Oral Presentation Session

Basic and Translational Research

Date: 05.11.2021 Time: 08:30 - 09:30 Hall: 4

ID: **216**

Topic: **Cardiology »Diseases of aorta**

Presentation Type: **ORAL**

COMPARISON OF THE EFFECTS OF RIVAROXABAN AND APIXABAN ON INTIMAL HYPERPLASIA IN RABBITS

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Objective: It is aimed to evaluate the mitogenic protective effects of Rivaroxaban on cardiac myocardium in a cardiac ischemia model in rats.

Methods: Optimum treatment option for arterial thrombosis is antiplatelet and anticoagulant treatments. We evaluated the effectiveness of Apixaban and Rivaroxaban treatment for the prevention of intimal hyperplasia in rabbits.
"New Zealand rabbits (n = 15)" weighing 2000-3000 grams were randomly divided into three groups. The study was conducted in carotid artery by re-anastomosed to induce injury. All groups received 100U/kg heparin sodium during operation period. Group A (n = 5) as a control group had no medication. Group B (n = 5) was given Rivaroxaban 3 mg / kg / day. In-group C (n = 5) Apixaban was administered per orally at 10 mg / kg. At the end of the treatment on the 28th day, animals were sacrificed. Specimens excised and evaluated histologically.

Results: Intima thickness was wider in the control group than the drug groups ($p<0.009$). It was found that there was no difference between groups in lumen diameter, lumen area, tunica media area and tunica media thickness ($p>0.005$). There was expressive difference between groups in terms of α-SMA distribution or Tunel staining ($p<0.05$, $p<0.019$). It was observed that the p value was less than 0.05.

Conclusion: Apixaban and Rivaroxaban had better efficacy results against intimal damage after carotid artery surgery.

ID: **139**

Topic: **Cardiology »Chronic heart failure**

Presentation Type: **ORAL**

ESTIMATION OF PLASMA CONCENTRATIONS OF N-TERMINAL FRAGMENT OF PRO-BRAIN NATRIURETIC PEPTIDE AS A CARDIOTOXIC BIOMARKER FOR ONCOLOGY PATIENTS RECEIVING CHEMOTHERAPY

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Background: Breast cancer is the most common cancer in women all over the world. Anthracyclines, which are frequently used in many stages of breast cancer treatment, have well known side effects. The most important side effect of anthracycline chemotherapy (CT) regimens, which are widely used in breast cancer patients, is cardiotoxicity, which limits its use in therapeutic doses and is important for its early detection.

Aim: To assess the relationship between the early cardiotoxicity of anthracycline-containing schemes in oncology patients receiving CT and the concentration of a biomarker in the blood, which is a N-terminal fragment of the pro-brain natriuretic peptide (NT-pro BNP).
Material and methods: 60 patients were included in the study. Inclusion criteria: Female patients aged 20-65 years who are underwent chemotherapy due to the diagnosis of breast cancer and are practically healthy from a cardiological viewpoint. Exclusion criteria: patients with structural myocardial disease, patients undergoing lifelong chemotherapy and patients with chronic renal failure. Criteria for evaluating effectiveness: a) the presence of clinical signs b) systolic function of the left ventricle (LVEFsimpson); c) diastolic function of the left ventricle; d) morphology and function of the heart valves by transthoracic echocardiography (TTE) e) the concentration of the biomarker NT-proBNP in the blood was determined. All patients underwent TTE before CT, during the course, and 1 year later to determine the concentration of the biomarker NT-proBNP in the blood.

Results: In the TTE examination: a) the left ventricular ejection fraction did not decrease by more than 15% from the lower limit of the basal value; b) diastolic dysfunction was noted in the assessment of diastolic function of the left ventricle with e′septal <7, E/e′> 15, LAVİ >34 ml/m2 ; c) no severe change in heart valve function was noted, but mild to moderate change was noted. Clinical signs increased in those with NT-pro BNP> 300 pg / ml, and appeared in those with NT-pro BNP-> 125 <300 pg / ml. And this suggests that there is a positive correlation between the clinical signs of heart failure and the level of the biomarker NT-proBNP in the blood, regardless of LVEF. There was a statistically significant increase in the value of NT-proBNP in the blood of patients after CT.

Conclusion: The determination of the NT-pro BNP biomarker in the blood is significant for the assessment of currently existing pathology in this area, as it is a sensitive method for the early assessment of anthracycline-related heart failure.

ID: **89**

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

Presentation Type: **ORAL**

EVALUATION OF NEURON SPECIFIC ENOLASE LEVEL AND SUBCLINIC NEURON DAMAGE IN PATIENTS WITH INTERATRIAL SEPTAL ANEURYSM

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Introduction and Objective

Atrial septal aneurysm (ASA) is associated with thickening of the interatrial septum, tissue excess or saccular deformity; due to the increased mobility of the interatrial septal tissue, the septum protrudes into the right or left atrium or both. ASA is one of the low-risk causes of cardioembolic strokes which constitute around 20% of total strokes. Cerebral embolism is not always symptomatic. Cerebral damage that is clinically asymptomatic, silent and mainly diagnosed with imaging methods is called silent cerebral ischemia (SSI). SSI has been associated with pathologies such as the increased risk of stroke, cognitive dysfunction, dementia, depression, and Alzheimer. Neuron damage can also be detected in the acute phase with biomarkers such as neuron specific enolase (NSE), S100 β protein, myelin basic protein (MBP), soluble thrombomodulin. In this study, it was aimed to evaluate possible silent cerebral ischemia and subclinical neuron damage by examining the serum NSE levels of patients without known malignancy, neurological events, and symptoms; in whom ASA was detected via the TTE examination.

Methods

70 patients with ASA as case group and 70 patients without ASA as control group were included in the study. NSE level was studied from serum samples of all patients by the ELISA method.

Results

Although the NSE value was higher in patients with ASA detected in TTE compared to the control group, this difference was not statistically significant (ASA group: NSE 8.2 ng / ml, control group: NSE 7.9 ng / ml, p = 0.623). Between the groups, no statistically significant difference was observed in NSE levels and frequency of NSE being pathological (p> 0.05) according to HT, HL, DM and smoking history. Regardless of the presence of ASA, the NSE level was found to be statistically higher in all patients with a history of smoking (p = 0.038). When all cases were separated as NSE normal and pathological, regardless of the presence of ASA, the incidence of mitral annulus calcification (MAC) was statistically higher in cases with pathological NSE (NSE> 12ng / ml) (p = 0.050).

Conclusion

In this study, where the association of ASA and subclinical neuron damage was assessed using the NSE biomarker, acute SSI and subclinical neuron damage were not observed in the presence of ASA. In addition, the presence of mitral annulus calcification, independent of the presence of ASA, was shown to cause silent cerebral ischemia, with the high NSE level in patients with MAC.

Key Words: Atrial Septal Aneurysm, Neuron Specific Enolase, Silent Cerebral Ischemia

ID: **233**

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

Presentation Type: **ORAL**

THE EFFECT OF POSTOPERATIVE ADMINISTRATION OF LOW MOLECULAR WEIGHT HEPARIN ON ARTERIAL THROMBOSIS IN A RAT MODEL

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Objective: The study evaluated the effect of postoperative administration of a low-molecular-weight heparin , tinzaparin, on the rate of arterial thrombosis in a rat model.

Materials and Method: The right femoral artery of 16 rats divided into 2 groups, was incised transversely and anastomosed by using 10/0 polypropylene sutures. Group I (8 rats) received tinzaparin 175 IU/kg subcutaneously both preoperatively and once daily for the following postoperative three days and Group II (8 rats) was the control group. Patency was evaluated at 1st and 3rd postoperative days. Following patency evaluation the rats were sacrificed and the vessels were harvested for histopathological examination.

Results: Tinzaparin administered preopeatively and after anastomosis caused less fibrin and thrombus and reduced number of degenerated leukocytes and erythrocytes. However in the control group the lumen was full of thrombus and fibrin. Intimal hyperplasia was not detected in both groups, and mixed type inflammatory cell infiltration, endothelial and fibroblastic activity around the sutures were noted.

Conclusion: The preoperative and following postoperative subcutaneous administration of 175 IU/kg of tinzaparin attenuated the rate of arterial thrombosis following the creation of a incisional injury/repair of the rat femoral artery.

ID: **247**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

INVESTIGATION OF THE RELATIONSHIP BETWEEN IRISIN LEVELS AND THE RESPONSE OF CARDIAC AND AORTIC TISSUES TO METFORMIN IN A RAT SENESCENCE MODEL

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ABSTRACT

OBJECTIVE

Irisin is a newly discovered peptide which is a cleaved protein derived from the full-length fibronectin type III domain containing-5 (FNDC5) that regulates energy metabolism, adipose tissue and glucose metabolism by acting as an anti-obesity and anti-diabetic hormone and it is known that, Irisin is a Peroxisome proliferator-activated receptor-gamma [PPAR-] Coactivator-1- alpha (PGC1- α) dependent myokine.Irisin is synthesized mainly in cardiac cells and peripheral muscles, pancreatic beta cells, liver, kidney and salivary glands.

PGC-1α is a versatile transcription cofactor that can be induced by various physiological and nutritional changes and affects glucose/fatty acid metabolism and mitochondrial functions.

In recent studies, it's supported that dysregulation of PGC-1α involves in pathogenesis of type 2 diabetes. Transgenic mice selectively expressing PGC-1α have been described to show remarkable resistance to age-related obesity and metabolic disorders.

In addition to reducing insulin resistance and having a protective effect from diabetes, irisin has been shown to have protective effects against many cardiovascular diseases such as atherosclerosis, myocardial infarction and cardiac hypertrophy in many studies.

In this study, we examined the correlation between the vasculoprotective and cardioprotective effects of metformin and irisin levels, which have been shown to have positive effects against cell aging and insulin resistance.

METHODS

In old natural animal model that is created for 24 months, randomly selected thirty-two Wistar-Albino rats were equally divided into four groups as Group-1: Young (<12 months) control, group-2: Young+metformin, Group-3: old (>24 months) control and Group-4: old+metformin. Hearts and thoracic aorta samples were excised for analysis.

Irisin ELISA assay

Serums were obtained to determine the levels that were determined with "Rat Irisin ELİSA kit" for quantitative determination.

RESULTS

The results of the mean or median values of inflammatory and oxidative stress markers in cardiac and aortic tissues according to the groups are shown in **table-1and 2**.

AORTA: There was a statistically significant difference between the 4 groups in terms of irisin values (**p=0.002**). In post-hoc analysis, this difference was statistically significant between group-2 and group-3 (**p=0.002**) and group-3 and group-4 (p=0.008).

While a negative correlation (**r= -0.58 ; p=0.02**) was found between the Irisin and Transforming growth factor- values, a positive correlation (**r= 0.52 ; p=0.04**) was found between Irisin and Platelet-derived growth factor receptor-β(PDGFR-β) values.

CARDIAC: A statistically significant difference was observed between the 4 groups in terms of irisin values (**p=0.000**). In post-hoc analysis, this difference was statistically significant between group-2 and group-3 (**p=0.000**).

A positive correlation was found between the Irisin and PDGFR-β values (**r= 0.59 ; p=0.02**) and between Irisin and IL-6 values (**r= 0.497 ; p=0.049**).

CONCLUSION

In response to age-related increased inflammatory and oxidative stress, the vasculoprotective and cardioprotective effects seen in metformin groups correlate with irisin levels. Statistically significant increase in irisin levels in metformin groups supports the cell protective effects. Irisin can be evaluated in many studies as a new generation cell-protective and insulin-resistance-correcting marker.

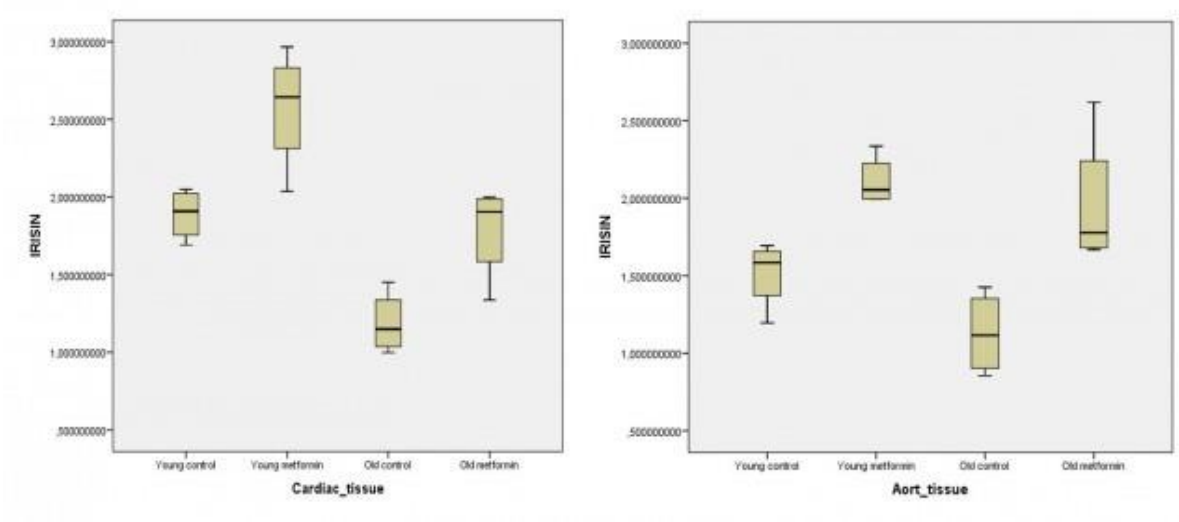

Figure-1: Comparison of mean irisin levels

ID: **271**

Topic: **Cardiology »Acute heart failure**

Presentation Type: **ORAL**

ADMISSION NEUTROPHIL TO PLATELET RATIO PREDICTS ADVERSE LEFT VENTRICULAR REMODELING IN PATIENTS WITH ST ELEVATION MYOCARDIAL INFARCTION

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BACKGROUND: Neutrophils play a key role in left ventricular remodeling after myocardial infarction (MI). Platelets participate in inflammation through Toll-like receptor expression along with neutrophils and activated platelets are involved in the release of inflammatory mediators and the accumulation of neutrophils. Therefore, evaluation of neutrophil and platelet interactions may be important in cardiac remodeling following MI. The aim of this study was to evaluate the prognostic ability of neutrophil to platelet ratio (NPR) in adverse left ventricular remodeling (ALVR) after ST Elevation Myocardial Infarction (STEMI).

MATERIAL AND METHODS: We included 105 STEMI patients over the age of 18 who were diagnosed with STEMI and underwent successful percutaneous coronary intervention. The definition of ALVR was made considering the 10% change of LV end-diastolic volume (LVEDV) at 6th months compared to 2nd week of after MI, which are widely used in the literature. Complete blood counts, lipid profiles and other biochemical markers were measured at admission. In multivariate regression analysis, the effects of age, gender, symptom to balloon time and infart location were adjusted.

RESULTS: Thirty one patients (29.5%) exhibited ALVR after MI. The median neutrophil, median lymphocyte, mean monocyte and median NPR levels were significantly higher in patients with ALVR compared to without ALVR, and lower mean LDL and mean platelet levels ($p<0.05$ for all). Multivariate logistic regression analysis demonstrated that the PNR and monocyte were an independent prognostic factor for prediction of ALVR. The cut-off value of PNR in predicting ALVR was found to be ≥4.3% with 77.4% sensitivity and 77% specificity (area under the curve: 0.810, $p<0.001$).

CONCLUSIONS: Admission PNR is a potential biomarker to predict ALVR after STEMI. This potential relationship may be related to the fact that platelets are complex immunomodulators that affect neutrophil functions.

Keywords: acute myocardial infarction, left ventricular remodeling, neutrophil to platelet ratio

Oral Presentation Session

Interventional Cardiology Update

Date: 05.11.2021 Time: 09:45 – 10:45 Hall:4

ID: **254**

Topic: **Cardiology »Peripheral arterial diseases**

Presentation Type: **ORAL**

EFFECTIVENESS OF PERCUTANEOUS THROMBUS ASPIRATION IN THE RADIAL ARTERY THROMBOSIS OCCURED AFTER CORONARY ANGIOGRAPHY

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Objective: Radial approach is frequently preferred in coronary angiography and percutaneous coronary interventions. The rate of post-procedure radial thrombosis is reported in a different range. Herein, we searched the percutaneous treatment of radial thrombosis in the light of case series.

Methods: We analyzed 6 patients with complaints of severe shoulder and arm pain after radial percutaneous coronary interventions. The patients, four male, and two female defined symptoms 2-4 days after interventions. The definitive diagnosis of radial artery thrombosis is done with doppler ultrasonography in case of diminished or absent radial beat. Informed consent was obtained from each patient before the procedure. After distal punction from the radial artery, a contrast agent was given from the brachial artery to image forearm arteries. After that, thrombus aspiration was performed.

Results: Percutaneous procedures were successful in all 6 patients. After thrombus aspiration, the symptoms were rapidly resolved and color doppler ultrasonography revealed the patent radial artery.

Conclusion: Although our study includes just a few patients, our results would indicate that percutaneous thrombus aspiration would be effective in symptomatic radial artery thrombosis.

Keywords: Radial artery thrombosis, thrombus aspirations, radial artery angiography

ID: **20**

Topic: **Cardiology »Coronary stents and advances in stent technology**

Presentation Type: **ORAL**

EASY, COST-EFFECTIVE AND STILL PATENT, ON FOURTH YEAR: INTERVENTION OF STENT-ASSOCIATED CORONARY ANEURYSM WITH STENT-IN- STENT IMPLANTATİON

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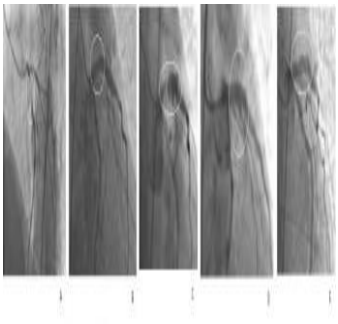
Introduction: Coronary arterial aneurysms (CAAs) are defined the dilatation of the coronary artery >50% of the native diameter. The incidence of CAAs is 0.3%–5.3% with angiography and 1.4% with autopsy. The incidence of CAAs after percutaneous transluminal coronary angioplasty is approximately 5%. While stent-associated CAA can occur with drug-eluting stents, stent fracture or overdilation can be a cause. In our case, we will present the successful treatment of stent-associated CAA detected at 9 months after primary percutaneous coronary intervention(PCI) with stent-in- stent implantation.

Case: A 55-year-old male patient with no comorbid disease was admitted to the emergency department(ED) with chest pain. Acute anterior myocardial infarction was detected on ECG. Coronary angiography (CAG) showed a lesion with 99% thrombosis in the proximal left anterior descending (LAD) artery, circumflex artery plaque, optus marginalis 80% stenosis (diameter < 2 mm) and a 70% lesion in the right coronary artery (RCA). A 4.5 x 24 mm Ephesus BMS (Alvimedica, Istanbul, Turkey) was implanted to the LAD lesion. As elective , PCI was applied to the RCA , with a 3.5x15 Ephesus BMS (Alvimedica, Istanbul, Turkey). 8 months after the RCA PCI, patient underwent a new CAg because of anterior Wall ischemia on scintigraphy CAG. On this time 90% lesion and in-stent coronary aneurysm after the lesion was detected on LAD, but the RCA stent was patent. Pre-dilatation was performed with a 4.0 x 16 mm balloon and a 4.5 x 20 mm Liberte BMS (Boston Scientific, MA, USA) was implanted in the old LAD stent, and sucessfully , the in-stent aneurysmal segment was totaly closed without and occlusion on LAD.
After fourth years on follow-up patient underwent a mew CAG after MPS. LAD stent-in – stent was pantent and there was no new aneurysm .
Discussion: CAAs can be asymptomatic or may cause angina pectoris, myocardial infarction or sudden death. As in this case iatrogenic aneurysms can be due to injuries of the vessel wall with a focal tear because of the previous intravascular intervention. Coronary dissection, stent fracture, high-pressure balloon inflation, coronary atherectomy or hypersensitivity reactions may also lead to the development of CAA after BMS implantation. Treatment strategies are medical therapy including antiplatelet or anticoagulant therapy , PCI therapy including graft stent implantation, coil embolization or surgical therapy.

Conclusion: In addition to these, it should be kept in mind that a simple and cost-effective BMS can implant into the stent-associated aneurysm, which can interrupt the flow of the aneurysm and have long-term satisfactory results.

Figure 1 - Proximal hazzy lesion was observed on LAD during anterior myocardial infaction (A), this lesion was successfully treated with primary PCI (B), after 8 months LAD instent severe lesion and aneurysm were observed (C) on CAG due to positive MPS, this area treated with stnt-in stent implantation (D) and at 4. years stent is still patent and there is no aneurysm (E).



