANGLIONEUROMA IN THE NECK REGION OF A 4 -YEAR- OLD GIRL

Nazmiye Selçuk Kapısız, Birol Yamak

Natomed Hastanesi, Ankara, Turkey

**Corresponding Author (nazselkap@gmail.com)*

OBJECTIVE

Ganglioneuroma is a rare, benign, non-invasive tumor emerging from the sympathetic system. Of these tumors, only 8% occur in the neck. In this report, we present a case of a 4-year-old girl with a 1-year history of enlarging left neck mass.

METHODS

Her only complaint was swelling in the neck. Physical and radiological examinations revealed a mass of approximately 6x5 cm in the left neck triangle, adjacent to the level of common carotid artery and internal carotid artery and centered in the right carotid space. A transcervical approach was used to excise the tumor emerging from the sympathetic ganglia. The patient developed temporary Horner's syndrome postoperatively. In a few weeks, she was completely asymptomatic.
RESULTS

Histological examination was compatible with ganglioneuroma.

CONCLUSIONS

Surgical excision is the only definite treatment of cervical ganglioneuroma and is also the only way to confirm the diagnosis. Injury during surgery may result in significant morbidity.

ID: **592**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

PERIPHERAL ARTERIAL DISEASE IS A RISK FACTOR FOR DIABETIC FOOT WOUNDS

Aysun Perim Ketenciler[1], Serkan Ketenciler[2]

[1]*Arel University, İstanbul, Turkey*

[2]*Okmeydanı Research and Training Hospital, İstanbul, Turkey*

[*]*Corresponding Author (aysunketenciler@arel.edu.tr)*

Diabetes mellitus that may cause acute and chronic complications is a metabolic disease characterized by elevated blood glucose. According to WHO, about 422 million people worldwide have diabetes, particularly in low-and middle-income countries. The most important and most common chronic complication of diabetes mellitus is diabetic foot. Diabetic foot is a multifactorial problem which is caused by the addition of neuropathy and infection to peripheral vascular disease and threatens the extremity and is the most common cause of foot amputation in the world. Diabetic foot complications cause extremity loss every 30 seconds in the world. Diabetic foot infection is an important and difficult to treat medical disease in patients with diabetes; it is also the most hospital-staying complication of diabetes. Peripheral arterial disease and neuropathy are the two major complications of diabetes mellitus, they are the most important risk factors for diabetic foot. Peripheral artery disease occurs in approximately 50 % of diabetic patients with diabetic foot wounds. Peripheral artery disease is an important risk factor for delaying of wound healing and lower limb amputations. The most common site of involvement in diabetic and nondiabetic peripheral artery patients is the distal femoral artery (Hunter canal, adductor canal). In diabetics, the trifurcation arteries, especially distal to the popliteal artery, are significantly more involved than non-diabetic patients. The diabetic foot wounds are concerned to great percentage of the diabetics so peripheral artery disease is always keep in mind for these patient group. Unfortunately, there is no the detailed statistical examinations of the diabetic foot or peripheral artery disease in Turkey. There is a requirement of epidemiological studies for this public health problem.

ID: **597**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Poster**

TREATMENT OF A VENOUS ULCER AFFECTING WHOLE LEG IN A 42 YEAR OLD MALE

Nazmiye Selçuk Kapısız, Birol Yamak

Natomed Hastanesi, Ankara, Turkey

**Corresponding Author (nazselkap@gmail.com)*

OBJECTIVE

Treatment of venous ulcers secondary to chronic deep vein thrombosis is sometimes very difficult because of their tendency to recur. We present a case of venous ulcer affecting whole leg distal to the knee.

METHODS

The 42-year old-male patient was admitted to the hospital with a huge venos ulcer distal to knee, affecting whole leg. E. coli was detected in the culture taken from the ulcer region. Intravenous antibiotic therapy according to antibiogram was started as well as low molecular weight heparin in treatment doses of deep vein thrombosis and Diosmin+hesperidin in doses of acute hemorrhoid exacerbations. Daily dressings with local rifampicin, leg elevation and diet were applied. Hospitalization lasted for two weeks.

RESULTS

The venous ulcer was treated completely at the the end of four weeks of treatment, two weeks of hospitalization and two weeks of home therapy and still no recurrence of the venous ulcer was seen for 2 years.

CONCLUSIONS

Venous ulcers secondary to chronic deep vein thrombosis can be treated completely with no recurrence with suitable medical therapy and necessary precautions.






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ID: **585**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Poster**

PSEUDOANEURYSM OF THE PROFUNDA FEMORIS ARTERY FOLLOWING PENETRATING TRAUMA TREATED BY ENDOVASCULAR COIL EMBOLIZATION

Utkan Sevuk

Dicle University, Diyarbakir, Turkey

**Corresponding Author (utkansevuk@gmail.com)*

Introduction:

Pseudoaneurysms typically present late and signs of persistent hip pain, thigh swelling, presence of a pulsatile mass, and even unexplained anemia all may suggest the diagnosis. Profunda femoris artery (PFA) pseudoaneurysm after penetrating trauma without is a rare occurrence. PFA pseudoaneurysm requires high index of suspicion and is often difficult to diagnose clinically because of its location. We present a case of PFA pseudoaneurysm following penetrating trauma.

Case Presentation:

The patient was referred to our clinic due to penetrating injury of the thigh. CT angiography confirmed pseudoaneurysm of the branch of the PFA. The patient was successfully treated with coil embolization of the bleeding vessel.

Conclusion:

This case demonstrates both the nonspecific presentation of arterial pseudoaneurysms and the high index of suspicion that is required for vascular injury in cases of penetrating injury.

ID: **587**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

IS COMPUTED TOMOGRAPHY ANGIOGRAPHY IS ALWAYS EFFECTIVE IN PERIPHERAL ARTERIAL DISEASE AS AN IMAGING METHOD?

Hasan Fahri Kapısız[1], Nazmiye Selçuk Kapısız[2], Birol Yamak[2]

[1]Yenimahalle Eğitim ve Araştırma Hastanesi, Ankara, Turkey

[2]Natomed Hastanesi, Ankara, Turkey

[*]Corresponding Author (hfkapisiz@gmail.com)

OBJECTIVE

Computed tomography angiography was misleading in three cases with peripheral vascular disease we encountered and it would be more accurate to evaluate the results together with other imaging methods.

METHODS

Case1: A 35-year-old alcoholic male patient was admitted to the emergency department with a stab injury in the anteriomedial part of the right thigh proximally. There was no active bleeding and no hematoma formation at the site of injury .The pulses were normal, venous circulation was normal. Computed tomography angiography revealed no vascular injury. Elastic bandage and compression was applied and the patient was followed up in the emergency department with no fall in the hemoglobin level. Then the patient was discharged with recommendations. 48 hours after the injury he presented to the emergency department with severe pain and swelling in the thigh. A 5x10 cm mass was detected by palpation in the injury site. Giant pseudoaneurysm secondary to injury was detected in computed tomography angiography and the patient was operated.

Case 2:

A 65 -year-old female patient with Diabetes Mellitus presented with claudication of the right leg with weak femoral pulse. Computed tomography angiography was normal. Since computed tomography angiography was incompatible with the physical examination findings, coronary angiography and conventional peripheral angiography was carried out which reveals occlusion of the right external iliac artery. İliofemoral bypass was applied.
Case 3: 56-year-old male patient was admitted to the emergency room with a firearm injury of the left thigh. The entrance of the injury was anteriomedial 1/3 middle part of the thigh and the exit of the injury was posteriolateral distal part of the thigh. There was no bleeding at the beginning, only hematoma formation was present. Pulses were normal. Computed tomography angiography revealed no vascular injury. The patient was followed up in the emergency room. The hemoglobin level decreased and hematoma enlarged and the patient was taken to the operation room. A partial injury in the superficial femoral artery and complete superficial femoral vein injury were detected in the hunter region. Superficial femoral artery was repaired and saphenous vein interposition was applied to the superficial femoral vein.

RESULTS

Computed tomography angiography (CTA) was misleading in our three patients, one case of chronic vascular disease and two cases of penetrating injury. It is noteworthy that classical CTA, which failed to show venous injuries, could not likewise show arterial injuries. Bleeding, which is probably controlled by pressure and hypotension at the time of admission, starts active bleeding again after fluid loading.

CONCLUSIONS

Therefore, as in our emergency department, in centers that do not have doppler ultrasonography other than working hours, emergency injuries should be approached more carefully, if necessary, hospitalization should be done for long-term follow-up and control doppler ultrasonography and CTA should be performed.





ID: **565**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **Poster**

AN ALTERNATIVE SURGICAL APPROACH FOR PATIENT WITH CONCURRENT AORTIC VALVE DISEASE AND AORTIC ROOT ANEURYSM

Cengiz Bolcal, Kubilay Karabacak, **Emre Kubat**, Furkan Burak Akyol, Murat Kadan

Gülhane Trainig and Research Hospital, Ankara, Turkey

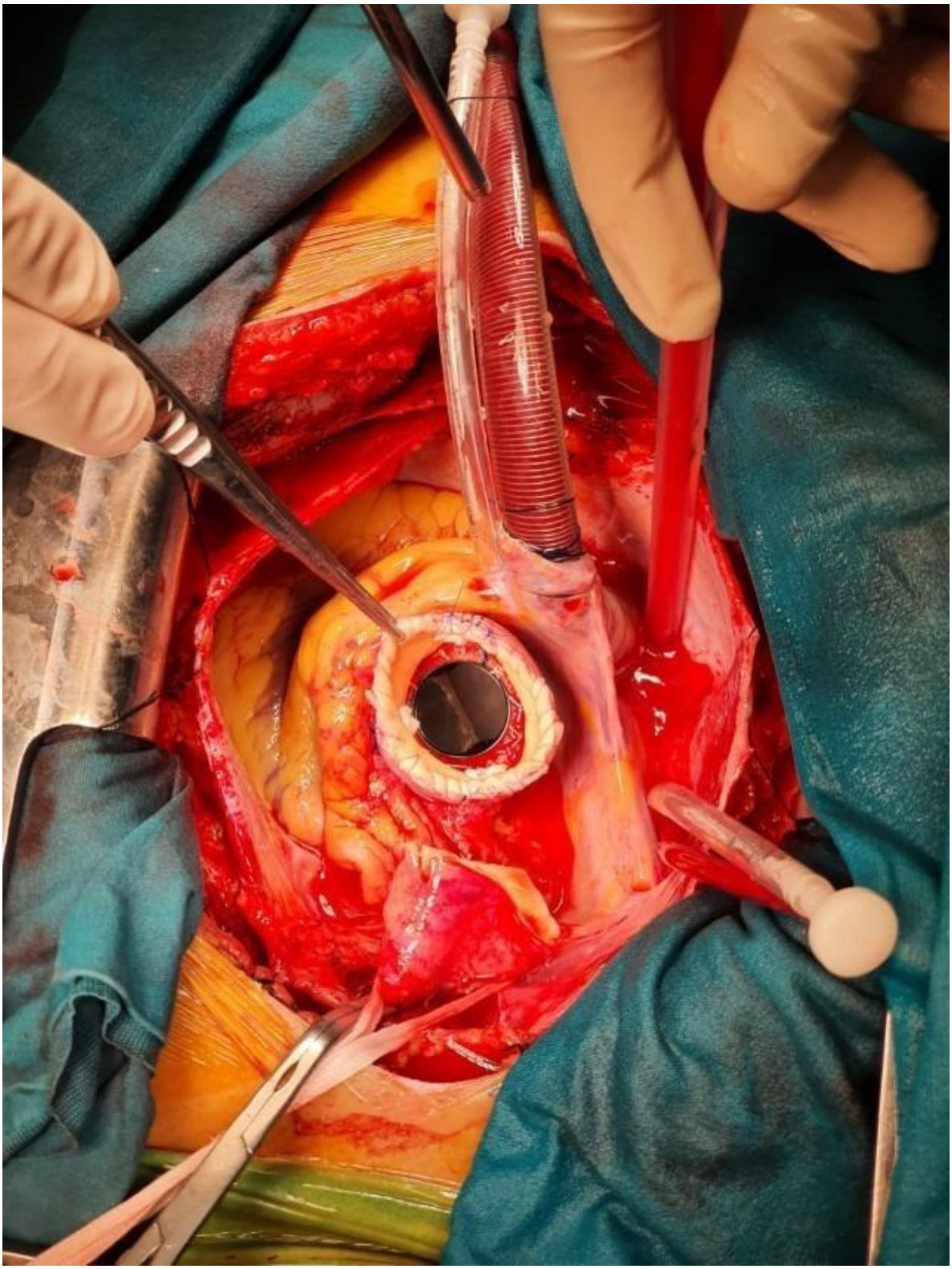
**Corresponding Author (bolcalc@yahoo.com)*

Introduction:
Florida sleeve procedure is an aortic root sparing technique with long term good clinical results which is used as an alternative to Yacoub and David procedures. Florida sleeve procedure has advantages of decreased risk of surgical bleeding, less hospital stay, less 30 days mortality rates, better 5 and 10 years survival rates, less reoperation rate in 8 years, less aortic insufficiency in comparison. Herein, we present a successful surgical procedure with florida sleeve and aortic valve replacement of a 50 year-old male patient due to aortic annular aneurysm and aortic insufficiency

Material-method:
50 year-old male patient with a history of hypertension was admitted to the emergency room with complaints of hypertension, chest pain, syncope and exhaustion. Transthoracic echocardiography revealed normal left ventricular ejection fraction (65%), increased ascending aortic diameter (50 mm), increased diameter of sinuses of Valsalva (45 mm), bicuspid aortic valve and 30 aortic insufficiency. Florida sleeve procedure for sinus valsalva aneurysm operation was planned to the patient.

Results:
Aortic valve was not suitable for repair in introoperative evaluation. Therefore, aortic valve replacement and florida sleeve procedure were performed successfully. The patient had an uneventful postoperative period and was discharged on sixth day after operation.

Conclusion:
Bentall procedure has been a widely used technique for concurrent aortic valve diseases and aortic root aneurysm for many years. Aortic valve replacement combined with florida sleeve procedure can be performed with low complication risk in concurrent aortic valve diseases and aortic root aneurysm such as our patient.



ID: **69**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

AXILLARY ARTERY AND AXILLARY VEIN REPAIR WITH AUTOLOGOUS SAPHENOUS VEIN INTERPOSITION AFTER A SHARP OBJECT INJURY: A CASE REPORT

Nurcan Ayabakan Eski

KASTAMONU STATE HOSPİTAL, KASTAMONU, Turkey

**Corresponding Author (nurcan.ayabakan@hotmail.com)*

Introduction: Arterial and venous revascularization and nerve repair following a complex injury of the upper extremity are of vital importance to prevent the loss of the extremity and any sequelae. Failure to allow arterial circulation may lead to ischemia of the extremity, while failure to allow venous circulation may result in edema in the extremity and compartment syndrome, which would further damage the arterial circulation and lead to the loss of the extremity. In our study, we report a case of arterial and venous revascularization with autologous saphenous vein interposition in the vascular trauma of the right upper extremity secondary to a sharp object injury.

Method: A male patient was brought to the emergency room due to a sharp object (chainsaw) injury starting from the right armpit with active bleeding from the injury site and approximate size of 15x7 cm on the medial area, where 3 cm of lateral skin and subcutaneous tissue remained intact. As the patient's physical examination showed muscle tendon and nerve cuts and active vascular bleeding, the patient was referred to emergency surgery.

Findings: The exploration of the patient showed complete rupture and lacerations in the right axillary artery and axillary vein. The artery and vein were clamped from the proximal and distal ends, and the lacerated areas were excised. The saphenous vein was removed from the right leg and divided into two, and both the axillary artery and the axillary vein were revascularized with this saphenous vein graft. The nerve muscle and tendon cuts were repaired by the plastic surgery team as required. Low-dose heparin and oral anticoagulants were administered in the postoperative period. The post-operative follow-ups were event-free and he was discharged from the hospital on the sixth postoperative day. The arterial and venous structures of the upper extremity were properly monitored in the early postoperative period and the first month postoperative Doppler examinations were recorded. No pathologies were detected in the follow-ups in terms of vascular surgery. In the third month of his follow-up, the patient was receiving physical therapy and showed no additional problems other than a slight limitation of fine motor movements of the right hand.

Result: The major vascular and venous injury of the extremity by sharp object injuries is a condition that is difficult and complicated to treat in terms of the loss of the extremity and any sequelae risks. In our case, the repair of the axillary artery and axillary vein injuries was performed with autologous saphenous interposition and appropriate medical treatment was provided, which resulted in no vascular surgery complications. The rate of vascular surgical complications may be reduced through early hemostasis, appropriate surgical technique and medical treatment in major vascular injuries.

ID: **447**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **Poster**

CORRECTION OF SUBCLAVIAN ARTERY BLEEDING AFTER PERCUTANEOUS İNTERVENTION WITH COVERED STENT AND PERCUTANEOUS DRAINAGE

Ilker Mercan

Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drilkermercan@hotmail.com)*

Objective: Permanent hemodialysis catheter is an invasive procedure that is seen as easy in practice but rarely causes serious complications. Endovascular treatment may be a good alternative to surgical treatment for both diagnosis and treatment when severe hemorrhage occurs due to atypical bleeding foci after the procedure.

Case: A 69-year-old female patient with end-stage renal failure for approximately nine years and undergoing hemodialysis for 8 years was admitted to our clinic for elective vascular access. After thrombosis of both upper extremity veins and central veins, a permanent catheter was planned. When the right jugular vein was thrombosed, subclavian vein puncture was performed and subcutaneous tunnel was formed from the right pectoral region and the catheter was fixed. 45 minutes after the procedure, the patient had pain in the catheter area and a significant increase in diameter extending from the right lateral wall of the chest to the inferior. The patient underwent CT angiography. The CT showed a heterogeneous hematoma with a thickness of 114 mm at the thickest site and significant extravasation in the medial region of the hematoma. DSA was planned instead of surgical exploration due to the present comorbid diseases of the patient and emergency treatment was performed. Angiograms of the patient showed an appearance consistent with active extravasation in the clavicular branch of the thoracoacromial artery originating from the right subclavian artery. In the same session, the subclavian artery originating from the thoracoacromial artery branch was passed through the wire and an expanding stent (Lifestream, Bard) with a 6x37 mm balloon was placed and instent PTA was performed with an 8x40 mm balloon (Mustang, BSC). Extravasation was not observed in the control angiogram. Eight 75 mg clopidogrel peroral and 5000 IU heparin were administered during the procedure. Six hours after the procedure, the 8 x 6 cm hematoma in the pectoral region was evacuated with a 16 gauge Nipro catheter under ultrasound guidance and a sandbag compression was performed. During this period, 3 units of Erythrocyte Suspension was replaced and the patient was discharged on postoperative day 2.

Conclusion: Hemorrhages may be caused by branches extending to postero-inferior, especially after subcalvian artery puncture. In these cases, endovascular treatment may be a good alternative since surgical exploration and the focus of hemorrhage are anatomically difficult to reveal. We can avoid situations such as morbidity and long hospitalization due to surgical intervention.

ID: **448**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Poster**

SURGICAL REPAIR OF EARLY ARTERIOVENOUS FISTULA AND PSEUDOANEURYSM AFTER STAB INJURY

Ilker Mercan

Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drilkermercan@hotmail.com)*

Objective: Arteriovenous fistula (AVF) and pseudoaneurysm formation after penetrating trauma with incisor - piercing is seen with pulsatile mass, murmur, edema of the extremity, ischemia and pain. The absence of active bleeding after penetrating trauma and hemodynamic stability do not always rule out vascular pathology. It should be kept in mind that AVF and pseudoaneurysm may occur due to partial vessel injury.

Case: A 21 - year - old male patient with no known concomitant disease presented to the emergency department with a knife injury from the medial - adductor region of the right leg femoral region. However, no active bleeding, hematoma and circulatory disorders were observed in the region and doppler ultrasonography (DUSG) report was normal. Ten days later, when the patient came to the emergency room for dressing, a thrill and pulsatile mass was felt in the stabbing area and our clinic was consulted. Doppler ultrasonography revealed a 4 mm slit in the medial wall of the superficial femoral artery (SFA) and filling the aneurysm sac. An arteriovenous fistula causing arterialized flow in the femoral vein was observed in the posterolateral wall of the defect projection. The patient was operated. A 6 cm incision was made to the knife entry area. Neuromuscular structures were excluded and aneurysm sac was reached. Superficial femoral artery (SFA) was rotated and clamped from the proximal and distal part of the sac. Aneurysm sac opened. The defective region on the SFA was seen through the sac. The entire aneurysm sac was excised. A fistula mouth causing venous filling was seen in SFA. Since the repair would cause arterial stenosis, the 2 cm area of SFA was completely excised and the femoral vein was reached and 3 cm saphenous vein was patched from the same incision. AVF was repaired by patch plasty to femoral vein. The ends of the SFA released from the surrounding branches were prepared for anastamosis and re-anastamosed end-to-end. The patient was discharged on the postoperative 2nd day.

Conclusion: Traumatic A-V fistula and aneurysm occur as an early result of penetrating trauma. Care should be taken for the development of pseudoaneurysm and AVF in patients whose follow-up decision is taken after penetrating trauma. End-to-end anastomosis seems to be a more appropriate approach than repair graft interposition.

ID: **387**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

HEMATOMA AND ABSCESS IN PSOAS MUSCLE AFTER PULLING MOTION APPLIED TO THE FOOT

Mustafa Dağlı, Ilyas Selim Yılmaz, Ilker Mercan, Zafer Şen

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

The psoas muscle starts from the tranvers protrusions and intervertebral discs of the 12th chest and all lumbar vertebrae, descends downward from both sides of the spine, passes under the inguinal ligament and joins the fibers of the iliac muscle and trochanter minora in the femur ends. Makes the thigh flexion movement.
In the patient who was held in the prison because of right foot pain, his friends had stretching by holding his leg and waist; We aimed to present the hematoma and abscess in iliopsoas and psoas muscles.

CASE

A 27-year-old male patient had pain in his right foot and was pulled to his leg. Afterwards, the patient's pain in the right lower back and hip gradually increased and he was admitted to the orthopedic outpatient clinic many times. Physical examination revealed sensitivity from the right costovertebral region to the right inguinal region. His blood tests revealed leukocytosis and CRP was elevated. sacral MRI was ordered by orthopedics. Then abdominal CT was ordered. The patient's entire abdominal CT report: along the right psoas muscle. There is an increase in the attenuation of the iliopsoas muscle extending to the 8 cm in the thickest part and the inflammation in the adjacent mesentery.
The patient had low hemogram that were given full blood and fresh frozen plasma. Antibiotic treatment was started. The patient's hemogram decreased and the continuity of arterial and venous structures in the iliac region was evaluated by DSA. However, no major vascular injury was observed.
The patient was scheduled for surgery. Incision was made from the femoral region of the patient who had collections in the femoral region. Separation of muscle structure in inguinal region and no nerve rupture was observed. Patient did not intervene by orthopedics.
Injury of the inguinal ligament was also observed. The aspirator was gently advanced to the abdomen under the ligament. Approximately 3 liters of blood and hematoma were aspirated. Hematoma was abscessed and sent to culture. Daily hemogram control was performed. The patient was discharged after antibiotic treatment was completed. The patient was included in the physical therapy exercise program. Six months later, the patient started walking with a cane.

RESULT

Iliopsoas abscess is a rare and life-threatening condition and a rare form of retroperitoneal infections. Non-specific symptoms of the disease make early diagnosis difficult. Delay in treatment increases morbidity and mortality. Psoas abscesses are classified as primary and secondary. Primary psoas abscess occurs at a rate of 30% and is usually caused by hematogenous or lymphatic spread of bacteria from a hidden focus.70% of Psoas abscesses are secondary abscesses and result from local spread from infected tissues. Psoas abscess is usually paraspinal localized and sometimes spreads through the fascia to the hip and thigh.
Since iliopsoas abscess may progress towards the femoral diaphysis, CT should be performed to see the retroperitoneal region in people with thigh abscess.
In our case, we think that muscular hemorrhage due to leg stretching is hematoma and abscessed in hematoma.