ID: **220**

Topic: **Cardiology »Transcatheter tricuspid valve repair and replacement**

Presentation Type: **ORAL**

SUCCESSFUL BALLOON VALVULOPLASTY PROCEDURE IN A PATIENT WITH SEVERE TRICUSPID BIOPROSTHETIC VALVE STENOSIS: CASE REPORT.

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Background: Resistant right heart failure is observed in patients with dysfunction of the tricupid bioprosthetic valve. Re-surgery, valve-in-valve implantation, and balloon valvuloplasty are the preferred treatment options, respectively. Re-surgery cannot be performed in most patients because it carries a high risk. Inserting a bioprosthesis into the valve is a treatment method that is still becoming widespread. We aimed to present a case in which we performed balloon valvuloplasty to the severely stenosed bioprosthetic tricuspid valve, as valve-in-valve insertion is not yet a reimbursed treatment option in our country.

Case report: The patient, who underwent mitral (mechanical) and tricuspid (bioprosthetic) valve replacement due to infective endocarditis in 2008, presented with complaints of shortness of breath, fatigue, abdominal distension, and leg swelling. His NYHA class was III-IV. Coronary angiography was performed. No significant stenosis was observed in his coronary arteries. Doppler echocardiographic examination showed that the mechanical prosthetic valve located in the mitral position had normal function. Severe stenosis and mild to moderate insufficiency were observed in the tricuspid bioprosthetic valve. Bioprosthetic valve leaflet movements were severely limited. The mean gradient was found to be 11.1mmHg.
Procedure: The right femoral vein was entered with a 10F vessel sheath. Over an Amplatz stiff long wire that was advanced up to the distal right pulmonary artery the procedure was carried out. The Tyshak 25-40mm balloon was brought to the tricuspid valve over this wire and inflated twice in the appropriate position - centering the ring of the bioprosthesis valve. The mean gradient was calculated as 5.6 mmHg with moderate regurgitation by echocardiography (Video). He was uneventfully discharged after his treatment was arranged.

Discussion: Literature search yielded less than 20 case reports. To our best of knowledge this is the fisrt case report from Turkey. In conclusion, balloon valvuloplasty procedure for the tricuspid bioprosthetic valve with severe stenosis is technically low risk and symptomatic benefit can be obtained in the short-medium term.We think that the balloon valvuloplasty method should be kept in mind as a bridge treatment until the reimbursement issues are solved for the valve-in-valve procedure in patients carrying high risk for surgery.

ID: **269**

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

Presentation Type: **ORAL**

VSD'S CLOSED WITH LIFETECH KONAR; MULTICENTER PRE-STUDY

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Background:

Ventricular septal defects (VSD) are one of the most common congenital heart defect. Newly developed devices allow transcatheter closure of large VSD. The multicenter study aimed to share early findings in patients with VSD whose defects were closed with transcatheter method and Konar-Multifunctional Occluder (MFO).

Methods:

Between November 2018 and July 2021, a total of 15 patients, 3 of whom were less than 24 months old, underwent VSD closure with MFO device. The median age of the patients was 6.1 years (5.5 months-17 years). 13 patients had perimembranous 2 patients had mid-muscular VSD. Mean QP / Qs: 1.88 ±SD (1.58-2.3), mean right side orifice diameter of the defect was 5.7 mm ±SD (3.5-8) and mean left side orifice diameter was 6.1 mm ±SD (4-10). Twelve of the patients were closed by antegrad route and 3 of them closed by retrograde route. There was no any complication was observed. A patient whose VSD was closed with ADO-II but embolized previosuly, was succesfully closed with MFO. Our average follow-up time is 570 days ±SD (30-1020). No major complications were observed. Minor complications were as follows: A residual VSD continued in one patient, a hematoma in the femoral region in one patient, and a temporary minor rhythm disorder in 3 patients.

Results:

Closure of both congenital and residual VSDs can be effectively performed in patients with transcatheter method using LifeTech MF-Konar devices. Compared to other devices, its more flexible and lightweight structure, antegrad and retrograde bi-directional usage in patients with larger VSD and safety use even in low-weight infant provide significant advantages.

Conclusion:

Perimembranous and muscular VSD can be successfully closed by transcatheter method in pediatric patients with Lifetech Konar MFO device. The device's design, flexibility and two-way availability, which ensure high compatibility with septal defects, stand out as important advantages. More patients will support these findings in new studies involving long-term outcomes.

Keywords: Konar-MFO, VSD closure, Transcatheter Intervention, Congenital Heart Defect

ID: **161**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **ORAL**

FEMORAL PSEUDOANEURYSMS DUE TO DIAGNOSTIC OR INTERVENTIONAL ANGIOGRAPHIC PROCEDURES: A SINGLE-CENTER EXPERIENCE

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Introduction: Iatrogenic femoral pseudoaneurysm is a well-known vascular access site complication. Many invasive and noninvasive techniques have been proposed for the management of this relatively common complication. Small pseudoaneurysms can spontaneously clot, but sometimes definitive treatment is needed. We evaluated nonsurgical methods of treating post catheterization iatrogenic femoral pseudoaneurysms at our hospital and compared the results with those in the literature.

Methods: The hospital records of patients who underwent femoral catheterization at our institution from 2016 to 2020 were collected retrospectively. All complications were detected and femoral pseudoaneurysm cases were selected. Diagnostic criteria and treatment strategy were documented. 15-20 minutes of compression sessions (at least one session and up to 60 minutes) were performed.

Results. A total of 8422 patients who had undergone diagnostic coronary angiography or percutaneous coronary intervention (PCI) were evaluated. PCI was performed on 3307 of the patients. A total of 44 patients were found to have a femoral pseudoaneurysm (0.52%). 29 (65.9%) were female. The mean age was 68.09±6.73. Blind/auscultation guided manual (43.2%) or ultrasound-guided compression (36.4%) have been found to be effective to treat pseudoaneurysm in a total of 35 (79.5%) patients. The mean duration of compression was 41.7±12.1 minutes. No severe complication was observed.

Conclusions: Blind manual or ultrasound-guided compression of femoral pseudoaneurysms is a safe, effective, and noninvasive technique for the treatment of this iatrogenic complication.

Oral Presentation Session

Risk Analysis In Cardiovascular Diseases: Epidemiologic Correlates

Date: 05.11.2021 Time: 11:00 - 12:00 Hall: 4

ID: **265**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

CORRELATION OF 10-YEAR ATHEROSCLEROTIC CARDIOVASCULAR RISK AND SERUM ATHEROGENIC INDICES AND CRP IN A HEALTHY POPULATION

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OBJECTIVE: Atherosclerotic cardiovascular diseases (ASCVD) are among the leading causes of death worldwide. For this reason, it is very important to identify individuals at high risk of ASCVD and to give preventive treatments in these individuals. Many parameters and tools have been developed to determine the risk of ASCVD. In this study, we aimed to investigate the correlation between the cardiovascular risk calculation tool developed by ACC/AHA and the atherogenic index of plasma (AIP), Castelli risk index I (CR-I), Castelli risk index II (CR-II) and CRP in a healthy population.

METHODS: Our study was conducted retrospectively with the hospital database. Since the 10-year risk can be calculated only in 40-79 years of age with the ACC/AHA ASCVD risk calculation tool, patients in this age group were included in the study. Patients with a history of any cardiovascular disease, hypertension, DM, cancer, rheumatic disease, nephrological disease, endocrinological disease, and active infection were excluded. 184 individuals who met these criteria were included in the study. The 10-year risk of ASCVD was calculated with the online tool of ACC/AHA. AIP was calculated by taking the logarithm of the TG/HDL ratio from the molar unit, CR-I was calculated by the total cholesterol/HDL cholesterol ratio, and CR-II was calculated by the LDL cholesterol/HDL cholesterol ratio. Correlation analysis was performed with Pearson correlation in SPSS 22.0 software.

RESULTS: The clinical and laboratory findings of 184 patients are shown in the table. The 10-year risk of ASCVD was statistically significantly correlated with AIP (R:0.380; p<0.001), CR-I (R:0.467; p<0.001) and CR-II (R:0.482; p<0.001), but no correlation was detected with CRP (R:0.065; p:0.381). The most significant correlation with 10-year ASCVD was found in CR-II.

CONCLUSIONS: The 10-year risk of ASCVD shows a moderate correlation with AIP, CR-I, and CR-II. However, no correlation was found with CRP. The lack of correlation between ACC/AHA's risk calculation tool and CRP indicates that this tool is insufficient to detect some high-risk individuals in the healthy population.

ID: **234**

Topic: **Cardiology »Coronary stents and advances in stent technology**

Presentation Type: **ORAL**

ASSOCIATION BETWEEN INSULIN RESISTANCE ESTIMATED BY TRIGLYCERIDE GLUCOSE INDEX AND IN-STENT RESTENOSIS IN NON-DIABETIC PATIENTS

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Background: The triglyceride glucose index (TGI) is associated with poor prognosis in cardiovascular disease. The usefulness of TGI to predict coronary in-stent restenosis (ISR) has not been determined. This study aimed to investigate the relationship between TGI and ISR in patients with stable coronary artery disease (CAD) undergoing angiography.

Methods: This retrospective study analyzed the data of 224 non-diabetic patients with coronary drug-eluting stents and undergoing angiography. Angiographic restenosis was defined as stenosis ≥50% of the lumen diameter of the previously implanted stent (ISR and/or 5 mm proximal and distal to the stent edge). The patients were divided into two groups based on the angiogram results: the non-ISR group (n=114) and the ISR group (n=100). The TGI was calculated as the "Log [fasting triglyceride (mg/dL) x fasting plasma glucose (mg/dL) / 2]". TGI was compared between the two groups. The clinical characteristics and laboratory data were considered for univariate and multivariate analyses.

Results: No significant differences in age, sex, hypertension and smoking history were found between the ISR and non-ISR groups. TGI was higher in the ISR group than in the non-ISR group (p=0.011). According to multiple logistic regression analysis, Gensini score and SYNTAX score, TGI (odds ratio:1.328, 95% CI:1.103-1.654, p=0.015) and white blood cell count were independent predictors of ISR (Table 1).

Conclusion: Patients with ISR were found to have higher TGI than those without ISR, suggesting that TGI might be a valuable predictor of ISR in patients with stable CAD.

ID: **229**

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

Presentation Type: **ORAL**

CAN ATHEROGENIC PLASMA INDEX BE ACCEPTED AS A RISK DETERMINER IN PATIENTS WITH KIDNEY STONES?

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Aim: Kidney stone is a disease that is detected in one out of every 12 people in Turkey and its relationship with metabolic syndrome has been proven. On the other hand, the atherogenic plasma index (API), which is calculated by using lipid parameters to predict cardiovascular risk, is a sensitive parameter used to evaluate high-risk groups. In this study, we aimed to investigate the value of atherogenic plasma index in patients with kidney stones.

Method: The groups of our study consisted of patients with kidney stone diagnosis and age-sex matched healthy controls. Patients and healthy volunteers were divided into different groups. The lipid profile was evaluated for all participants and the API log (TG / HDLc) value was calculated. Significance level was determined as $p<0.05$.

Results: The 32 patients who were previously diagnosed with kidney stones and the control group consisting of 32 age- and sex-matched healthy volunteers were compared in a 1:1 ratio. API levels differed significantly between the groups ($p=0.001$). In the pairwise comparisons of the groups, creatinine level, waist circumference and presence of metabolic syndrome were found to be significantly higher in the kidney stone group ($p=0.001$, $p=0.041$ and $p=0.012$). API levels were positively correlated with total cholesterol, low-density lipoprotein, and triglyceride levels, and negatively correlated with high-density lipoprotein levels.

Conclusion: In this study, an increased cardiovascular risk was found in patients with kidney stones. The significant correlation of API with cardiovascular risk factors indicates that API can be useful for risk assessment in high-risk kidney stone patients.

ID: **173**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

PLASMA ATHEROGENIC INDEX IS AN INDEPENDENT INDICATOR OF SUBCLINICAL ATHEROSCLEROSIS IN SHIFT WORKERS

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OBJECTIVE: The goal of this study is to investigate the effect of night work on preclinical atherosclerosis by evaluating the plasma atherogenic index and carotid intima media thickness in shift workers and regular daily workers.

METHODS: This prospective randominised study included 96 male shift-workers that were divided into two subgroups according to working year as group 1; 10 years and below and goup 2; over 10 years. Then, these groups were compared with age and body mass index matched 100 healthy males who worked during day time regularly. Exclusion criteria were patients with any systemic diseases, drinking alcohol and individuals on any medication. Total cholesterol (TC), TG, LDL and HDL were gathered and PAI values were calculated using the log10 TG/HDL formula. All examinations were performed by one cardiologist using a Vivid 7 Echocardiography Device. The measurements were conducted from three different points of the right and left main carotid artery. The CIMT measurements were performed by evaluating only the back (away) wall from the CCA. The mean CIMT values were recorded by calculating the mean of triple measurements of carotid artery.

RESULTS: There was no significant difference among groups in terms of their, BMI and smoking status (p=0,303 and p=0,185 respectively). PAI and cIMT values were; 0,11±0,27 mm and 0,57±0,09 mm for group 1; 0,23±0,24 mm and 0,64±0,07 mm for group 2; 0,02±0,16 mm and 0,52±0,07mm for control (p=0,000 and p=0,000 respectively). The C-reactive protein values of shift-workers were higher compared to control individuals (p=0,033). The clinical and laboratory features of shift-workers and control individuals are shown in Table 1. In the correlation analysis, a positive correlation was observed between cIMT and PAI (r=0,772 and p=0,000). According to the multiple logistic regression analysis, we found that PAI value is an independent factor for CIMT in shift workers (odds ratio: 0.924, 95% confidence interval; 0,090 -0.107; p<0.001).

CONCLUSION: We ascertained that PAI can be used as an independent indicator for subclinical atherosclerosis in shift workers.

ID: **190**

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

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN MONOCYTE/HIGH-DENSITY LIPOPROTEIN CHOLESTEROL RATIO, LYMPHOCYTE/MONOCYTE RATIO AND CORONARY CT ANGIOGRAM CALCIUM SCORING

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Background:

The aim of the present study was to investigate the association of neutrophil/lymphocyte ratio (NLR) and Monocyte/High-Density Lipoprotein Cholesterol (M/HDL) with coronary artery calcium score (CACS) calculated by multislice computed tomography (MSCT) angiography in patients with low-intermediate coronary artery disease risk.

Methods:

One hundred and five consecutive patients with low-intermediate risk for CAD, who were either asymptomatic or symptomatic (but non-characteristic) for coronary artery disease (CAD) and underwent MSCT angiography in our clinic between May 2018 and May 2021, were enrolled. NLR and M/HDL, which were calculated from blood sample results retrospectively were compared with CACS.

Results:

We included 105 patients (58(55.23%) male, age 59.50 + 11.19 years). The demographic data of the patients are presented in Table 1. The average CACS was 329.49+502.15. Mean ejection fraction calculated from previous echocardiography data, which were recorded 1 month before or after the MSCT was 58.43+5.96. Mean LDL level was 110.63+58.03, HDL level was 43.84+15.34 and triglyceride level was 191.52+163.37. Mean M/HDL level was 1.53+2.09, mean NLR was 2.52+1.51 and there was no correlation between these 2 ratios and CACS(M/HDL, r=-0,84, p=0,476, NLR, r=0,158, p= 0,195). Also, as a result of linear regression analysis, it was observed that M/HDL (p=0 ,741, %95 CI (-57,138 - 40,828)) and NLR (p=0,067 %95 CI (-7,652 - 215,949)) were not risk factor affecting CACS values.

Conclusions:

Our study didn't give a significant correlation and relationship between M/HDL ratio, NLR and CACS. Further studies are required to demonstrate the relationship between the monocyte/HDL cholesterol ratio, NLR and atherosclerotic cardiovascular disease.

ID: **98**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

COMPARISON OF THE SEVERITY OF CORONARY ATHEROSCLEROSIS WITH TISSUE COMPLIANCE IN PATIENTS WITHIN FIRST DEGREE RELATIVES

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Esas olarak aterosklerozun neden olduğu koroner arter hastalığı (KAH), dünya çapında en yaygın hastalık ve önde gelen ölüm nedenidir. Artan kanıtlar, inflamasyonun aterogenezde ilkel bir rol oynadığını ve majör histo-uyumluluk kompleksi (MHC) (insanlarda insan lökosit antijeni [HLA]) molekülleri ile yakından ilişkili olduğunu göstermektedir. Coronary artery disease (CAD), which is mainly caused by atherosclerosis, is the most prevalent illness and the leading cause of death worldwide. Increasing evidence suggests that inflammation plays a primordial role in atherogenesis and is closely associated with the major histocompatibility complex (MHC) (human leukocyte antigen [HLA] in humans) molecules. HLA genes are located in 6p21.3, the proteins encoded by these HLA genes have a major role to play in antigen presentation and inflammatory pathways. HLA involvement in inflammation is mainly associated with the HLA-dependent activation of T cells. studies reported that the susceptibility to CAD is related with the polymorphisms in HLA-DRB1. The above evidence indicates that the polymorphisms in HLA class II are associated with the risk of CAD . This study research investigate three objects firstly what is the similarity of the coronary artery lesions according to the compatability of HLA alleles between the first degree relatives who went angiography before , secondly is there any relation between HLA subtype allels and the coronary artery (RCA ?LAD ? ,CX? and can such a relation be responsible from the lesions in this artery ,finally is there any relation between HLA subtypes and turkish race coronary artery disease

Coronary artery disease (CAD), which is mainly caused by atherosclerosis, is the most prevalent illness and the leading cause of death worldwide. Increasing evidence suggests that inflammation plays a primordial role in atherogenesis and is closely associated with the major histocompatibility complex (MHC) (human leukocyte antigen [HLA] in humans) molecules. HLA genes are located in 6p21.3, the proteins encoded by these HLA genes have a major role to play in antigen presentation and inflammatory pathways. HLA involvement in inflammation is mainly associated with the HLA-dependent activation of T cells. studies reported that the susceptibility to CAD is related with the polymorphisms in HLA-DRB1. The above evidence indicates that the polymorphisms in HLA class II are associated with the risk of CAD . This study research investigate three objects , firstly what is the similarity of the coronary artery lesions according to the compatability of HLA alleles between the first degree relatives who went angiography before , secondly is there any relation between HLA subtype allels and the coronary artery (RCA ?LAD ? ,CX? and can such a relation be responsible from the lesions in this artery ,finally is there any relation between HLA subtypes and turkish race coronary artery disease

In our study, 25 couples (sibling) patients were included. The Hla similarity ratio and the syntax score ratio were compared. There was a positive, strong statistically significant correlation. ($p<0.001$ $r:0.64$)
If coronary artery disease is detected in angiography in one of the siblings, it can be determined by looking at the HLA that similar angiography results will be obtained in the other sibling.

Oral Presentation Session

Hypertensions: Epidemiology, Pathophysiology and Outcomes.

Date: 05.11.2021 Time: 12:15 – 13:15 Hall: 4

ID: **246**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **ORAL**

IMPAIRED CARDIAC AUTONOMIC FUNCTION IS INDEPENDENTLY ASSOCIATED WITH DIASTOLIC DYSFUNCTION AND INFLAMMATION MARKERS IN NEWLY DIAGNOSED HYPERTENSIVE PATIENTS

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Objective: Decreased heart rate variability (HRV) is one of the essentials predictors of cardiovascular events. The lack of HRV has been associated with elevated circulating inflammatory markers and impaired left ventricular diastolic function. We aimed to investigate whether HRV is associated with inflammation and diastolic dysfunction in newly diagnosed hypertensive patients.

Methods: The study population consisted of 64 consecutive newly diagnosed non-diabetic hypertensive patients. The patients' mean age was 48.2±9.0, and 34 of them were male. Heart rate variability (SDNN, SDANN, SDNNI, RMSSD, and HFLF) was measured using a 24-h ECG monitoring system. Inflammation markers (C-reactive protein (CRP), total leukocyte (LC) count, and LC subtypes) were obtained from venous blood samples. Left ventricular diastolic function parameters were evaluated by transthoracic echocardiography.

Results: In multivariable linear regression analysis CRP (r: -0.267, p: 0.047; r: -0.235, p: 0.081; r: -0.269, p: 0.045), total LC (r: -0.375, p: 0.002; r: -0.357, p: 0.004; p: ns), and lymphocytosis (r: -0.403, p: 0.001; r: -0.399, p: 0.001; r: -0.258, p: 0.041) were negatively related with SDNN, SDANN, and SDNNI, respectively; furthermore, isovolumetric relaxation time (IVRZ) had negative relationship with RMSSD (r: -0.349, p: 0.012) and HFLF (r: -0.408, p: 0.004).

Conclusion: Blunted cardiac autonomic function is independently associated with increased inflammatory response and diminished left ventricular diastolic function in newly diagnosed hypertensive patients.Subclinical cardiac autonomic dysfunction should not be overlooked in patients with de novo hypertension diagnosis.

Keywords: Cardiac autonomic function, Diastolic dysfunction, Heart rate variability, Inflammation markers.

ID: **147**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **ORAL**

COMPARISON OF SYSTEMIC IMMUNE-INFLAMMATION INDEX IN DIPPER AND NON-DIPPER HYPERTENSIVE PATIENTS

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"Objective: Hypertension is a major clinical condition that promotes extensive cardiac remodelling, acting as a contributing factor in both systolic and diastolic dysfunction, arrhythmias and symptomatic heart failure, which are among the main sources of mortality worldwide(1,2). In ambulatory blood pressure monitoring, a decrease of 10% or more in night-time blood pressure compared to day-time values is defined as dipper hypertension (DHT) whereas a decrease of less than 10% is defined as non-dipper hypertension (NDHT)(3). A higher rate of target organ damage is seen in NDHT, which leads to cardiovascular morbidity and mortality(4,5). In addition, NDHT results in left ventricular systolic and diastolic dysfunction(6). Therefore, diagnosis and appropriate treatment of NDHT are of great importance.

The systemic immune-inflammation index (SII) is easily obtained from complete blood counts because it is based on neutrophil, lymphocyte, platelet counts and is practical, easy for calculating and implementation in clinical practice. High SII has been shown to have a predictive value for mortality in patients with cardiovascular disease, including coronary artery disease and acute coronary syndrome(7,8) However, the predictive value of the SII for non-dipper hypertension is unknown. The aim of this study was to compare the relationship between SII and NDHT.

Methods: A total of 154 individuals, including 74 patients with non-dipper hypertension and 80 dipper hypertensives as the control group were included in the study. These groups were compared in terms of demographic characteristics, laboratory findings. Blood sampling was performed to measure the neutrophil, lymphocyte, and platelet levels for the calculation of SII indices. SII was calculated with the formula SII = (P × N)/L, where P, N, and L refer to peripheral platelet, neutrophil, and lymphocyte counts, respectively.

Results: The mean age was found to be significantly higher in non-dipper group compared to the dipper group (52.14±12.24 vs. 40.63±10.42, p<0.001). The mean neutrophil and platelet counts were higher in the non-dippers than dippers. The hs-CRP value was higher in the non-dipper group when compared with the dipper group (0.51±0.37 vs. 0.25±0.18, p:0.001) SII was observed statistically higher in non-dipper group (632.26±320.03 vs 462.24±152.88; p<0.001). Univariate and multivariate regression analyses revealed independent relationship between the SII and non-dipper hypertension (OR:1.01, p:0.048). In ROC curve analysis above a cut-off level of 489.89 predicted non-dipper hypertension with a sensitivity of 67.5% and a specificity of 63.5% (Area Under Curve:0,672)

Conclusion: In this study, we observed that the SII is an independent predictor of non-dipper hypertension. It may be detected rapidly and easily and this result indicates that physicians should be much more careful with regard to non-dipper hypertension.

ID: **112**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **ORAL**

NORMOTENSIVE NON DIPPER PATIENTS HAVE INFLAMNATION AS MUCH AS DIPPER HYPERTENSIVE PATIENTS

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Abstract

Background: Continuous inflammation at the level of the vascular endothelium plays an important role in the formation of both hypertension and coronary artery disease.

Both innate and adaptive immunity take part in the formation, progression and complication of atherosclerosis and hypertension.

Plasma levels of circulating inflammatory molecules, such as C-reactive protein (CRP), interleukin-6 (IL-6), and the indexes derived from blood cells circulating in peripheral blood; Neutrophil-to-lymphocyte ratio (NLR), Platelet-to-lymphocyte ratio (PLR), systemic immune-inflammation index (SII) could be higher in hypertension, and coronary artery disease. There is also an increase in platelet aggregation and activation in hypertensive patients. In various studies, the mean platelet volume (MPV) and red blood cell distribution width (RDW) levels were found to be increased in hypertensive patients.
Diurnal blood pressure (BP) variation also is a risk factor for hypertensive target organ damage and cardiovascular events.
The condition in question can be observed in both dipper hypertensive and non-dipper normotensive patients. In our study, we planned to review these inflammation processes in normotensive and hypertensive patients.

Material and Methods: Blood samples and twenty-four-hour ambulatory blood pressure monitoring (ABPM) results of 151 patients admitted to our outpatient clinic with a pre-diagnosis of hypertension were retrospectively analyzed. According to ABPM results, patients were divided into three groups; dipper hypertensives, non-dipper normotensives, and dipper normotensives. 50 dipper normotensives (group 1) (mean age, 42,74±12,4), 50 non-dipper normotensives (group 2) (mean age, 50,82±11,5), 51 dipper hypertensives (group 3) (mean age, 54,6±12,3) were compared in terms of inflammation processes.
Venous peripheral blood samples were collected from all patients for complete blood count and biochemical parameters at admission.Complete blood count and biochemistry test results of the patients were found from the database.

Results: Daytime mean systolic blood pressure (SBP), diastolic blood pressure (DBP) and Night -time mean SBP ,DBP were significantly different in groups [group1; 112(98-125), 75(64-82)],[group2; 110(100-155), 72(62-123)],[group 3; 155(138-172), 96(85-112)], p<0,001 respectively. Statistically significant difference was observed in glomerular filtration rates [group 1; 101(51-129),group 2; 96,5(47-130),group 3; 89(63-140), p<0,001 respectively].06;

There was a significant difference between the three groups in terms of mean platelet volume (MPV) and Red blood cell distribution width (RDW) levels.(P =0,001 and P<0,001,respectively).A statistically significant difference was found between the groups in terms of NLR, PLR, SII, lymphocyte-monocyte ratio (LMR). In subgroup analysis, NLR, SII indexes were similar in group 2 and group 3, but higher than group 1 in both groups.LMR was similar in group 2 and group 3 but lower than group 1.In subgroup analysis PLR levels were similar in group 2 and group 3 but higher than group 1 in both groups.

Conclusions:

In our study, we found that MPV and RDW levels, and SII, NLR, PLR, LMR levels, which are other inflammation indexes, were similarly higher in non-dipper normotensive and dipper hypertensive individuals than in dipper normotensive individuals

ID: **87**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **ORAL**

THE EFFECT OF BODY MASS INDEX ON MORNING BLOOD PRESSURE SURGE

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Background and Aim
Blood pressure (BP) has diurnal variation with a decrease during sleep and a surge in the morning. Increase in morning BP surge (MBPS) is an independent predictor of cardiovascular events including hospitalization in hypertensive patients. Nevertheless, obesity has been identified as a strong risk factor for progression from prehypertension to more severe hypertension and maintenance of a body mass index (BMI) less than 25 kg/m2 is considered crucial in primary prevention of hypertension. Therefore, we aimed to investigate the relationship between BMI and MBPS levels.

Methods Patients who admitted the cardiology outpatient clinic and a 24-hour BP recorder were inserted between January 2019- June 2019 included the study. BMI calculated for each patient. Dipper and non-dipper status and patients with and without hypertension (HT) were determined. MBPS was determined as the difference between the average BP during the 2 hours after awakening and the lowest night time BP. Univariate and multivariate linear regression analyses were used to examine the effect of BMI on MBPS.

Results Total of two hundred ninety- three consecutive patients' (293) data were assessed retrospectively. 114 patients (38,9%) were male, mean age was 54.1(year). There were 173 (59%) patients with over 30 BMI, 120 (41%) above 30 BMI, 100 (34.1%) dipper HT, 82(28%) non-dipper HT, 55(18.8%) nonHT-dipper, 56(19.1%) nonHT-nonDipper.

Results of univariate linear regression analyses:
1) BMI has a statistically significant increasing effect on MBPS in all individuals. (odds ratio: O.R) (O.R: 0.126, p: 0.032)

2) Both the patient with and without hypertension; BMI values do not have a significant effect on MBPS level (respectively; O.R: 0.118, p:0.223/ O.R: 0.119, p: 0.110)

3) BMI values have a statistically significant and increasing effect on MBPS level at non-dippers but not dippers (respectively; O.R: 0.200, p:0,02/ O.R: 0.128, p: 0.112)

4) BMI values do not have a significant effect on MBPS levels at patients with HT-dipper patients, without HT dipper and non-dipper (respectively; O.R:0.333, p:0,98/ O.R:0,198, p: 0.146/ O.R: 0,117, p:0,146) BMI values have a statistically significant and increasing effect on MBPS levels at patients with HT/non-dipper (OR: 0.239, p: 0.039)

According to multiple logistic regression analysis BMI values, non-dipper status has a statistically significant and increasing effect on MBPS independently presence of HT.

Conclusion Regardless of the presence of hypertension, an increase in BMI and non-dipper status increases MBPS levels, which is considered a cardiovascular risk factor.

ID: **69**

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

Presentation Type: **ORAL**

NON-DIPPER PATTERN IN GESTATIONAL HYPERTENSION CAN PREDICT PREGNANCY COMPLICATIONS AND POSTPARTUM CHRONIC HYPERTENSION

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Background: Gestational hypertension (GH) is a hypertensive disorder that occurs in approximately 5-10% of all pregnancies. An increase in maternal and fetal morbidity and mortality was observed in pregnancies where non-dipper hypertension pattern was observed. Hypertension that persists 12 or more weeks post-delivery is defined as chronic hypertension (PPCHT). In our study, we aimed to investigate the relationship of non-dipper blood pressure (NDBP) and nocturnal HT presence with complications of pregnancy and chronic hypertension occurrence in the long term follow up of patients diagnosed with gestational hypertension (GH) by Ambulatory blood pressure monitoring (ABPM) method.

Materials and Methods : The study included 60 patients between 2013 and 2019, who were followed up with pregnancy in the gynecology department and referred to cardiology outpatient clinic with a preliminary diagnosis of hypertension, those who completed the 20th week of their pregnancies and whose ABPM measurements were consistent with hypertension .
Results: 36 (60%) of the patients included in the study had NDBP pattern. During follow-up, in 23 (38.3%) patients preeclampsia, in 38 (63.3%) patients IUGR-compatible birth and in 29 (48.3%) patients PPCHT were observed.

When compared with dipper blood pressure pattern (DBP), in patients with NDBP pattern; IUGR risk, preeclampsia risk, PPCHT risk, all day sistolic pressure (ADS), night time sistolic pressure (NTS), night time diastolic pressure (NTD and night time mean pressure (NTM) values were significantly higher.

Conclusion: As a result of the study, we found that NDBP pattern and the severity of BP elevation were associated with an increase in preeclampsia and IUGR development frequency. This is the first study in the literature to found an association between the presence of non-dipper hypertension and chronic hypertension after pregnancy in those who had GH.

ID: **48**

Topic: **Cardiology » Hypertension and antihypertensive therapy**

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN PULSE WAVE VELOCITY AND MONOCYTE/HIGH-DENSITY LIPOPROTEIN CHOLESTEROL RATIO IN PATIENTS WITH NEWLY DIAGNOSED HYPERTENSION

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Objective: Arterial stiffness is an early sign of target organ damage of hypertension (HT). Pulse wave velocity (PWV) measured from the brachial artery is a reliable indicator of arterial stiffness. Monocyte to high density lipoprotein cholesterol ratio (MHR) is generally understood to be a candidate marker of inflammation and oxidative stress. We examined the relationship between PWV and MHR, which are markers showing the development of hypertension.

Material and Methods: Patients who did not use antihypertensive drugs in our hospital and were fitted with an ambulatory blood pressure device measuring PWV for the diagnosis of hypertension were included in the study retrospectively. Patients were grouped as hypertensive and normotensive according to ambulatory blood pressure device results.

Results: 162 patients were included in the study retrospectively. While HT was detected in 81 patients, 81 individuals were normotensive. PWV was higher in the hypertensive group than in the normotensive group ($p<0.001$). MHR was higher in the hypertensive group than in the normotensive group ($p<0.001$). There was a positive correlation of MHR with PWV ($r = 0.404$, $p < 0.001$).

Conclusion: PWV, which is an indicator of arterial stiffness measured by ambulatory blood pressure, was found to be higher in hypertensive patients than in normotensive patients. There was a significant correlation between MHR and PWV.

Variable	Hypertensive (n=81)	Normotensive (n=81)	p-value
Age, year	49,36±13,32	51,20±12,33	p=0,08
Gender (male), n (%)	55(%46,6)	57(%54,8)	p=0,223
Body Mass Index (kg/m^2)	28,70±3,71	28,42±2,43	p=0,972
White Blood Cell, $10^3/\mu l$	7,91±2,03	7,94±2,06	p=0,64
Hgb, g/dl	14,15±1,64	14,27±1,71	p=0,51
Platelet, $10^3/\mu l$	256,97±59,40	263,24±69,01	p=0,46
MHR	14,84±4,84	12,23±4,19	p=0,001
Monocytes Count $10^6/\mu l$	624,81±142,70	504,93±177,37	p<0,001
RDW	14,29±2,15	14,13±1,58	p=0,76
Creatinine, mg/dl	0,92±0,99	0,78±0,22	p=0,78
BUN, mg/dl	32,89±19,86	29,45±12,77	p=0,16
Na^+, mEq/L	138,54±2,42	138,26±2,39	p=0,57
K^+, mEq/L	4,38±0,40	4,35±0,34	p=0,81
Total kol	216,61±42,93	206,55±48,39	p=0,063
LDL, mg/dl	131,36±31,87	127,91±37,96	p=0,43
HDL, mg/dl	45,92±9,25	44,44±9,88	p=0,23
Triglyceride, mg/dl	206,32±152,11	180,33±115,83	p=0,43
LVEF	57,50±5,63	58,28±3,15	p=0,65
24-h Pulse Wave Velocity, m/s	8,22±1,42	6,97±1,50	p<0,001
Daytime Pulse Wave Velocity, m/s	8,20±1,39	7,02±1,50	p<0,001
Nighttime Pulse Wave Velocity, m/s	8,25±1,46	6,91±151	p<0,001
24-h SBP, mmHg	135,83±12,84	112,75±7,64	p<0,001
Daytime SBP, mmHg	134,50±18,16	114,71±8,47	p<0,001
Nighttime SBP, mmHg	135,63±13,08	108,67±7,31	p<0,001
24-h DBP, mmHg	84,37±9,96	70,46±7,36	p<0,001
Daytime DBP, mmHg	84,44±10,62	71,81±8,19	p<0,001
Nighttime DBP, mmHg	84,48±9,42	68,00±7,32	p<0,001

Abbreviations: LDL: Low-density lipoprotein, HDL: High-density lipoprotein, Hgb: Hemoglobin, BUN: Blood urea nitrogen, Na^+:Sodium, K^+:Potassium, SBP: Systolic blood pressure, DBP: Diastolic blood pressure, MHR: Monocytes HDL Ratio

Variable	MHR	
	r	p
24-h Pulse Wave Velocity, m/s	0,404	p<0,001
White Blood Cell, 10^3/µl	0,179	p=0,022
Monocytes Count 10^6/µl	0,593	p<0,001
Total kolesterol (mg/dL)	-0,155	p<0,001
HDL (mg/dL)	-0,292	p<0,001
Daytime Pulse Wave Velocity, m/s	0,405	p<0,001
Nighttime Pulse Wave Velocity, m/s	0,406	p<0,001
24-h SBP, mmHg	0,214	p=0,006
Nighttime SBP, mmHg	0,246	p=0,002

Abbreviations: HDL: High-density lipoprotein, SBP: Systolic blood pressure, MHR: Monocytes HDL ratio

Oral Presentation Session

Epidemiology of CVD: New Ideas

Date: 05.11.2021 Time: 13:30 - 14:30 Hall: 4

ID: **124**

Topic: **Cardiology » Treatment of Hyperlipidemia**

Presentation Type: **ORAL**

STATIN THERAPY: HOW WELL DO WE ADHERE TO TREATMENT? REAL LIFE DATA

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OBJECTIVE: The pathological process underlying coronary artery disease (CAD) is atherosclerosis, which occurs due to lipid accumulation and the changing metabolic state due to risk factors. CAD significantly impairs the quality of life and leads to the formation of individuals with chronic disabilities. In CAD treatment guidelines, statin therapy for hyperlipidemia constitutes an important step in the planning of medical treatment. Lowering low-density lipoprotein (LDL) cholesterol levels is the priority of statin therapy. However, when the real-life data of patients diagnosed with CAD are examined, it is understood that this treatment strategy is not paid enough attention. In our study, we aimed to determine how effectively statin therapy is used by looking at real-life data in patients with a diagnosis of CAD.

METHODS: 214 patients diagnosed with coronary artery disease were included in our study. Statin use and blood lipid panels of these patients who applied to the outpatient clinic for routine control were examined.

RESULTS: Of the patients included in our study, 108 (50.47%) were male and 106 (49.53%) were female. All patients were receiving at least one antiaggregant treatment. The mean total cholesterol value of the patients was 185.43 (min: 102- max: 323), LDL 105.22 (min: 32- max: 215), HDL 45.62 (min: 22- max: 90), triglyceride 174.15 (min: 44- max: 851). The rate of patients with an LDL value of 0-69 was 15.89%, the rate of patients with a 70-99 level was 30.37%, and the rate of patients with >100 was 53.74% (Table-1). When LDL was evaluated according to statin use, 58.82% of patients with LDL between 0-69, 33.84% of patients between 70-99, and only 30.43% of patients with >100 were receiving statin therapy. When LDL levels were compared according to statin treatment, the chi-square test significance level was determined as p:0.009.

CONCLUSIONS: The basic parameter in the prevention of cardiovascular diseases begins with the determination of cardiovascular risk. Detection of coronary plaque documented by coronary angiography falls into the very high-risk category (1). There is a linear relationship between blood cholesterol levels and coronary artery disease. The primary aim of medical therapy in reducing cholesterol levels is to reduce LDL cholesterol levels, and statins are the most important means of achieving this (2). The LDL cholesterol target is <70 mg/dL in very high-risk patients, <100 mg/dL in high-risk patients, and <130 mg/dL in moderate-risk patients (3). Although the targets are clear, it remains unclear how far we have been able to reach these targets. In our study, we found that the number of patients who reached target LDL values with statin therapy was significantly higher in patients with a diagnosis of coronary artery disease. It should be noted that high lipid levels may cause recurrent cardiovascular events.

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ID: **10**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **ORAL**

A COMMUNITY-BASED, CROSS-SECTIONAL STUDY ASSESSING THE LEVEL OF AWARENESS AND INSIGHT RELATED TO CARDIOVASCULAR DISEASES

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Abstract

Objective

Objective: The disease outcome had been shown to improve with improving patient knowledge. The study had two objectives, firstly to assess the level of knowledge about cardiovascular diseases in the general population, and secondly, to provide written educational material regarding the risk factors, major symptoms, and the prevention of cardiovascular diseases.

Methods

The target population was the residents living in the Western Region of Saudi Arabia, aged 18 years and above. All were invited to participate voluntarily. A pre-structured questionnaire was designed to collect data related age, gender, marital status, education level, occupation, lifestyle habits, and a history of heart diseases, as well as cardiac symptoms, and risk factors. The educational material was provided after the questionnaire.

Results

The majority of the participants were female (74.8%). The risk factors most frequently identified were lack of exercise, stress and obesity. Chest pain was recognized as a major symptom (87.6%). Other symptoms included dyspnea, syncope and excessive sweating. The level of knowledge regarding the risk factors for cardiovascular disease was poor. Only 18.5% were knowledgeable about the risk factors. The majority (60%) could identify the preventable factors, including smoking cessation (92.2%), a high level of cholesterol (88.6%), and hypertension (78.7%). The majority (83.7%) read the educational material and 99% reported that the lecture increased their knowledge about cardiovascular disease.

Conclusion

Although cardiovascular risk factors are common, there is a big gap in the knowledge in our population. Further, alarming symptoms that bring the patients to medical care are also deficient. A call for action at different levels is urgent. Simple educational material in a basic language and virtual education is a useful and cheap tool that must be practice wherever possible. Education is welcomed by the participants.

ID: **201**

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

Presentation Type: **ORAL**

RESPIRATORY SYNCYTIAL VIRUS-ASSOCIATED HOSPITALIZATIONS OVER THREE CONSECUTIVE SEASONS IN TURKISH CHILDREN WITH CONGENITAL HEART DISEASE

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Background: Infant with hemodynamically significant congenital heart disease (CHD) are at elevated risk of morbidity and mortality due to respiratory syncytial virus (RSV). Palivizumab prophylaxis for RSV has been dependably reported to reduce the risk of hospital admissions related to RSV infection in children with symptomatic CHD. We aimed to assess the effectiveness of palivizumab prophylaxis to reduce the hospitalization in children at high risk of RSV infection.