CONCLUSIONS

The patient's complaints of increasing pain should always be taken into consideration and further examination and treatment should not be avoided. Hematomas should be closely monitored, should be evacuated as it may cause mortality and morbidity when it tends to abscess.

ID: **327**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

SURGICAL TREATMENT OF HIGH FLOW RATE CONGENITAL ARTERIOVENOUS MALFORMATION IN UPPER EXTREMITY

Serkan Yıldırım, Mehmet Işık

Necmettin Erbakan University School of Medicine, Konya, Turkey

Corresponding Author (serkaneo1@gmail.com)

OBJECTIVE

Arteriovenous malformations (AVM) are rare congenital anomalies. It occurs when there is a direct connection between the artery and vein without a capillary structure. If left untreated, it can cause symptoms leading to heart failure.

METHODS

A 10-year-old male patient had complaints of palpitation and shortness of breath that started three months ago. Physical examination revealed hand-pulsed and thrill findings in the left arm antecubital region. In the detailed examination of the patient, it was learned that there was no blood collection or any other invasive procedure. He had a history of atopic dermatitis. High flow rate venous flow was detected by Doppler ultrasound and MR angiography was performed and showed high-flow AVM between the proximal left radial artery and the deep vein. Informed consent was obtained from the patient and parents, and a signed informed consent form was obtained. Under sedation and local anesthesia, a two-cm incision was made through the antecubital region. Brachial artery and radial artery were returned from the bifurcation area. There was almost no neck connection between proximal radial artery and deep vein. The lesion was not suitable for ligation or division because of the absence of a neck. The deep vein was opened longitudinally, and it was found through its connection with the artery. The mouth of the lesion opening to the deep vein was closed primarily with 7/0 prolene without narrowing the radial artery. The vein was then primary sutured with 7/0 prolene. Postoperative thrill and pulsation disappeared.

RESULTS

Congenital vascular anomalies are classified into two groups as hemangiomas and vascular malformations. Hemangiomas are characterized by benign neoplastic proliferation of vascular endothelial cells and increased mast cells. In vascular malformations, there is no cellular hyperplasia and progressive ectasia occurs in the vessels.

Vascular malformations are seemed for about 7% of all benign tumors. Pain, ischemic findings and atrophy of the extremities may develop in the arterial system distal to the shunt due to decreased blood flow. Symptoms of heart failure may occur in large high-flow shunts.

CONCLUSIONS

Surgical treatment is advantageous in cases with multiple connections that cannot be evaluated clearly by imaging methods. When deciding on endovascular or surgical treatment; we believe that a good profit and loss calculation should be made by considering the patient's age, comorbid conditions, whether the lesion is located in mobile localities such as joint area and the difficulty of surgical transportation and the most appropriate treatment method should be preferred to the patient.



ID: **188**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

SURGICAL TREATMENT OF GIANT ANEURYSM IN THE FEMORAL ARTERY AND SUPPLY OF OBSTRUCTED LOWER EXTREMITY: A CASE REPORT

Mustafa Dağlı, Hayat Gökmengil

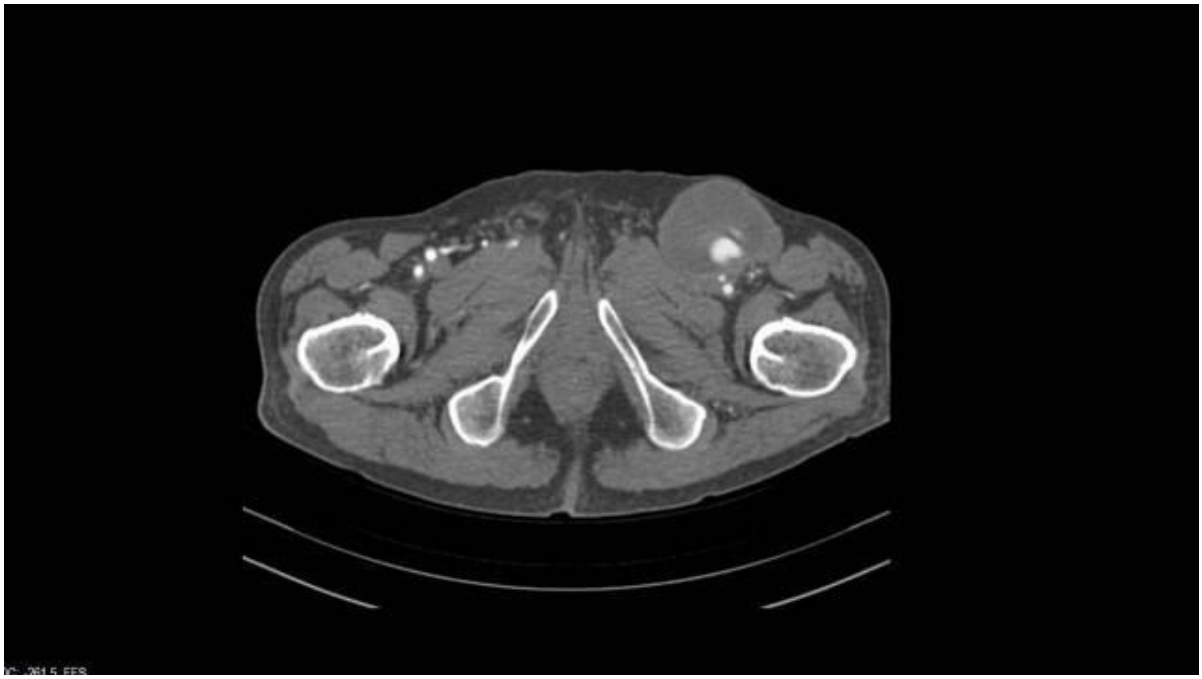
Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

True aneurysms of the femoral artery are very rare and are usually accompanied by other peripheral aneurysms, particularly aorta-iliac and popliteal aneurysms. Pseudoaneurysms usually occur due to iatrogenic causes or in Behçet's disease.

In our case, the patient underwent bypass with aortic bifemoral dacron graft 14 years ago. Physical examination revealed a pulsatile mass in the left femoral region. A 69-year-old male patient with a giant aneurysm (5 * 5.5 cm) on the femoral artery (image 1) and a total distal occlusion of the left superficial femoral artery was evaluated.



The patient presented with swelling and pain in the left groin, and a femoro-femoral bypass operation was performed with PTFE graft. Anastomosis of the lateral branch graft originating from the giant femoral aneurysm and arteria profunda femoralis was performed (image 2). Distal bypass was not performed because the patient's walking distance was over 200 meters. The patient was discharged on the 6th day after the operation, and the walking distance was better than the preoperative period.

Indications for intervention in femoral aneurysms; the diameter of the aneurysm is greater than 4 cm.
In our case, the presence of a rapidly growing pulsatile mass in the groin with severe pain was accepted as indicators of rupture. Open femoral bypass was preferred because the main femoral region was not suitable for endovascular procedures. Because the salvary artery of the leg is located in the artery profunda femroralis and one or two collateral vascular vessels are observed. Ringed PTFE graft was used because it was mobile and folded.

CONCLUSIONS

Femoral aneurysms are easily diagnosed pathologies with prominent clinical findings. However, as in our case, sudden aneurysms that develop suddenly can cause fatal bleeding. From the moment the diagnosis is made, rapid and appropriate intervention will be life saving. The effect of reimplantation of the branches from the aneurysm sac during surgery on the patient's walking distance and leg ischemia should not be forgotten.

ID: **223**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **Poster**

INFECTIOUS ENDOCARDITIS COMPLICATED BY ISCHEMIC STROKE: A CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Infectious endocarditis is a serious pathology. It is an infectious endocardial disease responsible for heart failure and embolism, especially cerebral embolism. Symptomatic ischemic stroke is reported in 10 to 35% of infectious endocarditis and is the most common neurological complication. Half of the neurological complications of infectious endocarditis are ischemic strokes linked to vegetations embolisation. The aim of this work is to show the gravity of this affection.

Methods: We report the observation of a18 years man old, with no history, admitted in emergency room for a mitral infective endocarditis in cardiac decompensation complicated by multiple strokes. Physical examination: apexian systolic murmur. Pulmonary radiography: bilateral lung opacities and CTI 0,50. WBC: hyperleukocytosis. Blood culture: Staphylococcus aureus. Echocardiography: 24 mm vegetation on the posterior mitral valve. computed tomography: multiple ischemic stroke. She received a double antibiotic therapy. per operative exploration: a mitral vegetation, perforation 10/10 mm on altered mitral valve. Gesture: Mitral mechanical valve replacement 29 after a mitral plasty failure, under Cardio pulmonary bypass.

Results: post-op follow-up; without complication.

Conclusion: The decision to perform cardiac surgery for endocarditis, the choice of the right timing for this surgery, decision-making difficulty. These decisions require close monitoring of the patient, daily and regular clinical examination such as CT and echocardiography, transthoracic and transoesophageal. These decisions were made in close collaboration between the cardiologist, the surgeon and the microbiologist.

ID: **407**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Poster**

TOTAL SECTION OF HUMERAL ARTERY BY AN IRON BAR DURING A SCAFFOLDING FALL: CASE REPORT

Khaled Khacha, Aziza Baya

EHS Mokhtar Djaghri, Constantine, Algeria

Corresponding Author (kh3khaled@gmail.com)

Introduction: The open vascular traumas are relatively frequent. They can engage functional and vital member's prognosis. They are always associated with lesions of the soft parts or neighboring organs. Clinical presentation is variable. The aim of this work is to show the importance of surgically exploring the humeral artery as well as the humeral junction in case of penetrating traumas of the elbow with abolition of the pulses. Methods: We report the case of a 21 years old mason, victim of a penetrating trauma of the left elbow by an iron bar following a fall of a scaffolding, presenting an abolition of the left radial pulse without bony lesions during the physical examination, with well colored hand and left forearm and no sensory-motor disorders. Per operative exploration after the ablation of the iron bar found a loss of 3 cm of humeral arterial substance with retracted and thrombosed ends, without any associated nervous or venous lesions. Surgical gesture consisted in the restoration of humeral arterial continuity by the homolateral basilica vein after preparation of the humeral arterial ends.

Results: The immediate postoperative evolution was simple with reappearance of the homolateral radial pulse. Conclusion: The open vascular traumas can appear either by a hemorrhage or by an ischemia. The exploration of the humeral artery must be systematic after open luxation of the elbow. The presence of vessel lesions must be suspected and explored when opening the vascular axis. Treatment is adapted to the vascular lesion and possibly to the associated lesions, it is surgical, either conventional or endovascular. The emergency of its implementation is function of the intensity of the hemorrhagic shock or the ischemic repercussions of downstream. The Walkmann syndrome of even can in post operational.

ID: **353**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Poster**

A DIFFICULT SITUATION IN THE DIABETIC FOOT WOUND IN A PATIENT WITH CHRONIC PERIPHERAL ARTERIAL DISEASE DUE TO DIABETES: COMPARTMENT SYNDROME

Mustafa Dağlı

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

In patients with ischemia due to peripheral vascular disease, ischemic injury is not the result of trauma, whereas diabetic foot wounds are almost always caused by trauma. Most diabetic foot infections begin as a result of an unrecognized injury to the neuropathic foot and colonization of a wound on the skin caused by trauma with bacteria. The treatment of diabetic foot wound is quite difficult in a patient with chronic peripheral arterial disease due to diabetes. During this treatment, the doctor and the patient's patience is very important.

METHODS

In our clinic, the follow-up and treatment of patients with diabetic foot primarily cannot be performed for some reasons.
Patients with ischemic wounds with peripheral arterial disease are followed-up and treated. In these patients, because of being a source of infection for patients undergoing open heart surgery, the procedures are performed quickly as soon as possible and the patients are generally taken to the isolated room.