Methods: We performed a retrospective single-center hospital-based study including three RSV seasons (October to March) from 2017 to 2020. A total of 212 infants (0-12 months:102; 12-24 months:110) with hemodynamically significant CHD who received Palivizumab prophylaxis and 210 infants with hemodynamically not significant CHD who did not undergo prophylaxis (0-12 months:101; 12-24 months:109) were included in the case control study.

Results: A total of 422 children were enlisted in the study over the three RSV consecutive seasons. Of them, about 38 (9.1%) hospitalized children and 9 (2.1%) RSV-positive children were identified. In patients without prophylaxis, the rate of overall lower respiratory tract infections (LRTIs) ($P < 0.002$), complicated LRTIs ($P = 0.005$), LRTI-related hospitalization ($P < 0.001$) and ICU admission ($P = 0.009$) were significantly higher than control patients.

Conclusion: These findings revealed significantly lower rate of overall and complicated LRTIs, LRTI-related hospitalization and ICU admissions in infants with CHD via palivizumab prophylaxis. Palivizumab is a well-tolerated, safe monoclonal antibody for the prevention of RSV infection when administered regularly without skipping doses to children with high-risk congenital heart disease during the RSV season.

Keywords: Congenital heart disease; palivizumab; respiratory syncytial virus; prophylaxis.

ID: **43**

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

Presentation Type: **ORAL**

INCREASED CIRCULATING COPEPTIN LEVELS ARE ASSOCIATED WITH VASO-OCCLUSIVE CRISIS AND RIGHT VENTRICULAR DYSFUNCTION IN SICKLE CELL ANEMIA

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Objective

Vaso-occlusive crisis (VOC) is a common clinical manifestation of sickle cell anemia (SCA) and is associated with increased proinflammatory mediators. Copeptin is the C-terminal part of the prohormone for pro-vasopressin and seems clinically relevant in various clinical conditions. Right ventricular (RV) dysfunction significantly appears in SCA patients due to pulmonary hypertension. This study aimed to investigate the association of copeptin levels in VOC patients and evaluate RV dysfunction.

Materials and Methods

A total of 108 patients were enrolled in the study. Twenty-eight SCA patients in steady state (30.210.9 years), 25 SCA patients in VOC (36.811.8 years), and 55 healthy individuals (31.99.4 years) with HbAA genotype were included. Clinical, echocardiographic, and laboratory data were recorded. ELISA was used for the determination of serum levels of copeptin.

Results

VOC patients had significantly higher copeptin level compared both with controls and SCA subjects in steady-state (22.6±13.0 vs. 11.3±5.7 pmol/l, 22.6±13.0 vs. 12.4±5.8 pmol/l, p=0.009 for both). Additionally, the copeptin level was significantly higher in SCA patients with RV dysfunction than those without RV dysfunction (23.2±12.2 vs. 15.3±9.5 pmol/l, p=0.024). Multiple logistic regression analysis revealed that hs-CRP and copeptin levels were found to be associated with VOC.

Conclusion

The study showed that copeptin and hs-CRP levels were increased in patients with VOC, and a significant relationship was found between RV dysfunction in VOC patients. As a conclusion copeptin can be used as a potential biomarker in predicting VOC crisis in SCA patients and in early detection of patients with SCA who have the potential to develop RV dysfunction.

ID: **151**

Topic: **Cardiology » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

THE RELATIONSHIP BETWEEN ISCHEMIA-MODIFIED ALBUMIN AND RHEUMATIC MITRAL VALVE DISEASE

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Abstract

Objectives

Rheumatic mitral valve disease (RMVD) is the most common presentation of rheumatic heart disease (RHD). Ischemia-modified albumin (IMA) is a marker of tissue ischemia and oxidative stress. Reactive oxygen species (ROS) generated during ischemia results in IMA formation. Here, we sought to investigate IMA levels in patients with RMVD as compared to control group.

Methods

Ninety patients with RMVD and 50 age, and gender-matched healthy subjects were enrolled in the study. IMA levels were measured using the rapid and colorimetric method with the albumin cobalt binding test.

Results

The patients with RMVD had higher systolic pulmonary artery pressure (SPAP) and left atrial (LA) diameter levels than the control group. IMA levels were higher in the RMVD group ((0.49 (0.44-0.55) vs. 0.58 (0.54-0.60)). There was a positive correlation between IMA with SPAP and LA diameter, but no correlation between IMA and mitral stenosis (MS) severity. IMA levels were similar between severe MS and mild to moderate MS patients.

Conclusions

To the best of our knowledge, this is the only study that evaluated IMA levels in patients with RMVD showing chronic oxidative stress in this patient group.

Keywords: Ischemia-modified albumin, Mitral stenosis, Rheumatic mitral valve disease

ID: **143**

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

Presentation Type: **ORAL**

THE DIETARY APPROACHES TO STOP HYPERTENSION DIET MAY HAVE PROTECTIVE EFFECTS AGAINST SLOW CORONARY FLOW.

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Background: Slow coronary flow is an important coronary angiographic phenomenon characterized by delayed progression of angiographic contrast media in the coronary arteries in the absence of obstructive coronary artery disease (CAD). The incidence of SCF ranges between 1% and 7% among patients who undergoes coronary angiography. It is known that SCF is associated with angina pectoris, myocardial infarction, sudden cardiac death and life-threatening arrhythmias. Behind this entity, there may be secondary factors like coronary artery stenosis, coronary artery ectasia, coronary artery spasm, valvular heart disease and connective tissue disorders, but the underlying pathophysiological mechanisms of primary SCF have not been clearly demonstrated by now. Potential underlying mechanisms like microvascular dysfunction, endothelial dysfunction, vasomotor dysfunction, small vessel dysfunction, diffuse atherosclerosis, inflammation, oxidative stress and increased platelet aggregability have been evaluated so far.

The Dietary Approaches to Stop Hypertension (DASH) diet is a nutritional model rich in fruits, vegetables, whole grains and low-fat dairy products that recommends moderate sodium intake and low intake of saturated fat, cholesterol and simple sugar. The DASH diet is thought to have potential benefits in terms of balancing blood pressure as well as diabetes, cancer and heart disease.

DASH diet has the potential effect prevent from coronary artery ectasia. In this study, we aimed to investigate the relationship between DASH diet and coronary artery ectasia.

Method: A total of 45 patients with SCF and 50 patients with normal coronary flow (NCF) were enrolled into the study prospectively. Three-day food consumption records of the patients were questioned. DASH diet compliance scale was used for patients. The achievement of nine nutrients to the targeted quantities with food consumption records was evaluated by scoring method (between 0 and 9 points). All data were compared between groups.

Results: Serum CRP levels ($p = 0.024$), white blood cell count ($p = 0.038$) and smoking rate ($p = 0.012$) were higher in SCF group. Mean DASH diet adherence score was lower in SCF group ($p < 0.001$). Multivariable logistic regression analyses demonstrated that DASH diet score and smoking were independently associated with SCF.

Conclusions: Low DASH diet score levels are closely associated SCF. DASH diet may have protective effects against SCF.

Oral Presentation Session

Pulmonary Arterial Hypertension: Novelties in Diagnosis and Treatment

Date: 05.11.2021 Time: 14.45 – 15:45 Hall: 4

ID: **180**

Topic: **Cardiology » Pulmonary Arterial Hypertension (PAH)**

Presentation Type: **ORAL**

BALLOON PULMONARY ANGIOPLASTY IN PATIENTS WITH INOPERABLE OR RECURRENT/RESIDUAL CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: A SINGLE-CENTRE INITIAL EXPERIENCE

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Background: Patients with inoperable chronic thromboembolic pulmonary hypertension (CTEPH) are often treated with pulmonary arterial hypertension specific drugs. However, despite medical treatment, most of these patients remain symptomatic. Balloon pulmonary angioplasty (BPA) is an emerging therapeutic intervention in patients with inoperable CTEPH. The aim of this study is to report the initial experience of BPA in a tertiary referral centre for CTEPH.

Methods: A total of 26 consecutive patients, who underwent 91 BPA sessions, were included in the study. All patients underwent a detailed examination including 6- minute walking distance (6MWD), and right heart catheterization at baseline and 3 months after the last BPA session.

Results: The mean age of the patients was 51±17 years. Fifteen patients had inoperable CTEPH, and 11 patients had residual or recurrent CTEPH post pulmonary endarterectomy (PEA). Functional class improved in 17 of 26 (65%) patients. The 6MWD increased from a mean 315±129 to 411±140 m, and NT pro-BNP reduced from a median 456 to 189 pg/ml. The number of patients who required supplemental oxygen decreased from 11 (42.3%) to 5 (19%) after BPA treatment. The mean pulmonary artery pressure decreased from a mean 47.5±13.4 to 38±10.9 mm Hg, the pulmonary vascular resistance decreased from a mean 9.3±4.7 to 5.8±2.8 Wood units, and the cardiac index increased from mean 2.4±0.7 to 2.9±0.6 L/min/m2.

Conclusions: BPA improves hemodynamics, 6MWD, functional class, and reduces the requirement for supplemental oxygen with an acceptable risk–benefit ratio in patients with inoperable CTEPH, and with residual/recurrent CTEPH

ID: **39**

Topic: **Cardiology » Electrocardiography and Noninvasive electrocardiology**

Presentation Type: **ORAL**

R WAVE PEAK TIME IS RELATED WITH EMBOLISM BURDEN IN PATIENTS WITH ACUTE PULMONARY EMBOLISM

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Objective: Hemodynamic collapse is a serious complication in patients with acute pulmonary embolism (APE), so the prompt diagnosis and risk stratification are crucial in such patients. Electrocardiography (ECG) may provide prognostic information in addition to clinical and imaging findings. We aimed to investigate the association between R wave peak time (RWPT) and embolism burden in patients hospitalized with APE in this study

Methods: This retrospective study enrolled 153 patients with APE admitted to a tertiary hospital. Data regarding the baseline demographics characteristics as well as laboratory, electrocardiographic, hemodynamic, and echocardiographic features of all patients were collected from hospital records . In the present study, patients were assigned to two groups according to the risk stratification according to recent pulmonary embolism guidelines. The first group included high-risk and intermediate-high risk APE patients, whereas the second group composed of intermediate-low and low-risk APE patients. RWPT was measured as the interval from the onset of QRS to peak R or R' wave on ECG.

Results: Baseline demographic features of patients were indifferent between two groups. The frequency of T wave inversion and S1S2S3 pattern were more prevalent in patients with high and intermediate-high risk APE (Table 1). There was a significant prolongation of RWPT in lead III in patients with high and intermediate-high risk APE compared to those with intermediate-low and low risk APE (p 0.002). Patients with RWPT in lead III >40 msc had higher in-hospital mortality than patients with RWPT in lead III <40 msc (p 0.015) (Figure 1).

Conclusions: RWPT may be a novel indicator of intermediate high or high risk profile in patients hospitalized with APE

	All Patients	High and intermediate -high risk (n: 76)	Low and intermediate-low risk (n: 77)	P value
Heart rate; /min	101±20	107±20	96±19	0.001
Atrial arrythmias, n %	19 (12.4%)	13(17.6%)	6 (7.8%)	0.081
Right axis deviation, n %	7 (4.6%)	5(6.6%)	2 (2.6%)	0.239
Right Bundle Branch Block,n %	26(16.3%)	14(17%)	12(15.6%)	0.799
T wave inversion, n %	53(34.6%)	33(43%)	20(26%)	0.023
ST segment depression, n %	51(33%)	23(30%)	28(36%)	0.424
ST segment elevation in lead V_1 n %	13(8.5%)	5 (6.6%)	8 (10.4%)	0.398
ST segment elevation in lead aVR n %	14 (9.2%)	5(6.6%)	9(11.7%)	0.279
$S_1Q_3T_3$ pattern, n %	33(21.6%)	18(23.7%)	15(19.7%)	0.527
$S_1S_2S_3$ pattern, n %	10(6.5%)	8(10.5%)	2(2.6%)	0.021
QRS duration, msn	100±20	102±20	100±20	0.461
R wave peak time in lead V_1, msn	50(38-75)	62(38-88)	50(25-75)	0.071
R wave peak time in lead V_{4-6}, msn	88(61-100)	88(75-100)	88(62-100)	0.858
R wave peak time in lead D_3, msn	100(50-125)	112(75-138)	75(50-112)	0.002

ID: **19**

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

Presentation Type: **ORAL**

GLOBAL LONGITUDINAL STRAIN HIGHLY CORRELATES WITH NT-PROBNP IN IDIOPATHIC PULMONARY ARTERIAL HYPERTENSION

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Aim: Speckle tracking echocardiography (STE) evaluates ventricular functions by assessing segmental and global muscle deformation. Idiopathic pulmonary arterial hypertension (IPAH) is a progressive disease which effects primarily the right side of the heart and leads distortion of geometry of right ventricle which reflects left ventricle (LV). Risk stratification composes the backbone of IPAH management. In present study we aimed to evaluate whether global longitudinal strain of LV (LVGLS) correlates with NT-proBNP which is a well-known risk stratification parameter.

Material and methods: Our study is a single center and cross-sectional study which includes 17 (13 female, 4 male) IPAH patients. Detailed echocardiographic examination, LVGLS calculation, laboratory tests and 6 minutes walking test were performed for each patients. The statistical correlation between LVGLS and NT-proBNP was calculated.

Results: Mean age of the study population was 47.2 ± 17.9. Mean LVGLS was -17.6±3.4. Median NT-proBNP was 342 (143-1312). LVGLS was found to be statistically highly correlated with NT-proBNP levels (r:0.786, p:<0.001).

Conclusion: LVGLS was found to be highly correlated with NT-proBNP in IPAH patients. Besides well-known risk classification parameters, GLS which is noninvasive, cheap and readily available echocardiographic parameter, can be used in risk assessment in IPAH.

Oral Presentation Session

Repolarization Abnormalities, AV Block and Beyond

Date: 05.11.2021 Time: 16:00 - 17:00 Hall: 4

ID: **71**

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

Presentation Type: **ORAL**

RISK ASSESSMENT USING HEART RATE VARIABILITY IN CHILDREN AND ADOLESCENTS WITH EARLY REPOLARIZATION ON ELECTROCARDIOGRAM

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Background: Early repolarization (ER) was considered as a benign ECG pattern previously, however, recent reports of patients, having this ECG pattern, with fatal arrhythmia and sudden death caused controversy.

We aimed to determine the prevalence of ER in children admitted to Marmara University Pediatric Clinics and to tried to investigate the risk of sudden death and arrhythmia in these patients using ECG parameters and heart rate variability on 24 hour Holter recordings.

Methods: Study group consisted of children between 6-18 years of age without any cardiac disorder who were found to have coincidental Early Repolarization on ECG. Control group included healthy children without Early Repolarization at the same age.

Children in study and control groups were evaluated with history, physical examination, echocardiography,12-lead ECG and 24-hour Holter monitorization. Risk assessment was performed using P wave dispersion, QTc dispersion, JT dispersion, Tp-e dispersion on ECG and “Time domain” parameters SDNN, SDANN, SDNN-i, r-MSSD, pNN50 and “Frequency domain” parameters HF, LF, VLF, LF/HF from 24-hour Holter recordings. All values were compared between study and control groups.

Results: Study group consisted of 13 girls and 19 boys between 7-18 years (Mean±SD=14.09±3.0), and control group 12 girls and 18 boys berween 7-18 years of age (Mean±SD=13.40±3.4).

Heart rate was lower in study group compared to control group (p=0.020). There was no difference between study and control groups in terms of P wave dispersion, QTc dispersion, and Tp-e dispersion. JT dispersion was higher in study group (p=0.025).

The diastolic thickness of interventricular septum was higher in study group on echocardiography (p=0.030).

LF/HF ratio was higher in study group (p=0.045). HF and LF/HF ratios measured while awake were also higher (p=0.046 , p=0.036). When study group was divided acording to age, JT dispersion and TP-e dispersion were higher in 7-12 age group comparing to controls (p=0.035 and p=0.025). In 12-18 age group, minimum heart rate was lower (p=0.021) and the awake LF/HF ratio was higher (p=0.028).

Heart rate variability parameters has increased in favor of parasympathetic activity in boys compared to girls. Children with J waves in the inferolateral leads had higher heart rate and lower SDNN and VLF in sleeping hours than those with J waves only in the inferior leads (p=0.049, p=0.040 and p=0.040).

Conclusions: We concluded that ER detected incidentally in children without cardiac disease does not carry an increased risk in terms of sudden death and arrhythmia, but is probably related to increased parasympathetic activity. ER detected in inferolateral leads may indicate a higher risk than those detected only in inferior leads.

ID: **166**

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

Presentation Type: **ORAL**

SUCCESSFUL INTRACARDIAC DEFIBRILLATOR IMPLANTATION IN A PATIENT WITH PERSISTENT LEFT SUPERIOR VENA CAVA SYNDROME

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Persistent left superior vena cava (LSVC) can be incidentally detected during pacemaker or ICD implantation through left pectoral side. We hereby report a case of persistent LSVC, who had successful single chamber implantable cardioverter defibrillator (ICD) implantation with dual coil active fixation lead.

Objective

The prevelance of persistant left superior vena cava syndrome in normal population is 0.3-0.5% and it is the most common venous return anomaly of the heart. In the early periods of embryologic life, left anterior cardinal veins obliterate to form anatomical remnants. Failure of this obliteration results in persistant left superior vena cava syndrome. Persistant left superior vena cava syndrome is mostly associated with other congenital heart defects such as ASD, VSD, coarctation of the aorta and also seen with atrial fibrillation.
Usually asymptomatic, the syndrome ise mostly diagnosed during an invasive procedure through the left subclavian vein or by cardiovascular imaging. In 2D echocardiography, the syndrome ise characterized by the dilatation of coronary sinus more than 1 cm. When agitated saline is infused through the left antecubital vein the contrast is seen first in dilated coronary sinus, then in right atrium. Since the lead is directed to the SVC or IVC in its natural course within the right atrium, it is technically challenging to direct the lead to the right ventricle in patients with persistent left superior vena cava.

Method / Results: 67 year-old female patient who had a myocardial infarction 6 months ago presented with depressed left ventricle ejection fraction of %20. An ICD was planned for primary prevention. An MRI was performed before the procedure with suspicion of an intracardiac mass. She was then diagnosed with persistant left superior vena cava syndrome. Persistent left superior vena cava trace was visualized by venography. No connection was seen between the left and right superior vena cavae. With the help of a U-angle stylet, the lead was first passed through the the left superior vena cava and coronary sinus and then adcvanced from the right atrium to the right ventricle. A wide loop was formed in the right atrium to direct the lead tip to the tricuspid valve. Active fixation was performed by placing the lead to the apex of the right ventricle with a few maneuvers. Connection was established between the device (Medtronic D354VRG Protecta XT VR (VVIR-D) and the lead, and the battery was implanted in the left pectoral region.During 6 months of follow-up he had a ventricular tachycardia attack lasting long duration and terminated with electrical shock firing from the ICD.Therefore amiodarone was started and metoprolol dosage was increased. Left ventricular assist device was implanted shortly before due to the deterioration of her clinical status and heart failure symptoms .She is still alive and closely followed up by our clinic.

Conclusion

In our report, we demonstrated successful single-chamber dual-coil lead ICD implantation with a left subclavian approach in a case of PLSVC.There is technical difficulty for finding of the optimal sensing and pacing site in such situation . Lead stability is another problem because of the unusual cardiac anatomy. Therefore, active fixation right ventricular lead usage is regarded as mandatory.

ID: **26**

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

Presentation Type: **ORAL**

CHARACTERIZATION AND IMPLICATIONS OF CONDUCTION BLOCKS IN ACUTE CORONARY SYNDROME: LONG-TERM FOLLOW-UP

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Objective: Arrhythmias are a common, potentially lethal, and treatable complication of myocardial infarction. Arrhythmic findings of ischemic cardiac events are well-known, but long-term findings were not under scrutiny. We aim to analyze long-term follow-up findings of atrioventricular block in acute coronary syndrome patients in the study.

Methods: This is a single-center, review study of patients who have admitted acute coronary syndrome with atrioventricular block. The primary endpoint was the combined outcome of major adverse cardiovascular events and mortality.

Results: Two (2.4%) patients had 1st-degree, two (2.4%) 2nd-degree type-1, five (5.9) 2nd-degree type-2, 76 (89.4) 3rd-degree atrioventricular block. Fifty (58.8%) patients needed temporary ventricular pacing, four (4.7%) for permanent pacemakers. The mortality ratio was 30.6% (26). Only one patient died after discharge, which is caused by a non-cardiac event. On multivariate analysis, patients with higher age and lower admission systolic blood pressure levels had higher mortality rates (respectively OR 1.088, ($p = 0.003$), OR 0.912, ($p < 0.001$)). Even in ST-segment elevation myocardial infarction and complete atrioventricular block subgroup analyses mortality rates are associated with systolic blood pressure and age [respectively, OR 0.917, $p < 0.001$, OR 1.107 $p = 0.002$], [respectively OR 0.917 ($p < 0.001$), age (OR 1.087 $p = 0.004$)].

Conclusions: In the five-year follow-up period there is no death occurred. Hence, acute coronary syndrome patients with atrioventricular block may be associated with a better long-term overall prognosis. And lower systolic blood pressure and older age conferred a worse outcome in acute coronary syndrome patients with atrioventricular block.

ID: **200**

Topic: **Cardiology » Cardiac Resynchronization Therapy**

Presentation Type: **ORAL**

RESULTS OF ABSORBABLE ANTIBACTERIAL ENVELOPE USAGE IN CARDIAC IMPLANTABLE ELECTRONIC DEVICE INFECTIONS: 3 CASES AND REVIEW OF LITERATURE

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Objective: Infections of cardiac implantable electronic devices (CIED) have become a nuisance in the cardiology clinics. Removal of the leads together with the device battery is the current recommended approach when systemic infection is detected. In case of superficial pacemaker pocket infections absorbable antibacterial envelopes may be used in conjunction with other measures.

Methods: 3 cases of pacemaker pocket infections are presented. The first patient had a CRT-D device and local erythema and edema in the pacemaker pocket. The 2nd patient had erosion and the ICD could be seen from outside, but no pus was visible. The 3rd patient also had local erosion on the pacemaker. Under local anesthesia, in sterile conditions, the device batteries were taken out of the pockets. The pockets were cleansed using povidone iodine and antibiotic solutions. Then new device batteries were placed in the absorbable antibacterial envelopes and the pockets were closed. Cultures were taken from inside the pocket, and the results were consulted with the infectious disease specialist. The patient received oral antibiotics if recommended.

Results: All patients were followed for a year. Two of them developed signs of local or systemic infection and the whole pacemaker systems had to be removed. One patient remained symptom free, and blood tests showed no sigh of infection.

Conclusions: Absorbable antibacterial envelopes are used worldwide both in prevention and treatment of local CIED infections. They may be useful in some cases, however they are not sufficient on their own for local infections and further measures, such as total removal of the infectious material from the pocket, cleansing with specific solutions, long term antibiotic treatments are mandatory.

ID: **251**

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

Presentation Type: **ORAL**

EVALUATION OF VENTRICULAR REPOLARIZATION PARAMETERS IN CHILDREN WHO RECEIVE PROTON PUMP INHIBITOR TREATMENT DUE TO DYSPEPSIA

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Objective: Proton pump inhibitors are widely used agents in the treatment of patients with dyspepsia and their effects on ventricular repolarization through ion channels are known. Our aim is to evaluate the variability of ventricular repolarization parameters in electrocardiography before and after proton pump inhibitor therapy.
Methods: Fourty-six patients who had symptoms such as burning stomach pain, bloating, nause and heartburn for at least 3 months, who had not received any medical treatment in the last two weeks, who had no known chronic disease and no electrolyte disorder were included in this study. Electrolyte levels of the patients were measured before and after treatment, and 12-lead electrocardiograms were taken at the first month visit. Heart rate, QT interval, corrected QT (QTc), QT dispersion (QTd), QTc dispersion (QTcd), with Tp-e measurements, Tp-e / QT, Tp-e / QTc, Tp-e max / QT max ratios calculated and compared.
Results: Thirty-nine of the patients included in the study were girls, 7 were boys, and the mean age was 14.26 ± 3.29 years. Electrolyte levels of the patients before and after the treatment were within the normal range. There was no statistically significant difference in the QTc and Tpe duration of the patients before and after the treatment. However, the Tp-e / QTc ratio was found to be statistically significantly higher after treatment than before ($p < 0.001$).
Conclusions: We did not find a significant prolongation in QTc duration after proton pump inhibitor treatment in children with dyspepsia, but we found a statistically significant increase in the Tp-e / QTc ratio. Despite this increase, we did not observe ventricular arrhythmia in our patients during follow-up. These patients may have an increased risk of developing ventricular arrhythmias. Therefore, precaution should be taken when using drugs that prolong the QT period, and follow-up with serial electrocardiogram should be planned.
Keywords: Dyspepsia, proton pump inhibitor, ventricular repolarization, QTc, Tp-e

ID: **29**

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

Presentation Type: **ORAL**

IS THERE A LINK BETWEEN VENTRICULAR ARRHYTHMIAS AND MODERATE ALCOHOL CONSUMPTION IN SPORTSMEN?

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Objective: Information regarding the effect of low to moderate alcohol consumption on the heart is conflicting. Sportsmen are more prone to arrhythmias due to cardiac dilation and hypertrophy. In this study, we aimed to investigate the effect of low to moderate alcohol consumption on arrhythmia parameters in men who regularly do sports.

Methods: A total of 91 consecutive male athletes who exercise regularly were included in the study. 12-lead electrocardiograms were taken of 42 athletes (31.3±6.3) who used one or two glasses of alcohol a day and 49 athletes (30.2±7.8 years) who never consumed alcohol. All participants underwent an exercise test and their basal systolic and diastolic arterial blood pressures (ABP) and heart rates were recorded. Ventricular arrhythmias developing during exertion were recorded.

Results: There was no difference between the two groups in terms of demographic characteristics. Systolic blood pressure (125.7±3.3 vs 118.1±12.9, p=0.007), QT (45.0±16.1 vs 37.4± 12.1, p=0.008) and cQT (47.2±16.1 vs 39.9±12.4, p=0.016) dispersion, and ventricular extrasystoles (3.8±9.8 vs 1.2±2.0, p=0.027) were higher in the alcohol-consuming group. In multivariable regression, analyzes showed alcohol consumption was found to be a possible independent risk factor for systolic ABP (OR:1.051, 95% CI [1.014-1.091], p=0.007), QT dispersion (OR:1.165, 95% CI [1.009-1.073], p=0.048) and ventricular extrasystole (OR:0.859, 95% CI [0.751-0.984], p=0.028).

Conclusion: This study showed that sportsmen with moderate alcohol consumption were under the increasing risk of systolic ABP, QT dispersion and ventricular extrasystole. It was thought that the underlying pathogenetic mechanism could be caused by alcohol to increase sympathetic activation, to change the balance of ion channels in the sarcolemma, and to changes in ventricular repolarization time. Even low to moderate consumption of alcohol can have adverse effects on arrhythmia parameters.

ID: **128**

Topic: **Cardiology »Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **POSTER**

THE EPICARDIAL POSTEROSEPTAL ACCESSORY PATHWAY ABLATION ON THE NECK OF CORONARY SINUS DIVERTICULUM

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A 40-year-old woman without medical history of structural heart disease was referred to our institution for frequent symptomatic narrow narrow QRS tachycardia episodes. The patient had previously underwent an unsuccessful endocardial right posteroseptal accessory pathway ablation. The patient continued to suffer palpitations. Transthoracic echocardiography was normal. Stress testing revealed no ischemia. Her complete standard blood tests were unremarkable. Resting ECG was consistent with a posteroseptal accessory pathway (Fig. 1a).

After obtaining informed consent, the patient was transferred to the catheter laboratory. The procedure was performed under general anesthesia. A decapolar catheter was inserted into the coronary sinus (CS) and a quadripolar ablation catheter (RF Marinr) was placed in the right atrium from femoral vein. Intracardiac recordings were consistent with a posteroseptal accessory pathway. Atrioventricular re-entrant tachycardia (AVRT) was induced by programmed atrial stimulation. Mapping of the posteroseptal region of tricuspid annulus was performed during AVRT or during sinus rhythm. The earliest AV/VA site was on posteroseptal tricuspid annulus. Ablation catheter was advanced to this site. Despite repeated radiofrequency (RF) applications, pre-excitation did not disappear. Therefore, we decided to ablate the accessory pathway from the left ventricular site. The ablation catheter was introduced via the femoral artery and placed under the mitral valve close to the annulus. Applications of RF energy delivered in the posteroseptal region of the mitral annulus failed to eliminate the accessory pathway.

We came back again to the right atrium and CS venography was performed. It demonstrated a diverticulum inserting into the proximal CS with a narrow neck (Fig. 1b). The ablation catheter was repositioned in the neck of the diverticulum and recorded an early retrograde atrial signals. RF ablation in this area was performed but we could not achieved successful abolition of ventriculoatrial conduction. Then we decided to proceed with epicardial ablation.
Epicardial access was obtained via a subxiphoid approach. The Tuohy needle was advanced under radiologic guidance toward the heart, pointing the needle toward the left shoulder. The needle location was confirmed by contrast injection and pericardial space was entered successfully on the first attempt. A guidewire was advanced into the pericardial space, and the needle was exchanged with a 12-F steerable sheath. Contrast injection confirmed the sheath's position in the pericardial space. The ablation catheter (Thermocool SmartTouch) was introduced through the sheath and placed over the neck of the CS diverticulum directly opposite the endocardial ablation catheter (Fig 1c). Thereafter, to avoid coronary artery injury, we performed selective coronary angiography. The tip of the catheter was found to be at a safe distance from the coronary arteries (Fig 1d,Fig 1e). RF energy was started with 30W by using an irrigated tip ablation catheter. Pre-excitation was immediately eliminated during RF application. After RF ablation, there was no pre-excitation and VA conduction was decremental during ventricular pacing (Fig 1f).
The next day the patient was discharged with oral administration of aspirin for a month. During the next 6 months of follow-up, Holter monitoring revealed no pre-excitation and the patient remained asymptomatic.

Oral Presentation Session

Heart Failure: New Therapeutic Options and Outcomes

Date: 05.11.2021 Time: 17:15 – 18:15 Hall:4

ID: **222**

Topic: **Cardiology » Management of Atrial Fibrillation**

Presentation Type: **ORAL**

MAINTAINING SINUS RHYTHM IS MORE THAN JUST ATRIAL KICK FOR TACHYCARDIA INDUCED CARDIOMYOPATHY PATIENTS!

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OBJECTIVE: Atrial fibrillation (AF) is an arrhythmia that can cause left ventricular dysfunction. In the presence of both atrial fibrillation and left ventricular dysfunction, determining whether atrial fibrillation is the cause or the result is essential in planning the treatment. If the cause is atrial fibrillation, it is called “tachycardia-induced cardiomyopathy” (TIC), and this condition can be treated by terminating atrial fibrillation. The aim of our study is to discuss the definition and treatment of TIC in the light of the patients treated with the diagnosis of TIC in our center.

METHODS: Patients with atrial fibrillation rhythm and left ventricular dysfunction (EF <30%) who applied to the transplant outpatient clinic between October 2019 and April 2021 were evaluated for possible TIC diagnosis. Medical, interventional or surgical restoration of sinus rhythm is planned for patients in AF rhythm whose other causes of cardiomyopathies (ischemic CMP, arrhythmogenic right ventricular dysplasia, noncompaction cardiomyopathy, etc.) have been excluded.

RESULTS: Intervention was recommended to six long-standing AF patients with a preliminary diagnosis TIC. The mean age of the patients was 51 ± 7, mean EF was 22 ± 3, and left atrium size was 49 ± 3 cm. One of the patients had a history of 2 failed catheter-based AF ablation procedures. Four patients had NYHA class III/IV symptoms.

A sinus rhythm restoration procedure was performed in three patients and sinus rhythm was achieved in all. Sinus rhythm was maintained with D/C cardioversion in one patient and Cox Maze IV operation in two patients. Indications for operations were the history of recurrent failed catheter ablation in one patient and the presence of left atrial thrombus resistant to anticoagulation in the other patient. The mean age of the patients was 50 ± 3, EF was 25 ± 3, and left atrium size was 51 ± 2 cm. During the mean follow-up period of six months, all patients were followed in sinus rhythm and the EF of the patients increased to 55%.

There are thrombi in the left atriums of 3 patients who have not been treated yet. An interventional or surgical procedure will be considered following effective anticoagulation.

CONCLUSIONS: Restoration of sinus rhythm in tachycardia induced cardiomyopathy patients provides significant improvement in left ventricular functions. Surgical ablation is a valid option in the presence of failure or contraindication to medical or interventional procedures. It is important to increase the awareness of this option in the cardiology and surgical community.

ID: **155**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **ORAL**

EVALUATION OF THE CHANGE IN JT AND JTP INTERVAL AFTER ANGIOTENSIN RECEPTOR NEPRILYSIN INHIBITOR IN PATIENTS WITH REDUCED EJECTION FRACTION HEART FAILURE

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Objective: Heart failure (HF) is a chronic and progressive disease that is a rapidly increasing and important health problem Fatal arrhythmias are one of the most important causes of mortality in HF patients. Sacubitril-valsartan is an angiotensin receptor neprilysin inhibitor (ARNI) combination. Recently, it has been known that ARNI treatment reduces mortality in patients with reduced ejection fraction heart failure (HFrEF). It is also known to reduce mortality due to arrhythmias. The JT interval is from the J point (the junction between the termination of the QRS complex and the beginning of the ST segment) to the end of the T wave in the 12-lead electrocardiography (ECG). It only reflects ventricular repolarization. Its measurement is simply the difference between the QT and QRS interval (JT interval = QT-QRS). Studies have shown that there is a relationship between prolongation of JT duration and fatal ventricular arrhythmias. In a study, it was observed that the JT interval was longer in postmyocardial infarction patients with ventricular conduction delay and ventricular tachycardia sensitivity compared to the control group. It has been suggested that the JT interval is a more specific repolarization marker than the QT interval in patients with wide QRS and that the JT interval should be measured. We aim to examine the effect of ARNI use on JT and JTp (JT peak) durations in patients with HFrEF.

Methods: Thirty-eight patients with known HFrEF history were included in the study. Demographic and laboratory data of patients were examined. Atrial fibrillation and pacemaker rhythm were excluded. The ECGs of the patients before the ARNI treatment and at the 2nd month were examined and compared with each other.

Results: The median age of the study population was 59.0 (45.5 – 70.2, IQR) years and 26 (68.4 %) of them were male. At the end of 2 months, a significant decrease were observed in JT ($p = 0.003$), JTp ($p = 0.019$), corrected JT ($p < 0.001$), corrected JTp ($p = 0.003$) and T-peak to T-end intervals ($p = 0.005$) compared to baseline. Also, a significant increase was observed in EF compared to baseline ($p < 0.001$) (Table 1).

Conclusions: Significant decreases in JT and JTp intervals were observed with ARNI treatment in patients with HFrEF. This may give clinicians an idea in predicting a possible ventricular arrhythmia in these patients.

ID: **182**

Topic: **Cardiology »Chronic heart failure**

Presentation Type: **ORAL**

KNOWLEDGE AND ATTITUDES TOWARD VENTRICULAR ASSIST DEVICE (VAD) IN PATIENTS WITH ADVANCED HEART FAILURE

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Objective: Heart transplantation (HT) is still the therapy of choice for patients with refractory advanced heart failure (HF). However, the shortage of appropriate donor organs and the expanding number of patients on waiting lists for HT have led to search for alternative strategies. Mechanical circulatory support with a ventricular assist device (VAD) is a life-saving therapy for patients with advanced HF who fail to improve or stabilize with conventional treatments. Patients' good knowledge and positive attitude play key roles in the process of decision making and coping with diseases and treatments. In this study we aimed to evaluate the status of advanced HF patients' knowledge, attitude towards the VAD so as to provide clues on what can be done to improve the outcomes in these patients.

Methods: This cross-sectional study was conducted in a single-center and 70 consecutive patients with advanced HF who were referred for evaluation of HT/VAD were included. The participants' socio-demographic characteristics, knowledge and attitudes towards the VAD were collected by a self-designed questionnaire prepared in the light of literature. Knowledge is measured by 10 items and presented as a 10 point score. Data were analyzed using descriptive statistics and independent samples t-test, and chi-square test.

Results: The mean age of the patients was 50.6±9.7 years (24-66). 35.7% of the patients reported that they had knowledge about VAD and 46.0% of these patients believed that their knowledge was not sufficient. Only 21.4% of the patients were informed by the physician/nurse. 61.4% of the patients reported that the VAD would negatively affect their body image, and 74.3% had fears and concerns about the VAD. Knowledge score of the patients who were informed by the physician/nurse about VAD compared to other sources was significantly higher (7.2±1.4 vs. 4.5± 2.3, $p>0.001$). Knowing the benefits of VAD was significantly higher in the patients who reported that they had knowledge about VAD compared to those who had no knowledge (76.0% vs. 20.0%, $p<0.001$). Moreover, knowing the benefits of VAD in patients who were informed by the physician/nurse was significantly higher compared to those who had access to information from other sources (86.7% vs. 27.3%, $p<0.001$).

Conclusions: Almost one-third of the patients had knowledge about VAD, but most of them had a fears and concerns. It is crucial to address the knowledge deficits of the patients by the specialized physician/nurse in VAD to improve the knowledge and attitude towards it.

Key words: Advanced heart failure; ventricular assist device; knowledge; attitude.

ID: **50**

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

Presentation Type: **ORAL**

THE IMPACT OF ATRIAL FLOW REGULATOR (AFR) IMPLANTATION ON HEMODYNAMIC PARAMETERS IN PATIENTS WITH HEART FAILURE

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Background: Left atrial decompression has emerged a new option to decrease left ventricular pressure (LVP) in patients with heart failure. Here we report the impact of AFR implantation on hemodynamic parameters in heart failure patients with heart failure with reduced (HFrEF) or preserved ejection fraction (HFpEF) at our center.

Methods: The PRELIEVE trial is designed to assess the safety and efficacy of the AFR in patients with HFrEF or HFpEF. Patients with left ventricular end-diastolic pressure (LVEDP) ≥15 mmHg at rest, or ≥25 mmHg during exercise and with an ejection fraction (EF) ≥15% were enrolled. Echocardiographic features, 6-minute walking distance (6MWD), Kansas City Cardiomyopathy Questionnaire (KCCQ), and brain natriuretic peptide (BNP) levels were assessed prior to, after, and at 3 months after implantation. Invasive hemodynamic assessment was performed during AFR implantation (pre- and post-implantation) and at 3 months.

Results: Twenty-seven (69.2%) patients with HFrEF and 12 (30.8%) patients with HFpEF were enrolled at our center in this study. Significant decrease was observed in pulmonary arterial wedge pressure (PAWP) regardless of EF (p=0.007 for HFrEF and p=0.03 for HFpEF). No significant difference of mean pulmonary arterial pressure (mPAP), right arterial pressure (mRAP) and cardiac output (CO) existed at 3 months compared with baseline (Figure 1,2 and Table 1).

Conclusion: AFR implantation led to decrease in left ventricle filling pressure without the deleterious impact on cardiac output and right heart functions regardless of EF.

Keywords: Atrial Flow Regulator, Diuretics, Device, Dyspnea, Edema, Heart Failure, Interatrial Shunt, Quality of Life.

ID: **2**

Topic: **Cardiology »Cardiac Resynchronization Therapy**

Presentation Type: **ORAL**

THE EVALUATION OF THE RESPONSE TO CARDİAC RESYNCHRONİZATİON THERAPY İN PATİENTS WİTH DİLATED CARDİOMYOPATHY BY USİNG FRAGMANTED QRS

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Objectives

Although cardiac resynchronization therapy (CRT) is an effective treatment in heart failure patients with ventricular dyssynchrony, identifying the patients who are suitable for this procedure is difficult. Fragmented QRS (fQRS) complex is a myocardial conduction abnormality that indicates myocardial scar. The aim of this study is to investigate the response of non-ischemic dilated cardiomyopathy (CMP) patients to CRT,by using fQRS.

Materials and Method

A total of 56 patients were enrolled in the study. The study group included 26 women (46.5%) with a mean age of 57,5 ±9,7. 32 of the patients had fQRS (57.1%) and 24 of them had no fQRS(46.9%) on electrocardiography (ECG). fQRS was defined as the presence of additional R' waves or a notch in the nadir of the R or S wave (fragmentation) in two contiguous leads corresponding to a coronary territory in a routine 12-lead ECG. 50 patients (89.3%) had normal sinus rhythm with complete left bundle branch block (LBBB) and 6 (11.7%) had normal sinus rhythm with complete right bundle branch block (RBBB). All of the patients had left ventricle ejection fraction (LVEF) less than 35% and their functional status were class II-IV according to New York Heart Association (NYHA) despite optimal medical treatment. The two groups with or without fQRS were evaluated before and 10 ± 2.7 months after CRT by using QRS duration, NYHA class, hospitalization, LVEF and left ventricle end-diastolic diameter.