Ischemia facilitates infection of the wound in diabetic patients. therefore, revascularization accelerates wound healing. In patients who cannot be revascularized, iloprost infusion is thought to be beneficial because of neovascularization. A multidisciplinary approach is essential and greatly improves treatment success. Patient's blood sugar must be controlled, low molecular weight heparin, acetyl salicylic acid and anti-inflammatory treatment should be started. Pentoxifylline and iloprost infusion therapies are useful as they increase neovascularization for the healing of ischemic wound. There are publications showing the benefit of hyperbaric oxygen therapy in wound healing. Empirical antibiotic therapy should be changed according to the pathogen that will be produced by culture. Regardless of antibiotic treatment, very good drainage, debridement and appropriate wound care are essential for successful treatment.

However, despite the treatment modalities applied, foot wounds of diabetic patients may progress and develop compartment syndrome (İmage 1).

RESULTS

The foot anatomy has rigid compartments and there are relationships between these compartments.; There are 4 compartments as medial plantar, central plantar, lateral plantar and deep interosseous. They are the most accepted in the clinic. The number of these compartments is reported to be between 4-10 in different publications. Inflammatory response due to infection causes the pressure in these compartments to rise above capillary pressure, resulting in ischemic tissue necrosis. Because of the high pressure within these compartments, infection spreads through the tendons to the lower pressure proximal regions. When drainage and debridement is performed, not only the dead and poor tissues are cleaned, but the pressure inside the infected compartments is reduced, thus preventing the infection from spreading proximally.

CONCLUSIONS

In compartment syndrome, revascularization should be performed first and blood sugar should be controlled. All dead and necrotic tissues should be debrided aggressively, the purulent material should be drained and the infected compartments opened wide. Proper antibiotic treatment according to the pathogen microbial agent is also important. Vacuum-assisted closure therapy after debridement will be useful for patients with culture negative. hyperbaric oxygen therapy can be administered more than once a day under severe hypoxia and infection conditions.



ID: **125**

Topic: **Cardiovascular Surgery » Peripheral Arterial Disease**

Presentation Type: **Poster**

POPLITEAL ARTERY ANEURYSM REPAIR VIA END TO END SMALL SAPHENOUS VEIN BYPASS:

Macit Bitargil, Helin El Kılıç

Şişli Hamidiye Etfal Training and Research Hospital, İstanbul, Turkey

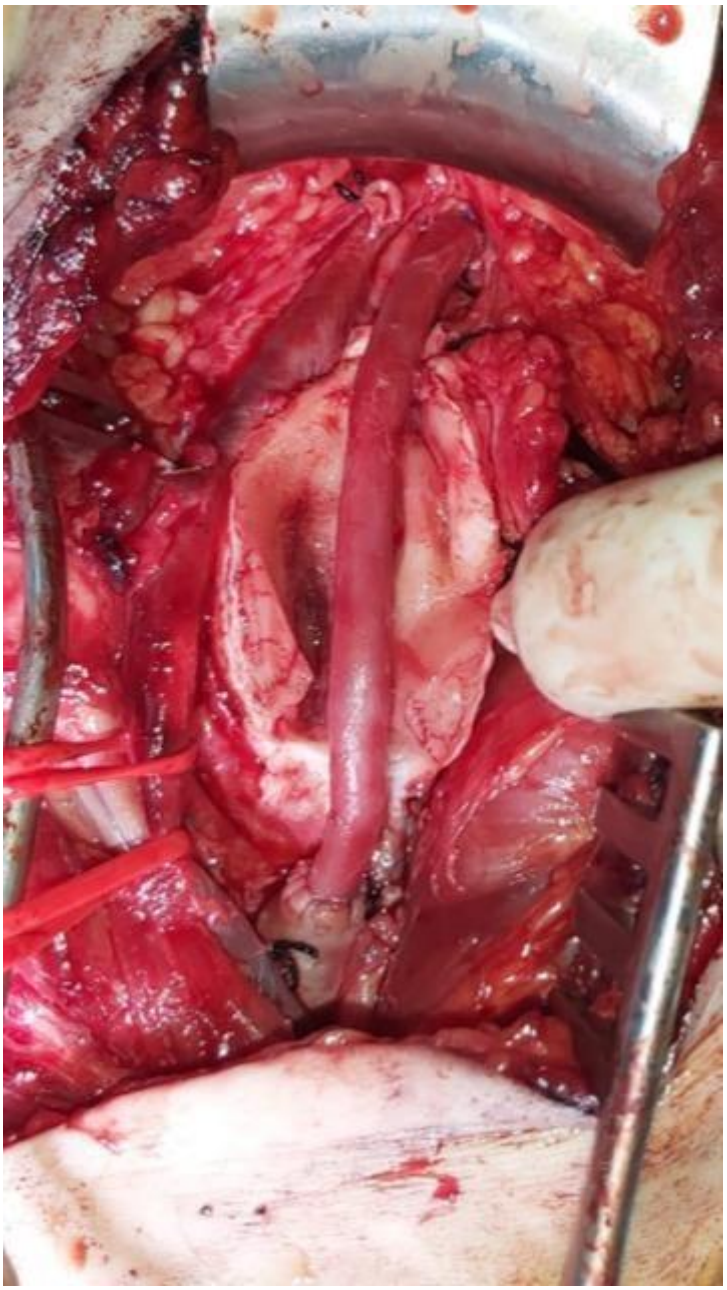
**Corresponding Author (mctbtr@hotmail.com)*

The normal diameter of the popliteal artery is around 0.7 to 1.1 cm. The popliteal artery aneurysm defined as the focal dilation of the artery, more than 50 percent relative to the vessel's normal diameter. The incidence is around 1%. The etiology is multifactorial and likely a complex interplay of inflammatory, immunologic, and potentially mechanical and genetic factors. Aneurysm of the popliteal artery can occur in isolation, or association with other large vessel aneurysms. The risk of aortic aneurysm accompanying the popliteal artery aneurysm is around 40-50%. The risk factors for popliteal artery aneurysm are smoking, hypertension, male sex, advancing age. Some patients may be asymptomatic. The diagnosis is made as a result of screening tests (incidental finding on a radiologic study that is performed for another reason like knee pain). Approximately 30-40% of patients are asymptomatic. Symptomatic patients may have thromboembolism, localized mass effect, or rupture. Noninvasive imaging for diagnosis can be accomplished with duplex ultrasound, computed tomographic (CT) angiography, or magnetic resonance (MR) angiography.

The clinical presentation, size of the popliteal artery aneurysm, the presence of other aneurysms, and patient factors affect the treatment strategy. Surgical repair, endovascular repair, or conservative treatment are the choices of management. Symptomatic patients with acute limb ischemia, regardless of size, should be repaired. A patent aneurysm that is greater than 2 cm in size should be repaired Asymptomatic, higher-risk patients with small popliteal aneurysms (lesser than 2 cm) can be treated conservatively. Long-term patency rates are higher when autogenous vein rather than prosthetic graft is used for lower extremity surgical bypass below the knee.

Here we are presenting a case of “popliteal artery aneurysm” that was surgically handled. A 45-year-old male patient was admitted with symptoms of pain and pulsatile mass around popliteal fossa. He has a history of acute lower extremity ischemia and he was operated 3 months ago. CT showed a popliteal artery aneurysm. The diameter was 3 cm. He was a heavy smoker and he has a history of hyperlipidemia, hypertension, and diabetes mellitus. The surgical team recommended elective surgical repair of the popliteal artery aneurysm. Popliteal lazy S incision was made, the small saphenous vein was harvested and an end to end native bypass was performed. The post-operative period was uneventful. The patient is discharged in good condition after three days following surgery.

Figure: Operative view of popliteal artery aneurysm and popliteal artery small saphenous vein end to end bypass.



ID: **118**

Topic: **Cardiovascular Surgery » Peripheral Artery Disease and Treatment**

Presentation Type: **Poster**

AXILLARY PULLOUT SYNDROME AFTER AXILLARY FEMORAL BYPASS SURGERY IN A PATIENT WITH LERISHE SYNDROME

Farid Gojayev, Hüseyin Avni Solgun

Altınbas University Medicine Faculty,Medical Park Bahçelievler Hospital, İstanbul, Turkey

**Corresponding Author (farid.gojayev@yahoo.com)*

OBJECTIVE A 57-year-old patient was admitted to the outpatient clinic with complaints of lower extremity pain and claudication at rest. He had no history of diabetes or coronary heart disease. The patient had a history of inguneal hernia operation and no other specific data were reported. There was aortic occlusion of leris syndrome type.[Figures 1-4]. Lerische syndrome is a disease characterized by thrombotic occlusion of the disatal artery of the renal arteries. The classical signs of the syndrome are pain associated with exercise in the lower extremity claudication, inability to palpate femoral pulse and impotence in male cases

METHODS Axillary femoral bypass (AFB) was preferred in this patient because the anatomic adhesions secondary to previous abdominal operation made aortabifemoral surgery impossible. A transverse infraclavicular incision was made and the clavipectoral fascia was opened. Among the main fibers of the pectoralis, the subclavian artery; vascular structures and brachial plexus were observed. The right sybclavian axillary artery was evacuated. An 8 millimeter PTFE graft was applied from the proximal pectoralis to the arteria axillaris. After graft implantation into subcutaneous tissue; distal anastomosis was performed to the proximal superficial femoral arteries. There was minimal tenderness in the right upper extremity postoperatively, but general follow-up was normal and the patient was discharged on the fourth day. Three weeks after discharge, the patient was admitted to our hospital again with acute swelling and pain in the right infraclavicular region. Instant thorax tomography was performed. In history; the patient said that the pain aggravated by sudden movements. Physical examination revealed a large and pulsatile mass in the infraclavicular region [Figure 1-4].The patient's blood pressure was 108/55 mmHg, right femoral pulse was absent and there was no severe ischemia, motor or sensory loss. The patient was immediately operated. After bleeding control with clavipectoral incision; a torn axillar artery and a fragmented PTFE graft was observed [figure 1-4]. Damaged arterial vessel area of 2 cm diameter was repaired with patch graft. The axillofemoral graft was thrombocytosed and separated. There was no complication in postoperative follow-up. Microbiological culture tests taken from the anostomosis were negative and the patient was discharged 1 week after the operation. One month after discharge; After the wound healing period, a new operation was planned.

RESULTS Proximal anastomosis complications of AFB are infections, thrombosis, brachial plexus injury, pseudoaneurysms and suture line localization in 10% of cases, which leads to failure of the anastomosis. Medial graft localization is recommended in proximal anastomosis to prevent these complications .In the literature, previous axillary pullout syndrome(APS) cases are thought to be related to increased tension. Similarly, there was increased tension between subclavian arteries and grafts, especially in sudden shoulder movements in our case. To perform medial localized grafts in proximal anastomosis operations is very important to decrease anastomostic mobility and stress.

CONCLUSION APS is a rare complication after AFB operation. In AFB operations; anastomoses should be performed between the axillary artery and the graft on the medial side of the pectoralis minor muscle as much as possible and we believe that this approach is helpful in preventing rupture.



Resim 1:



Resim 2:



Resim 3:



Resim 4:

Peripheral Vein Diseases: Usually Forgotten

ID: **229**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Poster**

RARE MALPOSITION OF CENTRAL VENOUS CATHETER INTO RIGHT SUPERIOR INTERCOSTAL VIEN INTRODUCED VIA RIGHT SUBCLAVIAN VEIN

Nazan Bitir, Abdinafic Hussein, Abdijalil Ali

Mogadişu Somali Türkiye Recep Tayyip Erdoğan Eğitim ve Araştırma Hastanesi, Mogadishu, Somalia

**Corresponding Author (nazanbitir@gmail.com)*

Abstract:

Central venous catheterization is a routine procedure in modern medical practice, although it is a simple procedure many complications have been reported during or after the procedure. Here we report unusual case in which central vein catheter was inserted through the right subclavian vein and then it looped back to the right superior intercostal vein. The catheter ultimately resulted vessel penetration due to guide wire and subsequent hemo-hydrothorax and respiratory distress. Afterwards management is also discussed.

İntroduction:

Central venous catheters (CVCs) are commonly used to gain vascular Access for various clinical indications. These include administering drugs, renal replacement therapy, total parenteral nutrition, poor peripheral venous access, cardiac catheterization, and transvenous cardiac pacing.[1] Malposition of central venous catheter (CVC) is a common complication.[2] however the misplacement of CVC into right superior intrathoracic vein is extremely rare into the literature.