Results

At follow-up period in fQRS present and absent group; the baseline QRS durations were 153.2 ± 11.0 vs. 150.5 ± 16.9 ms, p= 0.46 and 125.9 ± 13.6 vs. 123.9 ± 15.3 p= 0.61 after CRT; change in LVEF 9.8 ± 9.2 vs. 6.6 ± 4.2, p=0.12, NYHA class 2.94 ± 0.50 vs. 2.79 ± 0.51, p= 0.29 before and 2.10 ± 0.58 vs. 2.02 ± 0.56, p= 0.57 after CRT ; hospital admissions 2.09 ± 2.49 vs. 1.16 ± 1.80 p: 0.12 and 0.72 ± 1.63 vs. 0.71 ± 1.48, p= 0.98; respectively. No statistical difference was found between two groups.

We found that in patients with non-ischemic dilated CMP, fQRS was not related with the parameters such as QRS duration, LVEF improvement, change of functional status or hospitalization rates.

Conclusion

In CRT patients, the presence of fQRS at baseline is not associated with CRT response.

ID: **22**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN ATRIAL FIBRILLATION AND MORTALITY IN CHRONIC HEART FAILURE-SINGLE-CENTER REGISTRY IN TURKEY

Gülsüm Meral YILMAZ ÖZTEKİN, Ahmet GENÇ, Göksel ÇAĞIRCI, Şakir ARSLAN

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OBJECTIVE: Heart failure (HF) and atrial fibrillation (AF) are both associated with increased morbidity and mortality, and increasing age, hypertension, diabetes, and ischemic heart disease are predisposing factors for both. We aimed to show the relationship between AF and mortality in chronic HF.

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 HF were included in the study. The demographic, laboratory and clinical findings of patients with sinus rhythm and AF rhythm were compared. The relationship between the rhythm of the patients and mortality was evaluated.

RESULTS: 1141 patients were included in the study. 921 (80.7%) of the patients were in sinus rhythm and 220 (19.3%) in AF. Atrial fibrillation was more common in women (24.2% vs 17.3%, p = 0.007). Compared with patients with HF in sinus rhythm, those in AF were older (p <0.001), duration of HF was longer (p<0.001). Systolic and diastolic blood pressure, angiotensin converting enzyme/angiotensin receptor blocker usage ratio, estimated glomerular filtration rate, albumin, calcium, hemoglobin and transferrin saturation were significantly lower in the AF group, while heart rate, frequency of non-ischemic cardiomyopathy, uric acid, parathormone level, N- terminal brain natriuretic peptide was higher, C-reactive protein, left atrial diameter, left ventricular diastolic diameter and systolic pulmonary artery pressure were higher (Table 1). A multivariate logistic regression model for the presence of AF, age (OR: 1.04, 95% CI: 1.029--1.06, p <0.001), heart failure duration (OR: 1.004, 95% CI: 1.001--1.006, p = 0.008), left atrium diameter (OR: 1.12, 95% CI: 1.09-1.149, p <0001) pulmonary artery pressure (OR: 1.017, 95% CI: 1.009-1.025, p <0001) were independent factors. While 227 deaths occurred at follow-up, the number of deaths was significantly higher in the AF group (p = 0.001). The Kaplan-Meier curve showed that the survival rate in AF was significantly lower than in sinus rhythm (Log-rank: p = 0.004) (Figure 1).

CONCLUSIONS: The presence of AF in HF was found to be associated with increased mortality. Therefore, treatment options that will improve mortality in patients with AF should be determined.

Table 1 Baseline characteristics of patients with heart failure in atrial fibrillation and sinus rhythm

Variable	All patients (n=1141)	Heart failure and atrial fibrillation (n=220)	Heart failure and sinus rhythm (n=921)	P value
Age (years)	64 (54-73)	72 (61-79)	63 (53-71)	<0.001
Female (n,%)	326 (28.6)	79 (35.9)	247 (26.8)	0.007
Heart failure duration (months)	12 (2-57.5)	24 (3-84)	12 (2-48)	<0.001
Systolic blood pressure (mmHg)	110 (100-130)	110 (100-120)	110 (100-130)	0.002
Diastolic blood pressure (mmHg)	60 (60-80)	60 (60-70)	65 (60-80)	0.009
Heart rate(beat/min)	76 (68-87)	84 (73-98)	75 (67-85)	<0.001
NYHA I-II NYHA III-IV	863 (75.7) 278(24.3)	137 (92.3) 83 (37.7)	626 (78.8) 195 (21.2)	<0.001
Hypertension, n (%)	607 (53.2)	124 (56.4)	483 (52.4)	0.295
Diabetes, n (%) Non-Ischaemic cardiomyopathy (n %)	454 (39.8) 487 (42.7)	83 (37.7) 120 (54.5)	371 (40.3) 367 (39.8)	0,487 <0.001
ACE-inhibitor/ARB (n,%)	919 (80.5)	155 (70.4)	764 (83)	<0.001
Beta-blockers (n,%)	1059 (92.8)	200 (90.8)	859 (93.3)	0.224
eGFR (mL/min/1.73m^2)	65 (49.7-87)	55.4 (42.4-70.6)	67.3 (51.7-81.9)	<0.001
Albumin (g/dL)	4,2 (3.9-4.5)	4 (3.6-4.3)	4.2 (3.9-4.5)	<0.001
Sodium (mmol/L)	138.5 (136-140)	138 (136-140)	139 (136-140)	0.399
Uric acid (mg/dL)	6.9 (5.7-8.5)	7.4 (6.3-9.1)	6.7 (5.6-8.2)	<0.001
Calcium (mg/dL) Hemoglobin (g/dL) Ferritin (µg/L)	9.4 (9-9.8) 13.1 (11.6-14.5) 61 (31-109)	9.3 (8.9-9.75) 12.65 (11.2-14.1) 50.5 (29-93)	9.4 (9-9.8) 13.2 (11.8-14.5) 62 (31-112)	0.033 0.002 0.160
Transferrin saturation (%)	18.9 (12.06-26.72)	15.64 (10.63-24.88)	20.05 (12.65-27.56)	0.006
Parathyroid hormone (ng/L)	62.5 (42-94)	93 (59.25-130.75)	58 (40.25-85.75)	<0.001
25-hydroxy-vitamin D	18.1 (12.48-25.23)	19.2 (13.34-28.93)	18.03 (12.12-24.78)	0.117
NT-proBNP (ng/L) CRP (mg/dL)	1826 (668-4483) 5 (2-11)	3573 (1859-6575) 6(2.5-13)	1456 (500-3732) 4.9 (2-11)	<0.001 0.013
LV ejection fraction (%)	30 (25-35)	30 (20-35)	30 (25-35)	0.623
LA diameter(mm)	45 (41-49)	49 (46-55)	44 (40-48)	<0.001
LV diastolic diameter (mm)	58 (53-63)	56 (52-62)	58 (53-63)	0.04
sPAP (mmHg)	35 (5-50)	45 (35-55)	30 (5-46)	<0.001

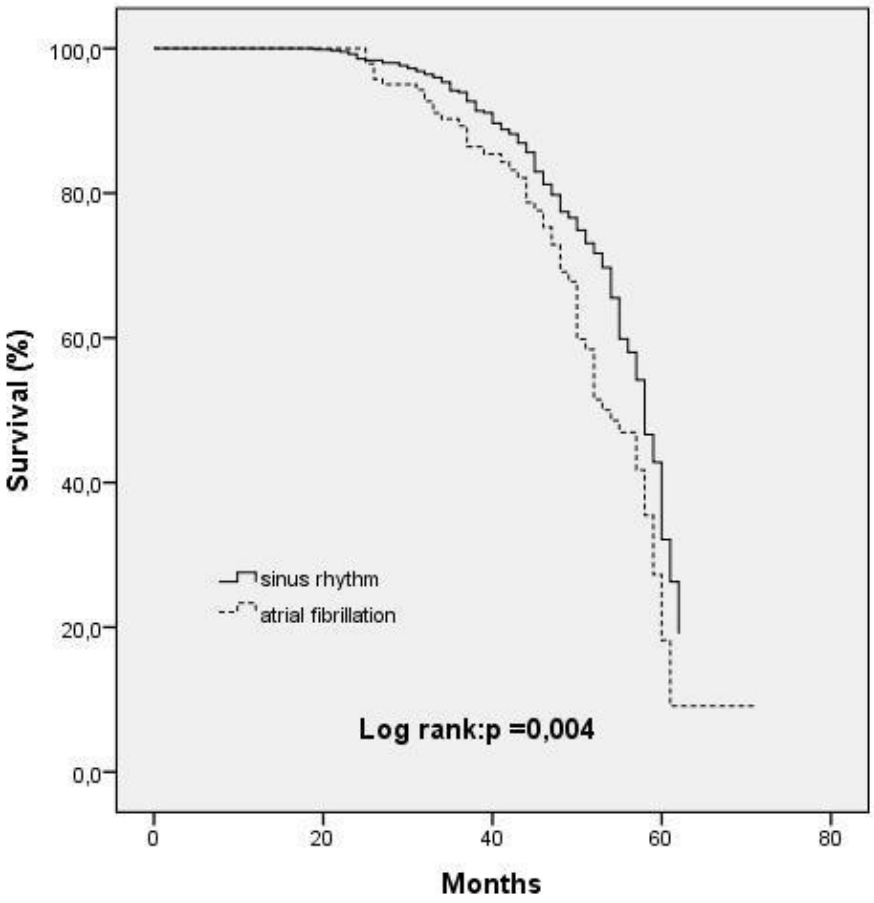

Figure 1 Survival for all-cause mortality according to heart rhythm.

Oral Presentation Session

Multifaceted Aspects of Atrial Fibrillation

Date: 05.11.2021 Time: 18:30 – 19:30 Hall: 4

ID: **122**

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

Presentation Type: **ORAL**

EVALUATION OF THE EFFECTS OF OBESITY AND EPICARDIAL FAT TISSUE ON THROMBUS DEVELOPMENT IN THE LEFT ATRIUM IN PATIENTS WITH ATRIAL FIBRILLATION

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Objective: Although obesity increases the frequency of atrial fibrillation (AF), there are studies showing better survival in obese AF patients. This is defined as the “paradox of obesity”. In this study, we aimed to evaluate the relationship between obesity and thrombus formation in patients with non-valvular AF.

Materials and Methods: 127 patients with non-valvular AF who underwent transesophageal echocardiography (TEE) prior to cardioversion and/or catheter ablation in the last 6 months were included in the study. Patients were divided into two groups according to the presence of thrombus in the left atrial appendix. The body mass index (BMI) was calculated and the patients were divided into two groups as obese and non-obese. Waist circumference measurements were also performed. In addition, the thickness of epicardial adipose tissue in front of right ventricular free wall was calculated by 2D transthoracic echocardiography (TTE).

Results: The mean age of the patients was 65.82 ± 11.68 years. 48 of the cases (37.8%) were female and 79 (62.2%) were male. There was no significant difference between the groups with and without thrombus in terms of epicardial fat tissue thickness (p = 0.63). In contrast, BMI (p=0.06) and waist circumference (p=0.08) tended to be less in patients with thrombus. When the data were corrected according to age, sex, CHA_2DS_2-VASc score and epicardial adipose tissue thickness, the probability of thrombus development was significantly reduced in obese (p = 0.05).

Conclusion: To our knowledge, this is the first study to evaluate the relationship between obesity and the presence of thrombus in patients with non-valvular AF by considering BMI, waist circumference and epicardial fat tissue thickness. In our study, we found that the possibility of thrombus development in the left atrial appendix is reduced in obese patients. This result was consistent with the “obesity paradox”.

Figure 1: Epicardial adipose tissue thickness

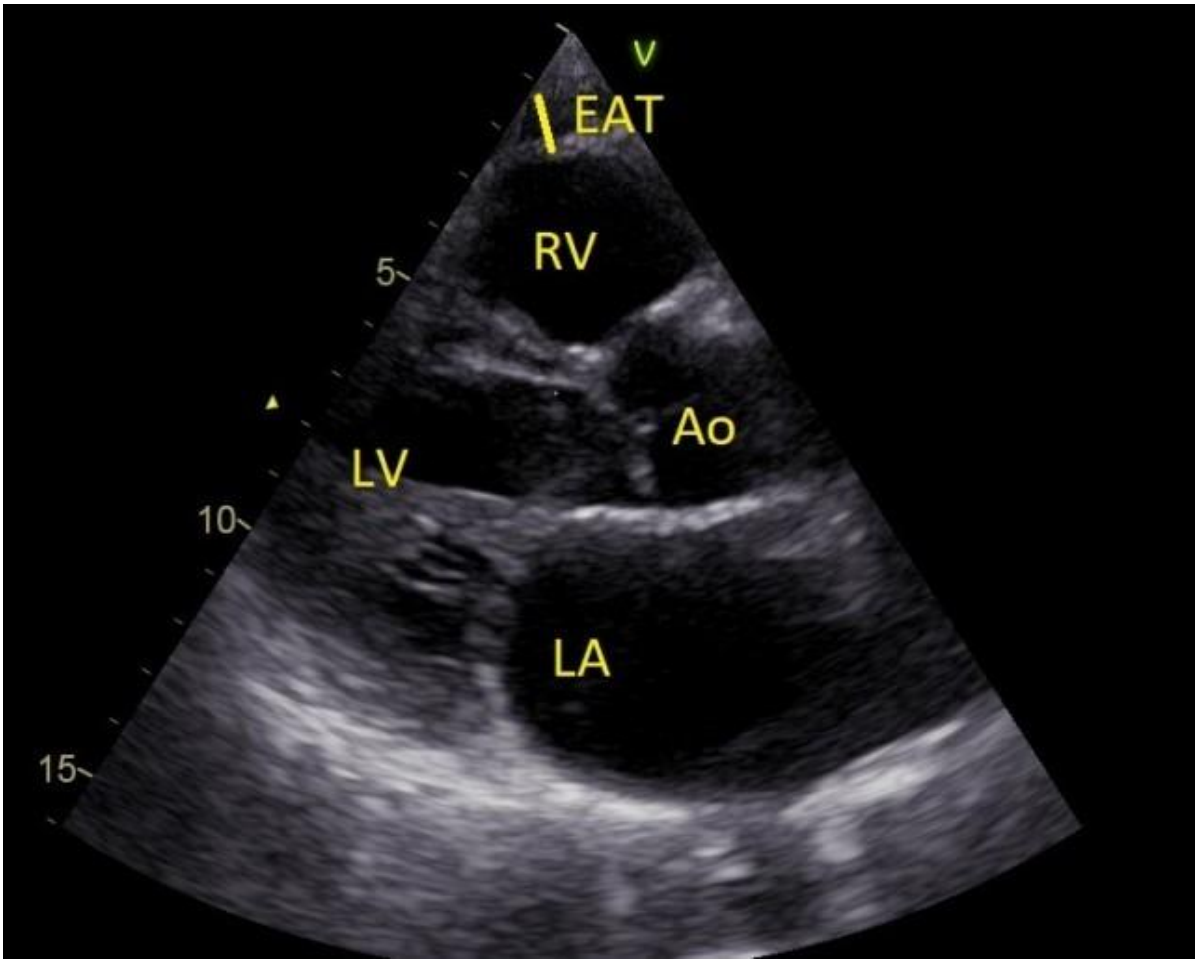

Table 1 : Baseline characteristics of study participants

	Obese (n=58)	Non-obese (n=69)	p
Hypertension	47 (81%)	46 (66.7%)	0.69
Diabetes mellitus	25 (43.1%)	17 (24.6%)	**0.03**
Vascular disease	17 (29.3%)	24 (34.8%)	0.51
Stroke/TIA	6 (10.3%)	6 (8.7%)	0.75
Heart failure	16 (27.6%)	27 (39.1%)	0.17
CHA_2DS_2-VASc ≥ 2	52 (89.7 %)	52 (75.4%)	**0.04**
Epicardial fat tissue thickness	7.60 ± 1.35	7.01 ± 1.54	**0.025**
AF paroxysmal	24 (41.4%)	30 (43.5%)	0.82
persistent	27 (46.6%)	33 (47.8%)	
long standing persistent	7 (12.1%)	6 (8.7%)	

Table 2: The relationship between obesity and the presence of thrombus in the left atrial appendage

	OR	95% CI	p
BMI	0.411	0.17-1.00	0.05
Age	0.958	0.92-1.00	0.06
Sex	1.129	0.47-2.73	0.79
CHA_2DS_2-VASc	1.838	1.32-2.56	0.00
Epicardial fat tissue thickness	1.054	0.80-1.40	0.71

ID: **266**

Topic: **Cardiology » Inherited arrhythmia syndromes**

Presentation Type: **ORAL**

THE PREVALENCE OF CONCEALED BRUGADA SYNDROME IN PATIENTS WITH PAROXYSMAL ATRIAL FIBRILLATION

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Background: Brugada Syndrome (BS) is an inherited rhythm-disorder with high risk of sudden-cardiac-death defined by a specific ST-segment elevation pattern in ECG-leads V1-V3 either spontaneous or provoked by IV Na-channel-blocker-drug-provocation-test with Ajmaline and/or higher-precordial-intercostal-space (HICS) ECGs. Scarce data denote that the prevalence of atrial fibrillation (AF) is higher in BS and most of the antiarrhythmic-drugs used in AF are contraindicated in BS. Our aim was to elucidate the frequency of BS in paroxysmal-AF (PAF) patients without heart-disease and reveal possible clinical and genetic relations.

Methods: Adult patients admitted to our clinics with an history of PAF less than 55 years-old and in Sinus-rhythm were prospectively and consecutively evaluated with resting and HICS-ECGs and routine Ajmaline-drug-provocation-test. After the exclusion of subjects with any cardiac-disease, anti-arrhythmic use, bundle-branch-blocks, pre-excitations and ventricular hypertrophies; 96 subjects ([mean±SD] age, 37.3±18, [range]18-55 years) were enrolled in the study (male n [%overall]:55 [57.2%]). All ECGs were interpreted manually by two experienced cardiologists for BS and Brugada-type-ECG-patterns (BTEPs) (according to the 2017 J-wave-syndromes-consensus-report). In 32 patients SCNA5A genetic tests were done (n: 15 BS(+) 17 BS(-) patients). In all patients with BS electrophysiological study (EPS) with programmed-ventricular-stimulation (PVS) was also done and compared with the EPS parameters of BS(-) patients that undergone AF-catheter ablation strategy (n: 30).

Results: Overall frequency of BS was 22,9% (n: 22 [male n: 14). No spontaneous type-1 BTEP was found even with HICS-ECGs and all BS diagnosis were made with IV-Ajmaline. The clinical characteristics of PAF patients with and without BS and statistical findings are presented in Table-1 and Figure-1. BS(+) patients were predominantly male, younger, slimmer, significantly more suffering from situational syncopal episodes and revealing more BTEPs by baseline HICS-ECGs. The SCN5A-mutation positivity was non-significant between BS(+) and (-) patients (p= 0,80). Baseline heart-rates were lower and PR intervals, P wave duration and Sinus-node-recovery-times were significantly higher in BS(+) patients. Only one BS(+) PAF patient with an history of syncopal episodes developed VF with 2 extra-beats in PVS and received an ICD.

Conclusions: Concealed BS is found to be highly prevalent in middle aged subjects and especially males with PAF without an apparent cardiac-disorder. Knowing this considerably lethal condition might affect the individual clinical management of AF, protect a vulnerable sub-group of patients from the deleterious effects of antiarrhythmics and risk stratification might confer an increased risk. Non-invasive/invasive indices regarding the delayed conduction features in atrial electrophysiological characteristics of BS(+) patients and findings consistent with a higher vagal state might be suggested as one of the probable mechanisms underlying the higher prevalence of AF in BS.