Here we report a case of malposition of CVC tip into right superior intrathoracic vein following right subclavian vein cannulation.

Case report:

A 30 years old man was presented to the emergency due to abdominal gun shot which resulted transverse colon injury. The patient was confused grossly dehydrated, Pulse-110 bpm, BP-130/70mmHg, cold peripheries. Although peripheral veins were accessible and two intervenous catheters were inserted, Central venous cannulation was considered to achieve optimal rehydration and to have easy Access for anesthesia drugs. Under aseptic precautions, the right subclavian vein was successfully cannulated with central vein catheter by infraclavicular approach without imaging guidance. Cannulation was conducted without difficulty and venous blood was easily aspirated.

Rehydration therapy was started immediately after cannulation. After hours patient was transferred to the operation theater. İnduction dose of propofol as well as muscle relaxant rocuronium was given to the patient through the catheter, But surprisingly there was no response to highest doses of propofol as well as rocuronium. After administration of the drugs through peripheral veins normal response was achieved. That increased suspicion on the positioning of the catheter. Post operatively, chest X-ray was performed to ascertain the position of the catheter. İt was seen an abnormal root in which the catheter passed from right subclavian vein and then looped back to the right superior intrathoracic vein, and then catheter ultimately resulted vessel penetration and subsequent massive hemo-hydrothorax.

Catheter was immediately removed from the patient. Chest tube was inserted and 2litres of mixed fluid of Normal Saline, Propofol, and blood was drained. After 24 hours of followup, patient undergone complete recovery and chest x-ray became clear.

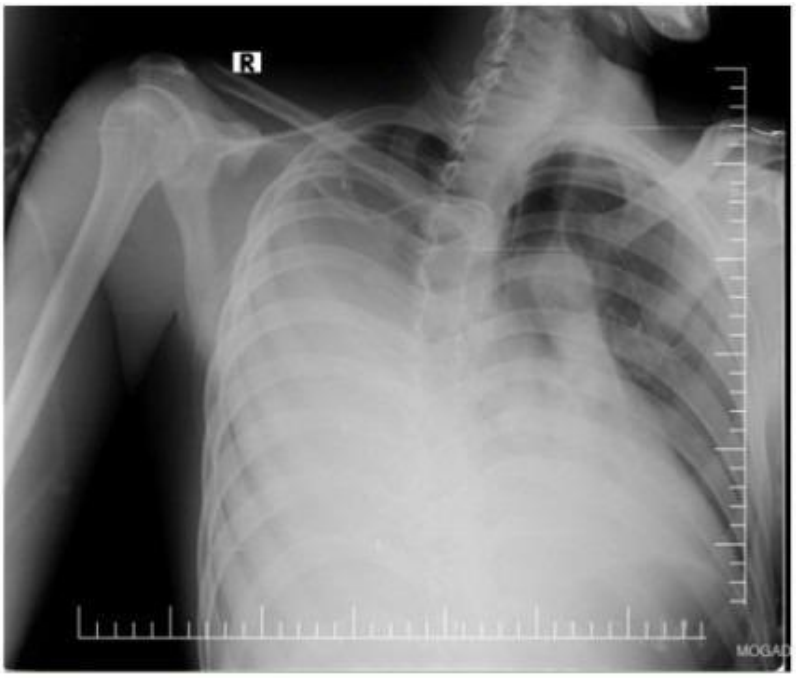


Figure1: Chest X-Ray showing malposition of central venous catheter into right superior intrathoracic vein and massive right hemohydrothorax.



Figure1: Chest X-Ray after 24 hours of thoracic intubation showing normal clear chest.

ID: **330**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

INTRAVENOUS SPLIT OF PERIPHERAL CANNULAS: CASE REPORTS

Mustafa Dağlı

Health Sciences University Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drmustafaaaa@gmail.com)*

OBJECTIVE

Intravenous catheters are used for various purposes in both inpatients and outpatients in hospitals. Complications related to the use of these cannulas can be seen. Common complications of peripheral intravenous cannulation include infection, phlebitis, thrombosis, bleeding, hematoma etc.
We aimed to present two cases of intravenous cannula split within the vessel associated with peripheral intravenous cannulation.

CASES

Both of the patients were female. One had just given birth and was to the puerpera. Both patients were referred to our clinic by referral from the external center. It was learned from the history that one patient had intricate split of the left arm cephalic vein in the left arm basilic vein and the other patient. After the ultrasound marking of both patients in the operating room, approximately 2 cm of skin incision was made according to the distal location of the intraket. 5000 units of heparin were administered to the patients. Intravenous removal of the intraket was performed after venotomy (Image 1).



One of the patients underwent embolectomy with embolectomy catheter and the other localized thrombus was removed without the need for additional procedure. It was learned from the anamnesis that the patient underwent embolectomy and that the patient had been at the 4th hour after the split of the intraket. Low molecular weight heparin was given to the patient after discharge. She was recommended to use for 10 days. The other patient received acetylsalicylic acid. Both patients were called to policlinic control 10 days later. Checked with ultrasound. No thrombus was detected in the cephalic and basilic veins.

CONCLUCIONS
The guide needle during peripheral intravenous cannulation by introducing the catheter into the cannula without removing the catheter completely. The plastic portion of the catheter may be cut off by the sharp surface of the guide needle and it can remain in the vein.

Apart from the known routine complications of intravascular cannula placement, it may rarely break. If this is noticed, precautions should be taken to prevent the splitted cannula from passing into the central venous circulation. It should be quickly removed and surgically removed before moving to the central circulation.

ID: **406**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **Poster**

MIGRATION OF A CHEMOTHERAPY CATHETER IN THE RIGHT AURICLE: A CASE REPORT

Redha Lakehal, Bendjaballah Soumaya, Aziza Baya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: Very rare, possible complications if the catheter was weakened during the installation, normally the technique of Seldinger with dilators makes it possible to avoid too much maltreating the catheter itself, classically favored by the syndrome of the costoclavicular grip but especially as soon as there is a loop on the catheter especially at the fixed point of venous entry. The goal of this work is to bring back a case of complication of the plantable room of chemotherapy.

Methods: We report the case of a 33 year old woman with the history of left mastectomy associated with radiotherapy and an auxiliary chemotherapy by plantable room, who presented with pain of the right shoulder without cardiac symptomatology. ECG: With no abnormality. Pulmonary radiography showed the catheter into the right atrium. The echocardiography does not have objectified the catheter into cardiac cavities. The chest angio CT showed a free catheter into intracardiac cavity, of the device of chemotherapy rolled up in the right auricle and gaining the trunk of the pulmonary artery.

Results: The patient was put under narrow cardiologic monitoring.

Conclusion: The rupture of the catheter with migration and embolisation is a rare complication, which requires a narrow and regular monitoring.
Keywords: Plantable probe, chemotherapy, migration.

ID: **458**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **Poster**

SUCCESSFUL ARTERIOVENOUS FISTULA REVISION IN A CHILD WITH JOUBERT SYNDROME

Ilker Mercan

Konya Training and Research Hospital, Konya, Turkey

**Corresponding Author (drilkermercan@hotmail.com)*

Objective: Joubert Syndrome is a very rare syndrome diagnosed in neonatal period. This syndrome presents with pulmonary (tachypnea and apnea episodes), neurological (jumping eye movements, ataxia, psychomotor retardation and cerebellar vermis defects). In this case report, we present a pediatric patient with chronic dialysis after renal tubular acidosis who underwent brachiocephalic arteriovenous fistula (AVF) for venous hypertension and surgical treatment.

Case: An 11-year-old male patient was followed-up for Joubert syndrome who had undergone routine hemodialysis for 4 years and was admitted to the pediatrics clinic with electrolyte imbalance and acidosis. Her right jugular venous fullness, prominent tissue edema in the right pectoral and supraclavicular region, and edema more prominent in the right half of the face were observed in the examination, and brachiocephalic AV fistula which was actively used in the right upper extremity was examined by ultrasonography. AVF flow rate was measured as 1830 mL / min and the diameter of the draining cephalic vein was 32 mm. More than this patient was planned to undergo AVF resection and operated under general anesthesia. Anastamosis was explored over the brachial artery. The cephalic vein was liberated along the aneurysmal line. The patient was heparinized at 100 IU / kg dose and temporarily stopped by clamping the fistula. The cephalic vein was dissected from the anastomosis and the anastamosis was closed with 6.0 prolene. Subsequently, a 4 mm pediatric intubation tube was inserted into the cephalic vein and the aneurysmatic cephalic vein was used as a guide for aneurysmoraphy 4 plication. Subsequently, a new anastamosis was created with the end-side technique of 4 mm in length from 1 cm above the old anastomosis. AVF flow rate decreased to 310 mL / min. Venous hypertension-related findings improved almost within 10 days. The patient continued dialysis from the already developed AVF. The patient was discharged with full recovery.

Conclusion: Catheter placement for syndromic pediatric patients for hemodialysis is difficult both technically and in terms of its use. As a result of the technique applied in the patient we presented, the patient continued to undergo dialysis from the revised AVF in the postoperative period without the need for a temporary dialysis catheter. This has provided a significant clinical benefit.

ID: **274**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Poster**

MITRAL VALVE REPAIR ON A YOUNG PATIENT WITH BARLOW SYNDROME

Burcin Abud

University of Health Sciences İzmir Tepecik Research and Education Hospital, Izmir, Turkey

**Corresponding Author (burcinabud@hotmail.com)*

Aim

Barlow syndrome is a complex degenerative mitral valve disease with characteristics of excess leaflet tissue and prolapse of both leaflets. The patients are oftentimes young and healthy. Therefore it is very important to protect the native valve and avoiding a valve implantation. Mitral valve repair is the best choice in these group. Because of its complex pathology, repair of the mitral valve is complicated and consists of several different repair procedures. In this report, we present a young patient with Barlow syndrome and the repair of the Barlow valve.

Method

Our patient was a 39 years old man with severe mitral valve insufficiency. The preoperative echocardiographic evaluation showed a Barlow valve with multiple prolapsed segments. The patient underwent mitral valve repair with combination of several different repair techniques.

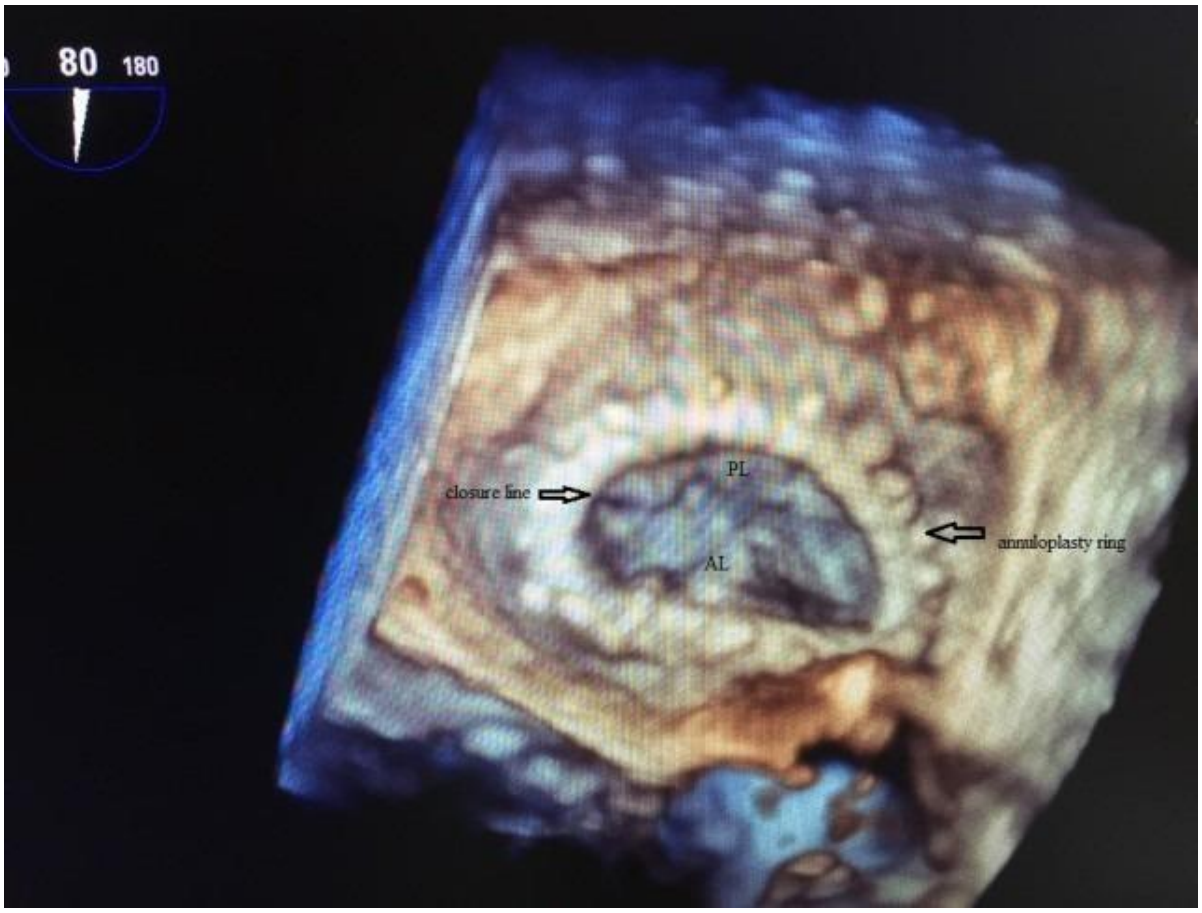
Repair of the Barlow valve

Via conventional sternotomy and standard cannulation cardiopulmonary bypass is initiated. We make a dissection in the interatrial groove and expose the mitral valve through a left atriotomy. After direct valve inspection, we use the saline injection leak test for identify the pathological segments. The P1,P2 and P3 segments and the posteromedial commisural segment was prolapsed. The lesions were chordal elongation and chordal rupture. Some chords were thickened. First we placed the annular sutures. Traction of these sutures allow better exposure of the valve leaflets and chords. Our next step was measure of the normally chordal length. For this we use a ruler. We measure the distance between the papillary muscle and the leaflet. After this we use 4/0 polytetrafluoroethylene (PTFE) sutures and a knotting device to create loop sutures (two loop sutures, length 12mm). We use these sutures to correct the prolapsed leaflet segments P1,P2 and P3, according to Mohr's loop technique. After that we perform ring annuloplasty. We use the previously placed annular sutures and a Medtronic Profile 3D ring (Medtronic, Minneapolis, MN). The implanted ring size was 32mm. For the posteromedial commissural prolapse we used the edge to edge technique. A Simple closure of the commissure with 4/0 polyprolene sutures.
We use again the saline leak injection technique for checking of adequacy of repair. The repaired valve confirmed no prolapse, no incompetence and a symetric closure line. The left atrium closed and de-aired.

Result

The mean cross clamp time and cardiopulmonary bypass time was 76 min and 93 min, respectively. Intraoperative transesophageal echocardiography showed successfully repair of the valve with no prolapse, no incompetence and a symetric closure line. (Figure 1 and Figure 2). At first month follow-up, echocardiography controls showed a normal functional mitral valve with no incompetence and low transvalvular pressure gradients.

Figure 1. Intraoperative transesophageal echocardiography 3D image after repair



AL: Anterior leaflet; PL: Posterior leaflet

Figure 2. Intraoperative transesophageal echocardiography 2D image after repair



Conclusion

Mitral valve repair can be successfully performed in Barlow syndrome. It is important that a stepwise approach to this complex valve pathology with extensive use of the loop technique can result in very acceptable outcomes.

ID: **435**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Poster**

IMPORTANCE OF CROSS-CLAMP DURATION AND PROSTHETIC VALVE SELECTION IN CARDIAC COMBINED SURGERY

Ozgur Baris

University of Health Sciences Kocaeli Derince Training and Research Hospital, Kocaeli, Turkey

**Corresponding Author (drozgurbaris@gmail.com)*

OBJECTIVE

Today, open heart operations are performed with lower mortality and morbidity rates with advanced surgical techniques and advanced technology materials.

As in many operations, the operative time and cross-clamping time should be carefully examined in patients with concomitant valve surgery with CABG.

The choice of prosthetic valves to be used is very important. Suturless-aortic valve replacement, which has been successfully applied in many centers in recent years, has a direct effect on cross clamp time when concurrent CABG is performed and directly increases surgical success. In this presentation, we aimed to give an idea about the cross-clamp time and results in combined surgery with Perceval (LivaNova Corp. Canada) Suturless Aortic Valve Replacement + CABGx2 operation {with three-month follow-up results} successfully applied in our clinic for the first time.

METHODS

A 75-years-old male patient had applied with symptomatic severe aortic stenosis + coronary artery disease (very critical proximal LAD&RCA stenosis). There was normal sinus rhythm. EF: 60%, LV diameters were normal. AVA:0.9 cm^2. Aortic gradient was 80/58 (max / mean) with 4.6 m/s jet velocity. There was no thoracic aortic aneurysm. By Euroscore-II, risk of "in-hospital mortality" was 8%. With median sternotomy, operation performed with CPB- ascending aortic arterial+unicaval /two-stage venous cannulation into the right atrium + venting through right superior pulmonary vein + intermittent administered antegrade+steady retrograde cardioplegia. Starting with CPB, after finishing RCA and LAD distal anastomoses with great saphenous vein grafts, transvers aortotomia located 3,5 cm. above aortic annulus and 1 cm above sinotubular junction was performed; and then, three leaflets were completely removed and natively calcified aortic cusps & annulus completely debrided. Next using three guiding sutures, the Perceval sutureless valve was parachuted down and it was deployed (Figure-1). Balloon valvuloplasty was performed. Aortotomia closed after checking annulus and coronary ostiums. During cross-clamping, proximal LAD and RCA anastomoses were done.

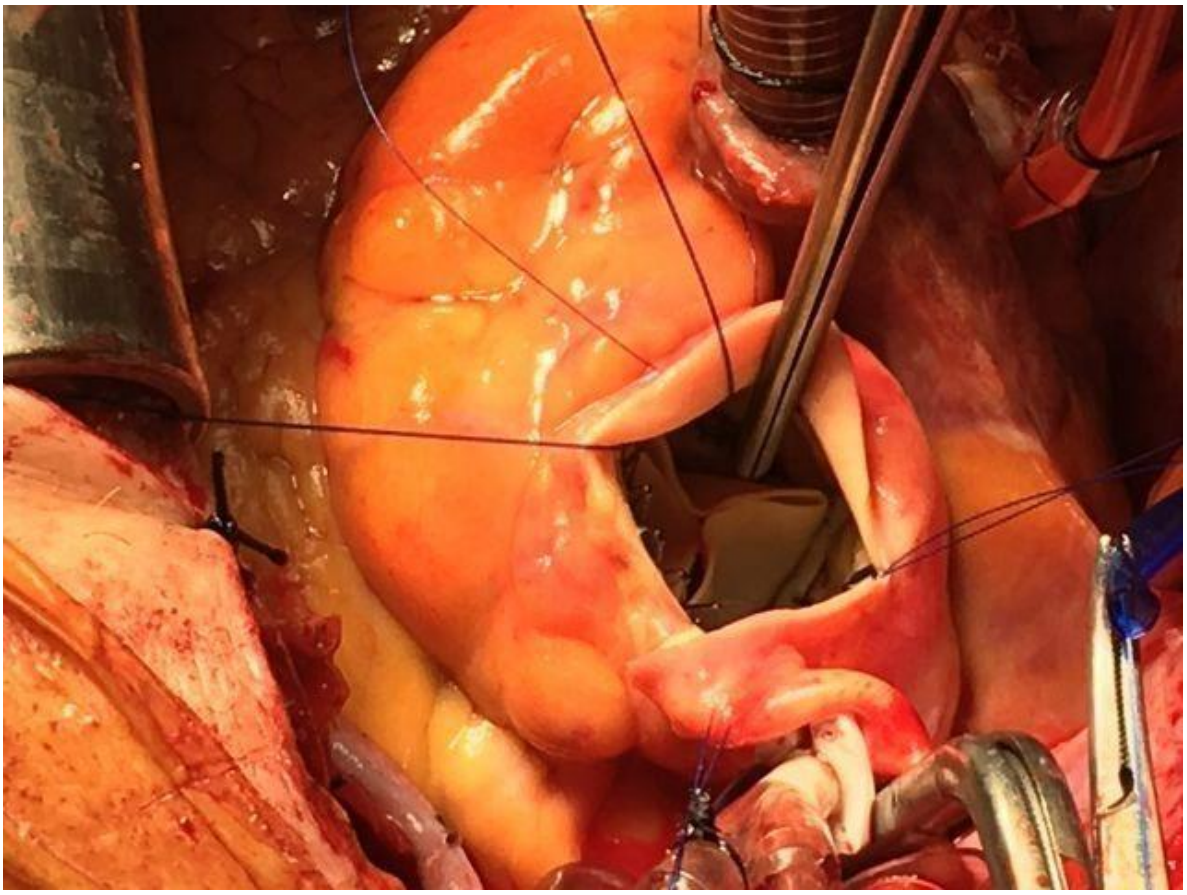
RESULTS

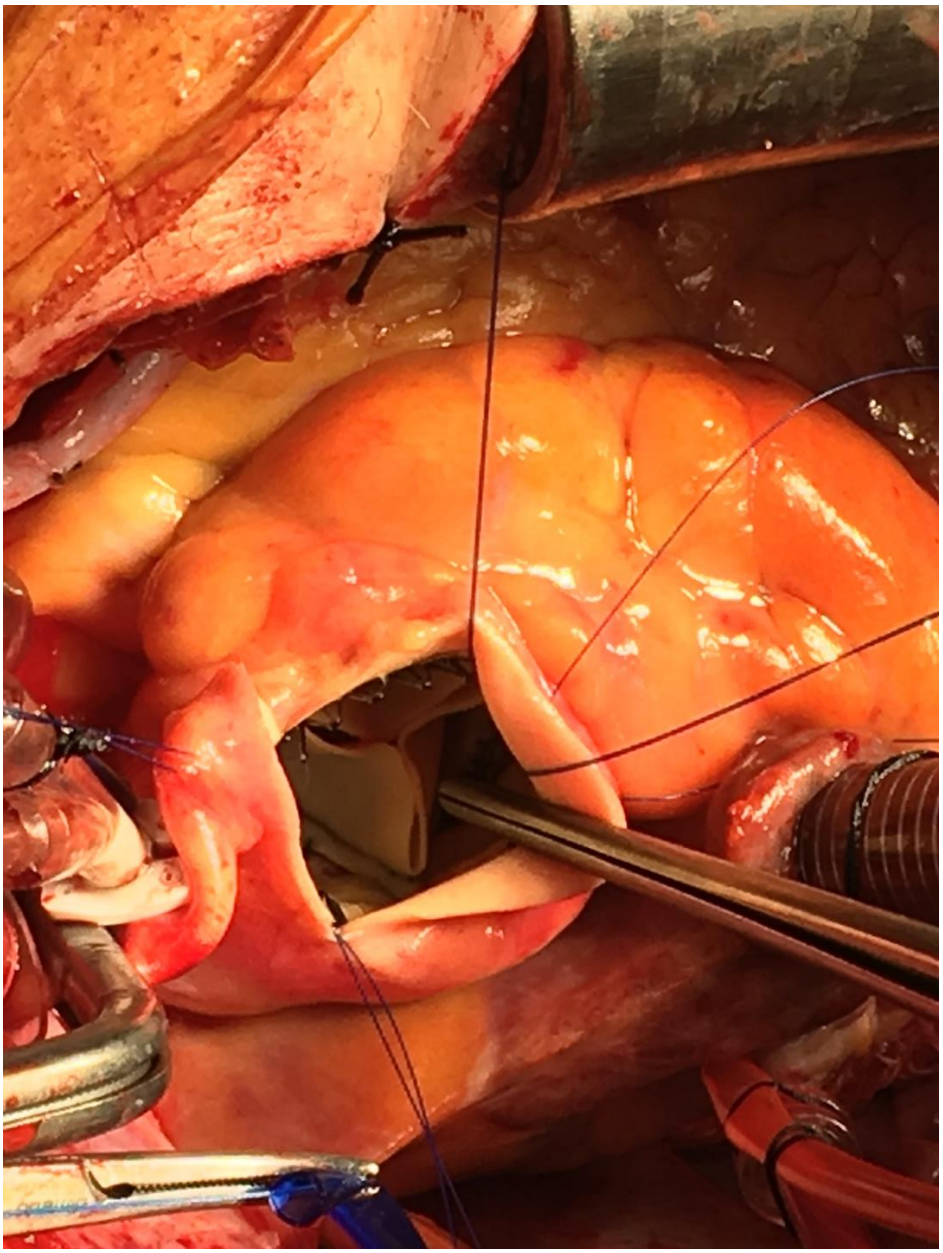
As shown in Table-1 below, implanting well-functioned sutureless-aortic valve less than 20 minutes (total clamping time is 61 min) of aortic cross-clamping may have an excellent positive impacts on postoperative outcomes of high-risk hepta/octagenarian patients undergoing CABG+AVR procedures.