Table-1

Table-1	**BS (+)**	**BS (-)**	***p***
Age (mean±SD)	28,6±14	51,6±	**<0,01**
Gender (male % in group)	63,6%	55,4%	**0,015**
Body Mass Index (kg/m2)	24,5	28,6	**<0,01**
Hypertension (% in each group)	19%	20%	0,75
Diabetes (% in group)	14,9%	13,5%	0,6
Glomerular Filtration Rate (ml.min/m2)	93	92	0,72
Non-arrhythmic syncope/presyncope (%)	38	15	**0,013**
TYPE-2 BASELINE ECG	40	26	**0,03**
Baseline Heart Rate (beats/min)	58	73	**0,01**
PR interval (ms)	168	152	**0,01**
P wave duration	76	45	**0,01**
QTc (Bazett)	435	441	0,62
SCN5A positivity (%)	26	29	0,80
EP STUDY PARAMETERS			
Baseline R–R interval (ms)	937 ± 207	705 ± 146	**0,01**
Sinus Node Recovery Time (mean±SD)	1090 ± 283	900 ± 178	**0,015**
Corrected sinus node recovery time (ms)	348 ± 125	300 ± 85	**0,038**
Atrial effective refractory period (ms)	245 ± 17	250 ± 19	0,67
Ventricular effective refractory period (ms)	350 ± 20	340 ± 20	0,59
PVS inducibility	1	-	-

Table Legends:

BS (+) : PAF patients diagnosed with Brugada Syndrome with a positive Ajmaline test

BS (-) : PAF patients not diagnosed with Brugada Syndrome with a negative Ajmaline test

Figure-1a:

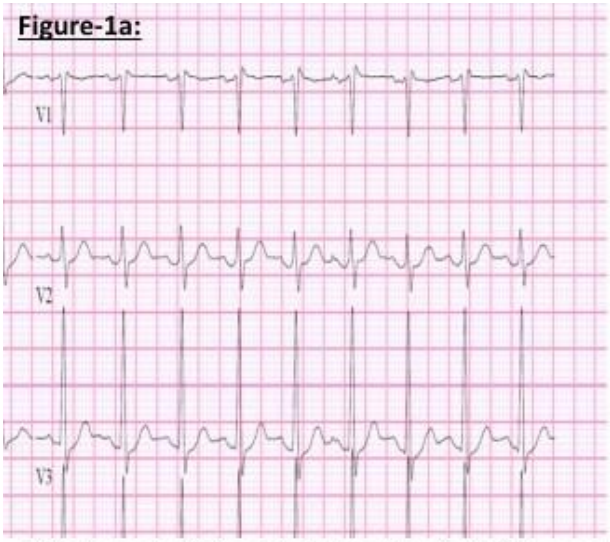
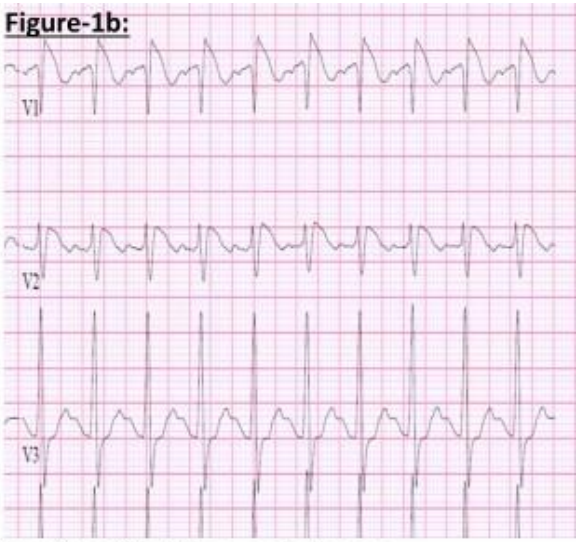


Figure-1b:



38 y/o male PAF patient Ajmaline test ECG recordings from 2nd inter-costal-space

Figure-1a: Baseline ECG. Figure-1b: Diagnostic Type-1 Brugada-patern after 0,7 mg/kg IV Ajmaline on the 3rd minute of the test.

ID: **168**

Topic: **Cardiology » Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **ORAL**

CONSCIOUS SEDATION WITH THE COMBINATION OF MIDAZOLAM AND FENTANYL IS EFFECTIVE AND SAFER FOR THE CRYOABLATION TREATMENT OF PAROXYSMAL ATRIAL FIBRILLATION

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Background: Studies on anesthesia for cryoablation, one of the methods used in the treatment of atrial fibrillation (AF), and its effect on perioperative parameters are limited. In our study, we aimed to compare the effects of conscious sedation with a combination of midazolam-fentanyl and unconscious sedation with propofol-midazolam on the success of the procedure and on the hemodynamic and clinical parameters during the procedure in patients who were cryoablated for paroxysmal AF.

Methods: 242 patients (128-males, 114-females, mean age 54.9±11.8 years) who underwent AF cryoablation for the first time were included in this retrospective study. The demographic, clinical, laboratory and echocardiographic parameters of the patients were recorded before the procedure. The ASA score and baseline SaO2 before the procedure, and the minimum SaO2, systolic and diastolic blood pressure (SBP and DBP) change and Richmond agitation-sedation scale (RASS) score during the procedure were obtained. After the procedure, patients were evaluated in terms of prolonged recovery, hypotension and hypoxia. Cryoablation procedure time, fluoroscopy time, procedure success and 1-year recurrence rates were determined. Study data were divided into 2 groups as conscious sedation and unconscious sedation and compared.

Results: Clinical, demographic, laboratory and echocardiographic data were found to be similar in the conscious sedation and unconscious sedation groups. Minimum SaO2 during the procedure was significantly higher in the group that underwent conscious sedation ($p<0.01$). RASS score, SBP and DBP change were found to be significantly lower in the conscious sedation group ($p<0.01$ for each). Procedure success and frequency of AF recurrence were similar between the two groups.

Conclusion: In our study, it was determined that the conscious sedation preference made with the combination of midazolam and fentanyl during AF cryoablation can be applied with similar success and recurrence compared to unconscious sedation with propofol and midazolam, with better perioperative hemodynamic and respiratory results.

ID: **46**

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

Presentation Type: **ORAL**

ASSESSMENT OF NOVEL ATRIAL FIBRILLATION PREDICTORS IN OBESE PATIENTS PERFORMED BARIATRIC SURGERY

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Background: Bariatric surgery has been associated with reduced cardiovascular mortality and morbidity in obese patients. In this study, we aimed to evaluate the risk of developing atrial arrhythmia, especially atrial fibrillation (AF), in patients who achieved effective weight loss with bariatric surgery.

Materials and Methods: The study included 58 patients who underwent bariatric surgery. We measured heart rate, PR, P max, P min, Average P axis, PWPTD2, PWPTV1 and V1TF, and we estimated PWdis interval both pre-operation and six months after operation.

Results: Heart rate, PR, P max, P min, PWdis, Average P axis, PWPTD2, PWPTV1 and V1TF values, which were close to the upper limit in the pre-op period, showed statistically significant decreases at six months after operation.

Conclusion: The results of our study indicated that bariatric surgery has positive effects on the regression of ECG parameters which are predictors of atrial arrhytmias such as AF.

ID: **120**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **ORAL**

POSTOPERATIVE CARDIAC AND NON-CARDIAC OUTCOMES OF THE PATIENTS WITH CHRONIC ATRIAL FIBRILLATION BEFORE NON-CARDIAC SURGERY

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Introduction: Atrial fibrillation (AF) is a common rhythm disorder associated with many cardiovascular (CV) conditions with increasing prevalence with age. Presence of AF before non-cardiac surgery may lead to adverse cardiac and non-cardiac events. Hemodynamic changes, electrolyte disorders, bleeding, intravascular volume changes, increased sympathetic tone, discontinuation of anticoagulant treatment may be responsible for these events in the postoperative period. The aim of this study is to evaluate the postoperative outcomes of the patients with AF evaluated by the cardiology department before non-cardiac surgery comparing to the patients with sinus rhythm.

Method: The study included 3425 patients (mean age 62.07±17.07, 50.7% male) who were planned for non-cardiac surgery in our center between 2018 and 2019. Chronic AF was detected in 317 patients (9.3%). Demographic data, risk factors, operative and post-operative follow-up information, laboratory findings, electrocardiography and echocardiographic evaluations of the patients were obtained from the hospital database. Preoperative risk scores (ASA, Lee index, GUPTA) were calculated from these data. Postoperative cardiac and non-cardiac in-hospital events, cardiac and all-cause mortality rates were evaluated.
Results: The mean age of the patients, the rates of HT, DM under insulin therapy, heart failure, coronary artery disease, stroke, and chronic kidney failure were significantly higher in the AF group (73.44±11.27 vs 60.86±17.14, p<0.001; 76% vs 59.5%, p<0.001; 15.5% vs 8.5%, p<0.001; 17%). vs 3%, p<0.001; 26.2% vs 19%, p=0.002; 15.1% vs 3.2%, p<0.001; 19.6% vs 14.8%, p=0.024, respectively). In addition, AF patients had significantly higher preoperative ASA, LEE index, GUPTA and CHA2DS2Vasc scores comparing to patients with sinus rhythm (2.69±0.67 vs 2.26±0.77, p<0.001; 2.82±3.57 vs 1.64±2.57, p<0.001; 1.16±1.76 vs 0.53) ±1.48, p<0.001;3.68±1.73 vs 2.37±1.60, p<0.001, respectively). Postoperative cardiac and all-cause mortality rates were significantly higher in patients with AF (5.7% vs 2.4%, p=0.001; 0.9% vs 0.2%, p=0.002, respectively).
Conclusions: Chronic AF is not normally considered high risk disorder when well heart rate control and effective anticoagulant therapy are provided. However, metabolic and hemodynamic changes due to operation and anesthesia may increase the postoperative risk in these patients. The risks that may occur can be prevented by close follow-up of chronic AF patients after the operation.

ID: **290**

Topic: **Cardiology »Transcatheter ablation for tachyarrhythmias - Ventricular tachycardias**

Presentation Type: **ORAL**

FUNCTIONAL OUTCOME FOLLOWING ABLATION OF IDIOPATHIC PREMATURE VENTRICULAR COMPLEXES ORIGINATING FROM THE OUTFLOW TRACT

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AIM: To show quantitatively and semi-quantitatively the improvement in quality of life and functional capacity in patients undergoing radiofrequency catheter ablation (RFCA) for frequent outflow tract premature ventricular contractions (OT-PVCs) and to demonstrate association of these measures with electrocardiographic (recovery in PVC burden), echocardiographic (recovery in LVEF, LVEDD and LAVI), and neurohormonal (BNP) parameters.

METHODS: Patients with frequent OT-PVCs who are admitted to our center in 2017, with symptoms attributable to the arrhythmia or left ventricule ejection fraction < 50 % with planned RFCA, were enrolled in this prospective study. Transthoracic echocardiography was performed, Minnesota Living with Heart Failure Questionnaire (MLHFQ) was filled, 6-minute walking distance test and 24-hour Holter recordings were performed before and at 6th month follow-up visit.

RESULTS: 108 patients who underwent successful OT-PVCs catheter ablation were included in our study. The mean age of the patients was 43 ± 12 and 60/108 (56%) were male. 66/108 (61.1%) of the patients included in the study had PVC-induced cardiomyopathy (CMP). When compared between CMP and non-CMP groups, Minnesota Living with Heart Failure Score (MLHFQ) and PVC-burden were higher in the CMP group (26 ± 6 versus 36 ± 9, <0.001 & 17 ± 5 % versus 22 ± 6 %, <0.001). At the 6th month follow-up, the LV functional improvement was demonstrated as increased LVEF (47 ± 8% to 53 ± 6%, p <0.001), functional improvement as improved MLHFQ (32 ± 9 vs 23 ± 5 , p<.001), improved 6MWD (293 ± 73 vs 335 ± 59, p<.001) and improved NYHA (NYHA I 54% versus 89%, p<.001); and neurohormonal improvement as decreased BNP levels (104 ± 69 vs 83 ± 42, p<.001).

CONCLUSION: Improvement in functional capacity, neurohormonal status and LV functions was demonstrated in this study. It is clearly shown that the benefits of RFCA for OT-PVCs extend beyond symptomatic improvement and treatment of PVC cardiomyopathy.

Keywords: Premature ventricular complex, outflow tract, radiofrequency ablation, quality of life, echocardiography, minnesota living with heart failure questionaire (MLHFQ)

Oral Presentation Session

Prognosis in Heart Failure: Clinical and Laboratory Correlates

Date: 05.11.2021 Time: 19:45 - 20:45 Hall: 4

ID: **186**

Topic: **Cardiology »Chronic heart failure**

Presentation Type: **ORAL**

DOES NEUTROPHIL TO LYMPHOCYTE RATIO AND C-REACTIVE PROTEIN PREDICT MORTALITY IN PATIENTS WITH HEART FAILURE?

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Objective: Inflammation has an important role in the pathogenesis of cardiovascular diseases. The neutrophil-to-lymphocyte ratio (NLR) and C-reactive protein (CRP) is considered a systemic inflammatory marker. In this study, we aimed to compare NLR and CRP in patients with heart failure with those without heart failure and investigate their role in predicting mortality.

Methods: This retrospective study included 45 patients with heart failure (HF) with a left ventricular ejection fraction (LVEF) <40%, and 22 patients with an LVEF>50%, who was admitted to the cardiology outpatient clinic between 2015 and 2016. NLR, CRP, LDL-cholesterol, HDL cholesterol, and triglyceride values were compared between the two groups.

Results: Neutrophil-lymphocyte ratio and CRP were similar in the group with and without heart failure (p=0.752 and p=0.694, respectively). The mean age was 58±14 years in the group with EF <40%, and 52±12 years with EF >50. Regression analyses showed that both NLR and CRP did not predict mortality in patients with heart failure (p=0.383, and p=0.175, respectively).

Conclusion: In our study, there was no difference in NLR and CRP values as markers of inflammation in the group with and without heart failure, and these values did not predict mortality. Different results may be obtained with more extensive and prospective studies.

Keywords: Heart failure, neutrophil-lymphocyte ratio, C-reactive protein, mortality

ID: **37**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **ORAL**

COMPARISON OF NEUTROPHIL-AND PLATELET-TO LYMPHOCYTE RATIO IN PATIENT WITH HEART FAILURE WITH PRESERVED AND MID-RANGE (BORDERLINE) EJECTION FRACTION

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Abstract

Background: Heart failure and systemic inflammation are interdependent processes that continuously potentiate each other. The neutrophil-lymphocyte ratio (NLR) and platelet-lymphocyte ratio (PLR) are representative blood markers of systemic inflammatory responses. In this study, we aimed to compare the changes in NLR and PLR in patient with heart failure with preserved ejection fraction (HFpEF) and in patient with heart failure with mid-range (borderline) ejection fraction (HFmrEF).

Methods: This retrospective study included 66 patients (mean age was 68.9 ± 9.3 years and 65.1% of the patients were male) with HFpEF and 54 patients (67.6 ± 8.2 years and 61.1% of the patients were male) with HFmrEF. The total white blood cells (WBC), absolute neutrophil count, lymphocyte count and platelet count were measured. NLR was calculated as total neutrophil count/absolute lymphocyte count, and PLR was calculated as total platelet count/absolute lymphocyte count. Both the groups were compared with in terms of NLR and PLR values using SPSS 21.

Results: There were no statistically significant differences in age and sex between patients with HFpEF and HFmrEF (p = 0.85, p = 0.78, respectively). However, arterial hypertension (p= 0.02) and atrial fibrillation (p=0.03) were significantly higher in patients with HFpEF compared to in patients with HFmrEF. White blood cell counts were similar in both groups. NLR and PLR were increased in both groups, but there were no statistically difference between the groups [NLR (5.2 ± 1.4 vs. 5.1 ± 1.2, p = 0.61) and the PLR (195 ± 101 vs. 191 ± 97, p = 0.64)] (Table 1).

Conclusion: The present study found that the inflammatory markers NLR and PLR are increased in HF. This increase is independent of the type of HF.

Table 1. Clinical characteristics and laboratory findings of study groups

Parameter	**Patients with HFpEF (n=66)**	**Patients with HFmrEF (n=54)**	**p**
Age (year)	68.9 ± 9.3	67.6 ± 8.2	0.85
Male, n (%)	43 (65.1)	33 (61.1)	0.68
Smoking, n (%)	6 (9)	4 (7.4)	0.65
BMI (kg/m2)	31.7 ± 7.3	30.6 ± 5.3	0.49
DM, n (%)	24 (36.3)	19 (35.1)	0.45
HT, n (%)	30 (45.4)	18 (33.3)	**0.02**
AF, n (%)	23 (34.8)	14 (25.9)	**0.03**
Glucose (mg/dL)	131.9 ± 52	123.3 ± 52.4	0.76
Urea (mg/dl)	34.06 ± 8.2	36.7 ± 11.9	0,85

Creatinine (mg/dL)	0.87 ± 0.3	0.95 ± 0.7	0.81
Na+ (mmol/L)	139 ± 2.6	140.1 ± 3.4	0.91
K+ (mmol/L)	4.8 ± 0.4	4.6 ± 0.5	0.76
WBC (K/ul)	8.4 ± 2.4	8.2 ± 2.3	0.66
Hb (g/dL)	13.5 ± 1.4	12.8 ± 1.5	0.53
Neutrophil (10^3/µL)	5.5 ± 1.5	5.4 ± 1.3	0.63
Lymphocyte (10^3/µL)	1.3 ± 0.2	1.4 ± 0.2	0.86
Platelets (10^3/µL)	225 ± 54	218 ± 61	0.47
NLR	5.2 ± 1.4	5.1 ± 1.2	0.79
PLR	195 ± 101	191 ± 97	0.64

AF: Atrial fibrillation; BMI:Body mass index; DM: Diyabetes mellitus; HFpEF: Heart failure with preserved ejection fraction; HFmrEF: Heart failure with preserved and mid-range ejection fraction HT: Essential hypertension; Hb: Hemoglobin; WBC: Wight blood cell; NLR: Neutrophil-lymphocyte ratio; PLR: Platelet-lymphocyte ratio; Data are presented as means ± SD; P-values less than 0.05 are statiscally significant

ID: **17**

Topic: **Cardiology » Chronic heart failure**

Presentation Type: **ORAL**

THE INVESTIGATION OF AUTOPHAGY, MICROTUBULES, AND MICROTUBULE INHIBITION IN PATIENTS WITH HEART FAILURE WITH A REDUCED EJECTION FRACTION

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BACKGROUND AND AIM

In this study, we aimed to compare the serum beclin-1 levels which is one of the markers and moderators of autophagic activity, and the β1 -tubulin level, which is one of the cardiomyocyte structure proteins in the serum of patients with heart failure with reduced ejection fraction (HFrEF), and those healthy subjects. Also, we investigated serum beclin-1 and β1 -tubulin levels according to etiological classifications (ischemic/non-ischemic subgroups). Additionally, the subgroup of patients using colchicine as a microtubule inhibitor for at least three months due to HFrEF was included

METHODS

This study included 50 patients with HFrEF (25 with ischemic etiology, 25 with non-ischemic etiology) and 30 healthy subjects between January 2018 and December 2019 in Istanbul University Cardiology Institute. Serum beclin-1 and β1 -tubulin levels were determined by using the ELISA method by the ELISA Kit.

RESULTS

Although serum beclin-1 and β1-tubulin levels of all HFrEF groups did not reach statistical significance compared to the control group, serum beclin-1 and β1-tubulin levels were increased (p: 0.64) ((p: 0.6) respectively.). However, NT-proBNP levels were found significantly higher (p:0.01). Serum beclin-1 and serum β1-Tubulin levels correlated with ejection fraction in 50 patients with HFrEF (p: 0.018, R^2: 0.088). (p: 0.018, R^2: 0.086).The non-ischemic etiology subgroup with HFrEF especially had higher serum beclin-1 levels (p:0.01). There was also no significant correlation between creatinine and eGFR levels and autophagic activity (p:0.482). Also, we found lower levels of NT-proBNP that did not reach statistical significance and higher beclin-1 levels to reach statistical significance (p: 0.015) in the colchicine using patient subgroup.

However, β1- tubulin levels had increased in ischemic HFrEF patients according to the non-ischemic subgroup(p:0.26). Besides, in the subgroup analysis of non-ischemic HFrEF patients used colchicine(n=13) was detected increased levels of β1- tubulin (p=0.29) and decreased levels of NT*proBNP(p=0.69). But, for at least three months low dose colchicine used patient subgroup had better EF(p=0.009) and smaller diastolic left ventricular diameters (p=0.002) respectively.

CONCLUSIONS

Autophagy especially increased in the HFrEF with non-ischemic etiology and patients used colchicine subgroup. However,β1- tubulin levels had increased in ischemic HFrEF patients according to the non-ischemic and patients who used colchicine subgroup. Therefore low dose colchicine probably regulates autophagy, microtubules inhibition, and vesicle trafficking in HFrEF.