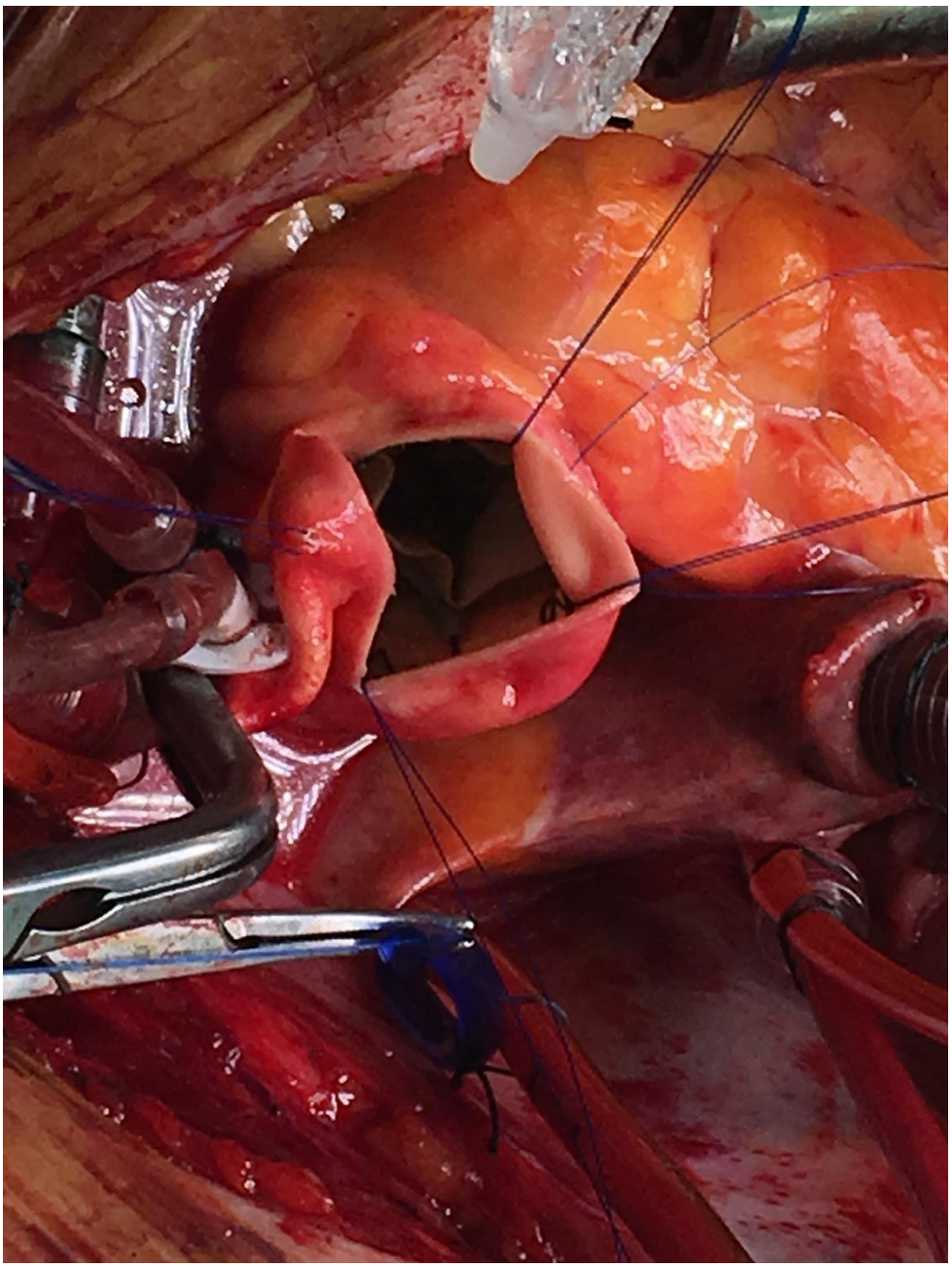
CONCLUSIONS

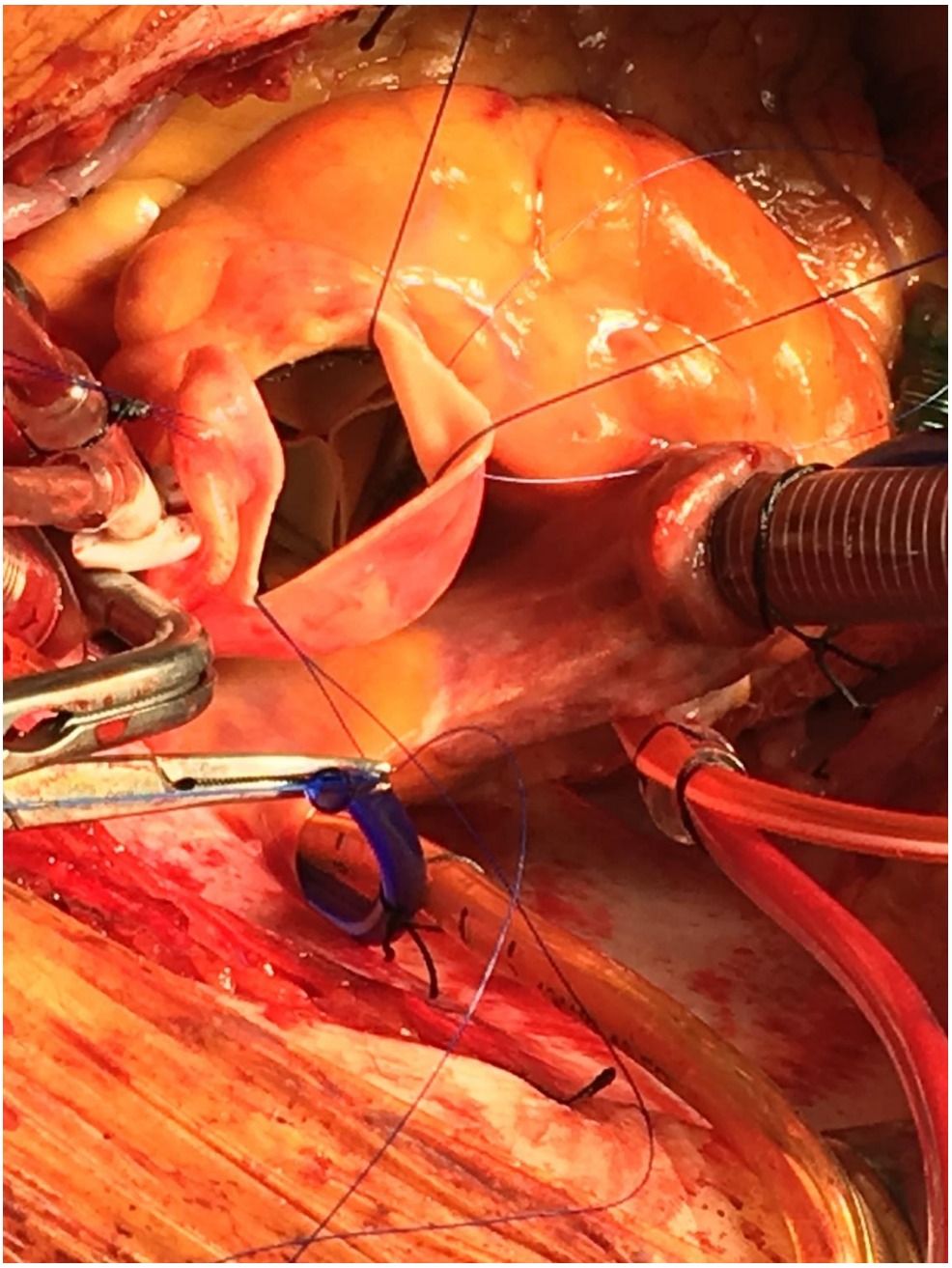
Shortening cross-clamping time in concurrent procedures is very important. In addition, it's convenient for minimally-invasive procedures. With development of minimally invasive & total endoscopic techniques and illumination of longer follow-up results, suturless-AVR will be the focus of interest in concurrent cardiac surgery.

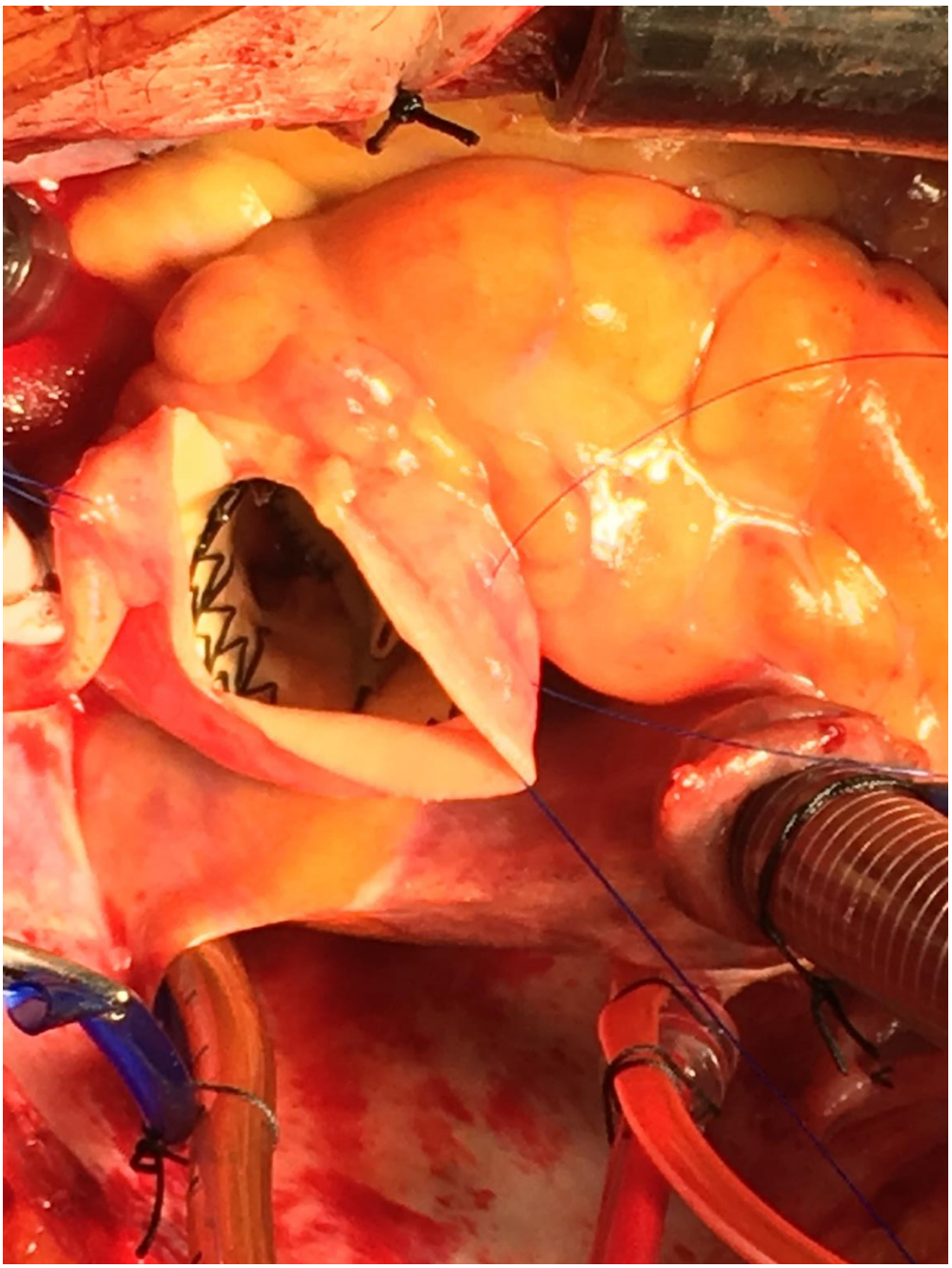
Figure-1











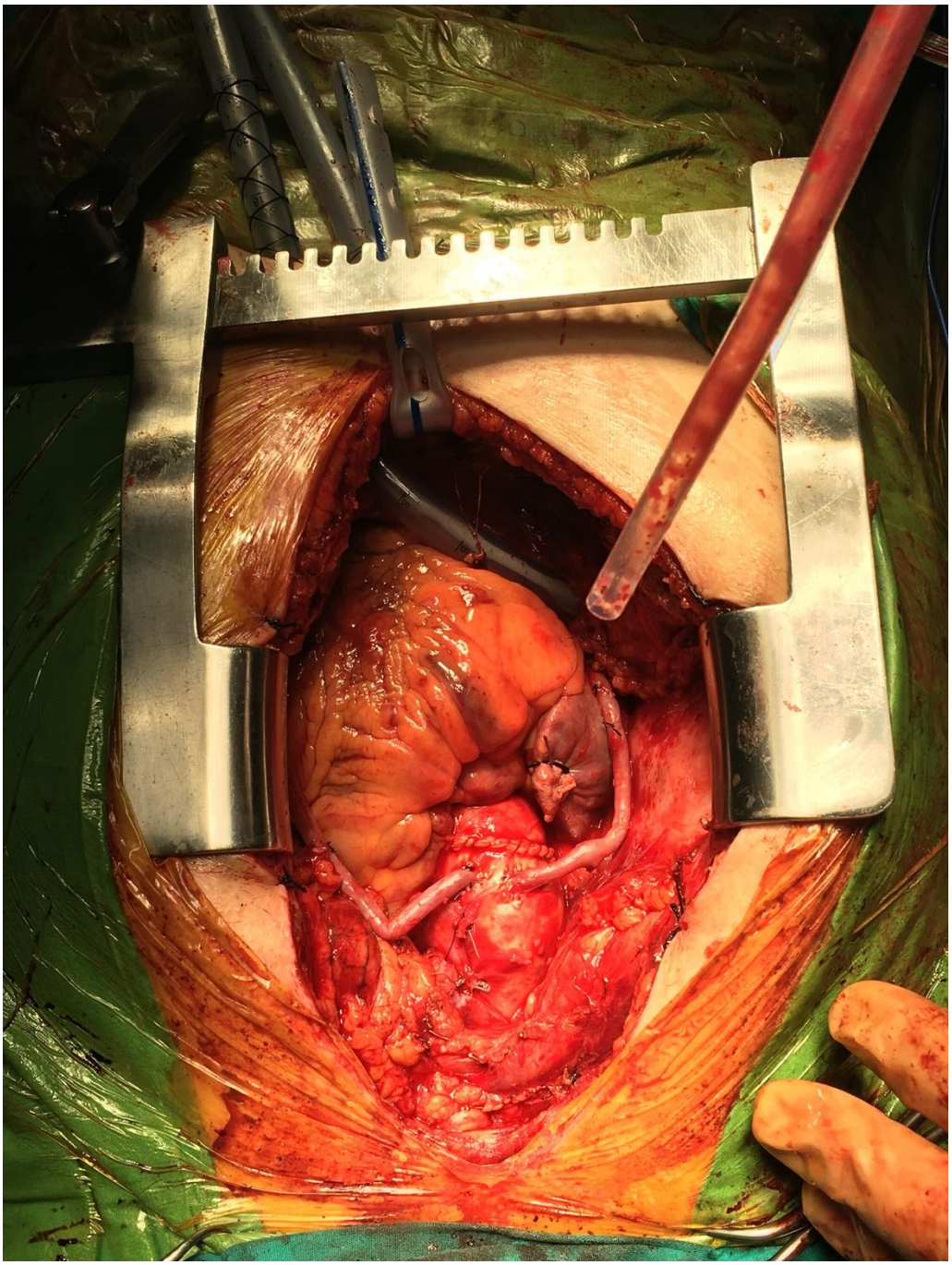


Table-1 : Preoperative characteristics, perioperative & postoperative outcomes

PREOPERATIVE CHARACTERISTICS	*VALUES*
Age	75
Sex	Male
Weight kg	65
Height cm	166
Body Mass Index (BMI) kg/m²	23,5
Body Surface Area (BSA) m²	1,72
NYHA classification	Class-III
Euroscore-II	8 %
Ejection fraction	60 %
LV-end diastolic diameter (EDD), mm	42
LV-end sistolic diameter (ESD), mm	24
Interventricular septum (IVS), mm	12
Left atrial size, mm	42
Aortic insufficiency	None
Aortic valv Area (AVA), cm²	0,9
Aortic gradient (max/mean) mmHg	80/58
Jet velocity, m/s	4,6
Aortic root diameter, mm	29
Length of ascending aorta, mm	96
Ascending aortic diameter, mm	33
Recent pneumonia and COPD	Yes
PERIOPERATIVE & POSTOPERATIVE OUTCOMES	***VALUES***
CPB time, min	90
X-clamp time, min	61
Blood transfusion	None
Perceval Size	L size
CABG quantity	2
ICU stay, day	1
ICU orotracheal intubation time, min	170
Drainage- total day- ml	100
Arrhythmias	None
Inotropic support	None
Temporary pacemaker requirement	None
Aortic insufficiency	None
Cerebral complication	None
Respiratory complication	None
Renal insufficiency	None
Hospital stay, day	5
POSTOPERATİVE transthoracic (tt) ECHOCARDIOGRAPHY (ECO)	Normal, functional Aortic prosthesis, No leak, Physiological normal gradient
1st-2nd-3rd month tt-ECO	Normal, functional Aortic prosthesis, No leak, Physiological normal gradient

ID: **403**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Poster**

INFECTIOUS AORTIC ENDOCARDITIS AFTER CORONAROGRAPHY, COMPLICATED WITH A MYCOTIC CEREBRAL ANEURISM RUPTURE: A CASE REPORT

Redha Lakehal, Bendjaballah Soumaya, Aziza Baya

EHS Dr Djaghri Mokhtar, Constantine, Algeria

**Corresponding Author (lakehal.redha@gmail.com)*

Introduction: The embolic complications of infective endocarditis are serious and may engage vital prognosis. Among these embolic complications, cerebral complications are to be considered; their prevalence varies between 10 and 65 % according to the studies and the used imaging technique of. Their spectrum is broad. The echocardiographic observation of a mobile vegetation of more than 15 mm, whose size varies during the follow-up or with gilded staphilococcus must make fear an increased embolic risk. The goal of this work is to show that a coronarography can complicate with a endocarditis and that the latter can complicated with a rupture of a cerebral mycotic aneurism.

Case report: We report the case of a 47 years old adult known for coronary syndrome, having to benefit from a coronarography, he presented a few days after with fever (40°c) which was attached to an endocarditis, considering the context, the patient presented two days after his admission for a cerebral bruise, secondary to the rupture of a cerebral mycotic aneurism, intrapreoperative. Pulmonary radiography: CTI: 0.58 and bilateral flocculent opacities.
ECG: Sinusal tachycardia. Echocardiography: Massive aortic insufficiency, aortic vegetation: 13 mm. LV not dilated, EF: 60%, SAPP: 55 mm Hg. Transoesophageal echocardiography confirmed the aortic insufficiency and the presence of vegetation and objectified an abscess of the mitro-aortic trigonal. Positive hemoculture with staphylococcus aureus and disturbed renal assessment. Cerebral MRI: cerebral bruise. Abdominal CT: multiple abscesses with splenic and
hepatic necrosis. Peroperative exploration: Large vegetation on the non-coronary cusp and presence of an annular abscess deterged at the non-coronary annular. The surgical procedure consisted of an aortic resection of cusps and the vegetations sent to bacteriology, repair of the aortic ring and aortic valvular replacement by a mechanical prosthesis. The immediate postoperative course was simple.

Conclusion: The cerebral embolic demonstrations of the infective endocarditis are associated with a discrete comparatively high death rate. A fast diagnosis and the introduction of a suitable antibiotherapy are of a major importance to limit the risk of neurological embolic complications.

Keywords: Aortic endocarditis, vegetation, cardiopulmonary bypass.

ID: **192**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **Poster**

BRUCELLA TRICUSPID ENDOCARDITIS: CASE REPORT

Khacha Khaled, Lakehal Redha

EHS Mokhtar Djaghri, Constantine, Algeria

**Corresponding Author (kh3khaled@gmail.com)*

Introduction: Brucella tricuspid endocaditis is very rare. The diagnostic is made by serology and echocardiography (TTE). This report case is an opportunity for us to make a reminder of this little-known entity among cardiologists and heart surgeon.

Methods: We report the case of 15 years old children who present dyspnea and persistent fever . The physical exam found asystolic murmur, chest X-ray showed cardiomégaly, TTE demonstrated vegetations in chordate, papillary muscle, infundibulum and left pulmonary artery with tricuspid insufficiency III, pulmonary angiography: proximal emboli of left pulmonary artery, positives blood culture: Brucella melitensis and serology positive. Excision of tricuspid and pulmonary vegetations and tricuspid repair under cardiopulmonary bypass.

Results: Aorta clamping: 72mn, duration of CPB: 90mn.The immediate postoperative course were simple.

Conclusion: Brucella endocarditis is an uncommon, but serious complication of brucellosis. The tricuspid valve is rarely affected cardiac valve. Due to characteristics of the infection, medical therapy alone is not sufficient in treating the disease and best results are obtained with surgery combination. We describe a case of Brucella endocarditis involving the tricuspid valve suspected in front of the clinical data and the results of serology, confirmed by the culture of the native valves. In association with the medical treatment, management valve surgery lead to a favorable medium-term evolution.

ID: **610**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **Poster**

AORTIC VALVE REPAIR VERSUS REPLACEMENT IN LAUBRY AND PEZZI SYNDROME

Khacha Khaled[1], Aziza Baya[2]

[1]*EHS Mokhtar Djaghri, Constantine, Algeria*

[2]*EHS Mokhtar Djaghri, Constantine, Algeria*

[*]*Corresponding Author (kh3khaled@gmail.com)*

Introduction: The Laubry and Pezzi syndrome is a rare congenital heart disease associating ventricular septal defect to aortic regurgitation. In our study we propose to analyze the epidemiological, anatomic, clinical and paraclinical features as well as the evolution of this pathology in Algeria.

Methods: This is a retrospective study on 10 patients with a Laubry and Pezzi syndrome operated at our institution over 09 years.

Results: The middle age of discovery of the disease is twenty years with extreme ranging from 6 to 43 years. There was a male predominance (65% boys). Almost all patients are symptomatic. Echocardiography is the essential examination to establish the diagnosis. It was perimembranous in 80% of cases associated with prolapse and leaks aortic degrees. The average age at surgery was 20 years. VSD was closed in100% of patients and associated with conservative valve repair in 6 others. Four patients underwent aortic valve replacement using mechanical prosthesis. The immediate evolution was good in the majority of cases. The mean long-term is 3 years. For the patients who underwent closure of VSD without valvular gesture, 03 have saw their AR disappear, 02 have increased their AR become moderate requiring further surgery on the aortic valve and the remaining 01 retained their grade 1 AR in the long-term follow-up.

Conclusion: The diagnosis and the regular and frequent monitoring of high VSD including infundibular and périmembranous one must be systematic. In fact, the onset of AR during the evolution of a VSD is a turning progression of the disease since its occurrence ecompromises the long-term prognosis and modifies the therapeutic indications.

Keywords: Ventricular septal defects, aortic insuffiency, surgery, cardiopulmonary bypass.