Keywords: Heart failure • Dilated cardiomyopathy • Cell death • Autophagy • Beclin-1, microtubules* β1- tubulin

Parameters A	Patient(N=50)	Control(N=30)	*P -Value*
NT-proBNP(pg/dl)	2230.4±2079.7	53.6±21.5	*0.01*
Beta-Tubulin(pg/dl)	97.4±174.8	81.3±172.7	*0.6*
Parameters B	Ischemic (N: 25)	Non-ischemic (N: 25)	*P -Value*
NT-proBNP(pg/dl)	2647±2182	1813±1924	0.01
Beta-Tubulin(pg/dl)	108±222	53±95	0,26
Parameters C	Colchicine + (N: 13) (values after treatment with colchicine for at least three months)	Colchicine – (N:37)	*P -Value*
NT-proBNP(pg/dl)	*2029.9±2344*	*2300±2000*	*0.69*
BETA-Tubulin(pg/dl)	*37±81*	*97±194*	*0.29*
EF(%)	*32.6±6.4*	*27.5±3.2*	*0.009*
LVDD(mm)	*58.1±8.2*	*66.1±9.0*	*0.002*
TAPSE(mm)	*18.4±3.0*	*19.8±2.7*	*0.33*
Parameters of D Group	All Patients (N: 50)	Controls (N: 30)	P-value*
EF (%)	31.3±6.2	60	0.001
NT-proBNP (pg/dl)	2230.4±2079,7	53.6±21,5	0.01
Beclin-1 (ng/ml)	6.1±10.4	2.7±6.3	0.64
Parameters of E Group	İschemic HFrEF subgroup(N:25)	Non-ischemic HFrEF subgroup (N: 25)	P- value
Age	64.4±10,2	53.9±13.3	0.004
Gender (male %)	23 (%92)	20 (80%)	0.2
Diabetes Mellitus (%)	14 (%56)	8 (32%)	0.08
Hypertension (%)	19 (76%)	10 (40%)	0.01
Hyperlipidemia (%)	19 (76%)	6 (24%)	0.0001
Cigaret (%)	18 (72%)	6 (24%)	0.001
Alcohol (%)	1 (4%)	2 (8%)	0.5
NT-proBNP (pg/dl)	2647±2182	1813±1924	0.01
Beclin-1 (ng/ml)	2.07±4.7	12.7±16.1	0.01
Parameters of F Group	Colchicine + HFrEF subgroup (N: 13)	Colchicine – HFrEF subgroup (N:37)	P Value
EF (%)(Initial)	27.5±3.2	32.6±6.4	0.009
LVD (mm) 69±7.6(Initial)		59.7±8.9	0.002
LA (mm) (Initial)	46.8±9.4	46.0±8.8	0.59
RVD (mm)	25.0±1.8	25.5±3.3	0.54
TAPSE (mm) (Initial)	18.4±3.0	19.8±2.7	0.33
NT-proBNP (pg/dl) (3 months later)	2029.9±2344	2300±2000	0.69
Beclin-1 (ng/ml) (3 months later)	12.44±10	3.4±8.4	0.015

The importance of autophagy, microtubules and microtubule inhibition in patients with heart failure with reduced ejection fraction.

ID: **12**

Topic: **Cardiology »Chronic heart failure**

Presentation Type: **ORAL**

HYPOALBUMINEMIA IS ASSOCIATED WITH POOR IN-HOSPITAL CLINICAL OUTCOMES IN HF PATIENTS HOSPITALIZED WITH COVID-19

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BACKGROUND

Coronavirus disease 2019 (COVID-19) patients with multiple comorbidities including heart failure (HF) show poor clinical outcomes. Hypoalbuminemia is a negative acute phase reactant which has been associated with inflammatory response and poor outcome in infectious diseases and significantly decreased albumin level is common in severe COVID-19. However, little is known about the effects of albumin level on clinical outcomes in HF patients with COVID-19.

PURPOSE

We aimed to evaluate the effect of hypoalbuminemia on clinical outcomes in patients with HF who were hospitalized for COVID-19.

METHODS

In this study, we retrospectively evaluated 235 patients hospitalized for COVID-19 who had a previous diagnosis of HF in two centers. According to the level of albumin the patients were classified in two groups: HF with hypoalbuminemia group, HF with normoalbuminemia group. Hypoalbuminemia was defined as a serum albumin level ≤3.4 mg/dL on admission. We compared laboratory findings and in-hospital outcomes. In-hospital clinical outcomes were defined as death, respiratory failure requiring mechanical ventilation, cardiogenic shock, length of ICU and hospital stay.

RESULTS

Mean age of the study population was 73.2±10 years old. One hundred nineteen patients (50.6%) had hypoalbuminemia. As for the inflammatory biomarkers were found significantly higher in hypoalbuminemia group ($P < 0.001$). Patients with hypoalbuminemia experienced longer length of ICU ($P < 0.001$) and total hospital stay ($P < 0.001$). Patients with hypoalbuminemia had a higher mortality rate ($p <0.001$). Clinical outcomes were also found to be significantly higher in patients with hypoalbuminemia ($P <0.001$).

CONCLUSION

The results of this study concluded that HF patients hospitalized with COVID-19 who have hypoalbuminemia on admission showed poor in-hospital clinical outcomes.

Table 1: Clinical data and outcomes in HF patients with diagnosed COVID-19

Variable	Total (n=235)	HF with hypoalbuminemia (n= 119)	HF with normoalbuminemia (n=116)	P value
Age, years	73.28±10.0	74.58±10.1	72.16±9.9	0.065
Hypertension, n(%)	201 (85.5%)	103(86.6%)	98 (84.5%)	0.395
Diabetes mellitus, n(%)	114 (48.5%)	60 (50.4%)	54 (46.6%)	0.322
Coronary artery disease, n(%)	199 (78.2%)	94 (79.0%)	90 (77.5%)	0.055
Albumin, mg/dl	3.48 (±0.63)	2.99±0.34	3.98±0.45	<0.001
ALT, U/L	25.0(15.0-50.7)	32.0(19.0-59.0)	21(13.0-40.0)	<0.001
AST, U/L	35.0(20.2-76.5)	47.0(26.0-118.0)	26(17.0-54.5)	<0.001
Creatinine, mmol/L	1.35(0.95-2.27)	1.64(0.91-2.7)	1.20(0.95-1.79)	0.028
Procalcitonin, ng/mL	1.4(0.22-7.84)	4.60(0.73-10.0)	0.5(0.14-2.54)	<0.001
Ferritin, ng/dL	628(362.2-1474)	976(505-2094.5)	440(260-850.5)	<0.001
D-dimer, ng/mL	3.2(1.17-7.99)	4.8(2.64-9.0)	2.0(0.73-4.42)	<0.001
Fibrinogen, mg/dL	519.7(364.1-689.1)	606(441.3-737.2)	428(333.6-362.0)	<0.001
Length of hospital stays, days	9.0(7.0-16.0)	12.0(7.0-20.0	8.0(6.0-12.0)	<0.001
Length of ICU stays, days	3.0(0.0-9.0)	7.0(3.0-12.0)	0.0(0.0-6.0)	<0.001
Mechanical ventilation, n (%)	100(42.6%)	77(64.7%)	23(19.8%)	<0.001
Cardiogenic shock, n (%)	116(49.4%)	85(71.4%)	31(26.7%)	<0.001
Death, n (%)	93(39.6%)	70(58.8%)	23(19.8%)	<0.001
Composite outcome, n (%)	126(53.6%)	93(78.2%)	33(28.4%)	<0.001

ID: **3**

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

Presentation Type: **ORAL**

THE RELATIONSHIP BETWEEN FRAGMENTED QRS FREQUENCY AND LEFT VENTRICULAR SYSTOLIC FUNCTIONS IN PERITONEAL DIALYSIS AND HEMODIALYSIS PATIENTS

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Objective

Cardiovascular diseases are common in patients with End-Stage Renal Failure (ESRD) and are one of the important causes of death. Fragmented QRS (fQRS) is also well known to be associated with cardiovascular outcomes. Peritoneal dialysis (PD) and hemodialysis (HD) are effective treatment methods used in patients with ESRD. In this study, we aimed to investigate whether there is a relationship between the presence of fQRS and/or the frequency of fQRS in patients with PD and HD in terms of left ventricular functions.

Methods

A total of 60 patients, including 30 patients with PD and 30 patients with HD, were included in the cross-sectional study. Patients with left ventricular EF <50%, diabetes mellitus, and established coronary artery disease (previous myocardial infarction, history of coronary revascularization, segmenter wall motion anomalies on transthoracic echocardiography) were excluded from the study. Basal characteristics, conventional tissue doppler echocardiography values of all participants were recorded. Global left ventricular longitudinal strain (GLS) and global circumferential strain (GCS) values were evaluated in speckle tracking echocardiography. Myocardial deformation parameters and fQRS frequency of the PD group and the HD group were compared.

Results

There was no significant difference between the PD group and the HD group in terms of time since dialysis treatment was initiated due to ESRD (6.5±1.2, 6.4±1.1 years, respectively, p=0.354), left ventricular EF, age, gender, and heart rate. fQRS frequency was significantly higher in the peritoneal dialysis group compared to the hemodialysis group (38%, 23%, respectively, p = 0.024). Left ventricular hypertrophy was similar in both groups. Diabetes mellitus was also in similar frequency in both groups. In the comparison of the two groups in terms of strain echocardiography parameters, no significant difference was observed in GLS (-17.2±3.8, –16.5± 3.5, respectively, p=0.24) and GCS (16.5± 3.5, 15.9 ± 3.2, respectively, p=0.38) values in the PD group compared to the HD group.

Conclusions

Fragmented QRS is more common in peritoneal dialysis patients than in hemodialysis patients. However, the increased frequency of fQRS is not associated with subclinical dysfunction in the left ventricle, in other words, low GLS, GCS. Accordingly, the frequency of fQRS may explain the long-term equalization of the frequency of cardiovascular events with hemodialysis in peritoneal dialysis.

Keywords: peritoneal dialysis, hemodialysis, fragmented QRS

ID: **114**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

EFFECTS OF THYMOQUINONE IN RATS WITH ISOPROTERENOL-INDUCED MYOCARDIAL INFARCTION

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Objective: Acute myocardial infarction (AMI) remains one of the main causes of mortality and morbidity in people suffering from ischemic heart disease. Isoproterenol (ISO) is a β-adrenergic agonist that produces experimental MI at high doses. In necrosis induced by β-adrenergic agonists, cyclic adenosine monophosphate (cAMP), free radical production, and lipid peroxidation are stimulated, resulting in irreversible damage to myocardial membranes. The ISO-induced experimental lesion is defined as myocardial necrosis and shows features similar to those that occur in humans after MI. Thymoquinone is the main biologically active component of black cumin seed essential oil and is used in the treatment of various diseases. In this study, the effects of thymoquinone against isoproteronol-stimulated MI were investigated.

Methods: In the study, Control group (Control) (8 units), Thymoquinone Group (THQ) (20 mg/kg intragastric) (8 units), Isoproterenol group (ISO) (100 mg/kg subcutaneous) (8 units), Thymoquinone (20 mg/kg) kg) + Isoproterenol group (THQ+ISO) (100 mg/kg) (8 pieces) 32 adult Wistar albino rats were used. Thymoquinone was administered for 8 days, while two doses of Isoproterenol were administered on day 7 and 8. At the end of the experiment, the heart tissue was evaluated histologically, immunohistochemically and biochemically. $p<0.05$ was considered statistically significant.

Results: Control and THQ groups had histologically normal appearance. Intense inflammatory cell infiltration, myocardial cell necrosis and disintegration in fiber organization were observed in ISO group heart tissues. Fibrous tissue accumulations due to the increase in connective tissue were observed between the impaired myocardial fibers. In the ISO group, nNOS expression decreased, while iNOS and eNOS expression increased. Both LDH and CK-MB levels increased in the ISO group. Improvements were observed in the expression of all proteins both histologically and immunohistochemically in the THQ+ISO group compared to the ISO group. LDH and CK-MB levels were reduced compared to the ISO group.

Conclusions: ISO damages the membrane permeability of cardiac myocardial cells by causing an increase in intracellular calcium, lipid peroxidation and reactive oxygen species. According to our results, in addition to histological damage, changes in NOS enzyme levels were observed in ISO-induced heart damage. THQ significantly reduced NOSs expressions and biochemical markers, as well as greatly reducing fibrotic connective tissue occurring in heart tissue. In conclusion, it is concluded that THQ helps prevent myocardial cell damage by regulating the expression of NOSs in ISO-induced experimental MI.

Oral Presentation Session

COVID-19 Pandemic and Cardiovascular Surgery: What We Have Learned?

Date: 05.11.2021 Time: 13:00 - 14:00 Hall: 5

ID: **66**

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

Presentation Type: **ORAL**

DOES COVID-19 MAKE SENSE ON CAUSES OF THE ACUTE PERIPHERAL VASCULAR THROMBOSIS?

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Background: Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), is a global pandemic affecting millions of people worldwide. Patients with acute limb ischemia began to encounter much more complications with ongoing pandemic.

Objectives: We aimed to emphasize hypercoagulability state of COVID-19 disease on the patients after the duration from the onset of the disease to diagnosis of vascular thrombosis was recorded.

Methods: Ninety-two patients who have the diagnosis of deep vein thrombosis (DVT) and/or acute arterial thrombosis to emergency service with symptoms of with COVID-19 history were taken to the study. Patient with cardiac arrythmia and chronic peripheral arteria disease and chronic venous disease were excluded from the study. Thirty patients with isolated acute limb ischemia (ALI) were treated according to Rutherford's classification. Fifty-six patients with isolated DVT were treated anticoagulant drugs. Six patients with ALI and DVT were treated according to the indications. COVID-19 positive patients also treated with the protocols of pandemic. The study was designed retrospective and data was collected from the patient records.
Results: Patients with isolated DVT were mostly treated outpatient at rates of 94.9% The median duration from the onset of the COVID-19 to diagnosis of DVT was 22 (2-120) days. Patients with isolated ALI were treated at the hospital and rates of thrombo-embolectomy were 91.3% The median duration from the onset of the COVID-19 to diagnosis of ALI was 13 (2-80) days. 6 with ALI and concomitant DVT were treated at the hospital and rates of thrombo-embolectomy were 33%. After surgery 7 patients had ongoing ischemic symptoms (p value <0.05). Amputation was the inevitable for them.

Conclusion: Severe COVID-19 seems to be a highly prothrombotic state. The prevalence of acute limb ischemia and/or deep venous thrombosis is high and is associated with adverse and unwanted clinical features.

Key Words: COVID-19, hypercoagulability, arterial, thrombosis, deep venous thrombosis, prognosis

ID: **77**

Topic: **Cardiovascular Surgery » Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

OUTCOMES OF PATIENTS CONFIRMED WITH COVID-19 INCIDENTALLY AFTER CARDIAC SURGERY

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Background: The rate of acute respiratory distress syndrome (ARDS), and mortality after cardiac surgery in patients confirmed with Covid-19 were 50%, and 38%, respectively. Our aim of this study was to investigate clinical outcomes of cardiac surgery in patients who diagnosed Covid-19 incidentally in the early postoperative period.

Patients and Methods: We performed 826 open cardiac surgery in 5 tertiary centers. The most of the surgeries were elective coronary artery by-pass grafting (CABG) (93.8 %). Preoperative RT-PCR test was performed routinely prior to surgery in all centers. Transcutaneous oxygen saturation, and if we need respiratory function tests were performed preoperatively. It was also investigated whether the patients had received covid-19 treatment before diagnosis of cardiac disease. We questinered whether these patients had family members confirmed with covid-19. In addition, it was questionered whether patients had contact with the patient diagnosed with Covid-19 10-14 days before hospitalization for cardiac disorders. We analysed blood high sensitive-C-reactive protein (hs-CRP), d-dimer and fibrinogen which play the main role of activation of procoagulant state after surgeries. We performed on-pump or off-pump technique in surgery.

Results: Acute lung injury related to Covid-19 activation without hemodynamic instability was observed in 48 out of 826 patients after surgery (5.8 %). Most common symptoms were dyspnea, tachypnea with a low oxygen saturation. We performed diagnostic tests include arterial blood gas analyses, laboratory analyses, chest X-ray, echocardiography, and RT-PCR test. RT-PCR test results were positive in 29 out of 48 patients (60.4%). We performed thoracal CT in patients who had normal laboratory tests, echocardiographyc analyses, and chest X-ray with negative RT-PCR test results, Thoracal computed tomography (CT) images showed that there was an acute respiratory distress syndrome (ARDS) with thypical lung involvement by the virus in 19 patients who had negative RT-PCR test results. The median age of patients was 63.9±12.4 years. Euro-Score and Body Mass Index (BMI) in 48 patients were 6.1±1.1, and 29.2±4.1kg/m², respectively. The median time of extracorporeal circulation (ECC) was 93.2±14.6 min. in patients underwent on-pump surgery (IQR, 68-155). Eleven patients who had ARDS readmitted to intensive care unit (ICU) (22.9 %). Blood gas analyses demonstrated that oxygen saturation, FiO2, and PaO2 were significantly low, and lactate levels were high in readmitted patients than those of the nonreadmitted patients. Blood lactate levels were mild to moderately elevated (≥4mmol/L) without metabolic acidosis. Mortality rate was 54.5% of readmitted patients (6 out of 11 readmitted patients).

Conclusion: Should keep in mind that ARDS related to Covid-19 activation after cardiac surgery may develop if the virus is latent period. This may be due to negative effects of ECC which may triggered ARDS itself on immunologic disorders. We need prospective randomized clinical trial to explain the rate of Covid-19 activation in this unique group.

ID: **105**

Topic: **Cardiovascular Surgery » Covid-19 and Cardiovascular Surgery**

Presentation Type: **POSTER**

COVID 19 PNEUMONIA IN A HEART TRANSPLANT PATIENT

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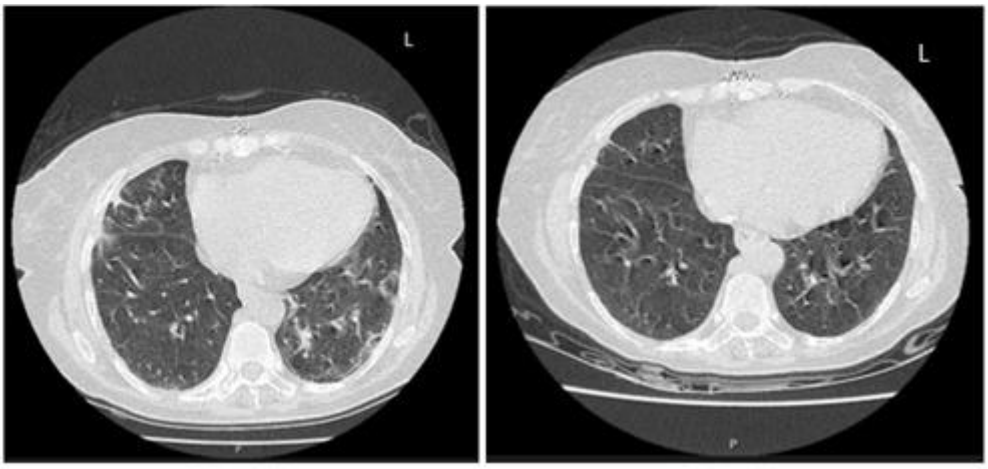
Objective: The resulting studies show that the spectrum of the disease caused by the new type of coronavirus (2019-nCoV, SARS-CoV-2) is variable from the common cold to Severe Acute Respiratory Syndrome (SARS). Advanced age, immunosuppression (transplantation, immunosuppressive drug users), cardiovascular disease, hypertension are among the serious risk factors in COVID-19 pneumonia. In this article, we report the heart transplant recipient we detected with COVID 19 pneumonia.

Metods:

Clinical information	Explanation
Personal information	Female, 66 years old
Complaint	Weakness, nausea and fatigue
Comorbidities	Hipertension
Medical history	MI in 2000, CABG in 2003, heart transplantation in 2009
Immunosuppression	Mikofenolat mofetil 2x500 mg, Takrolimus 1x2,5 mg
Physical examination	Fever: 36,7, SatO2: 98, RR: 16
Laboratory	WBC:5x10³/uL, Ferritin: 630,8 ng/ml, CRP 1,1 mg/L, LDH:166 U/L, D-Dimer 0,2 ug/ml
RT-PCR	Nasopharyngeal swab positive
Torax CT	Ground-glass opacities in the lower lobe of the left lung
EKO	LVEF: %60
Treatment	Favipravir 2x1600 mg first day,after each day 2x600 mg oral, Enoxaparin 1x40 mg subcutan, for five days
Prognosis	**Clinical well-being is expressed as no desaturation, no fever and no respiratory distress.**

Table: Clinical characteristics of heart transplant patient with COVID-19 pneumonia



Dec 8 Jan 28

Figure: Chest computed tomographic manifestations of severe COVID-19 in a heart transplant recipient.

The patient, who had no clinical progression for five days, was considered suitable for home follow-up and was discharged.

Results and Conclusions: This case showed us that; Heart transplant recipients may have similar clinical presentation and progression to non-transplant patients. In addition, in this case, the use of immunosuppression drugs are not a aggravating factor for the clinical course. In China, COVİD 19 pneumonia was detected in two different heart transplant recipients. These cases may represent of COVID-19 in heart transplant recipients and suggest that presentations and prognosis appear to be similar to those observed in non-transplant patients. But they also associated radiological resolution with clinical well-being. And the regression of radiological lesions in the lung was expressed as one of the healing criteria. As a result, more measurable criteria are needed for indicators of positive response to treatment of COVID 19 pneumonia and more epidemiological studies could be useful for the association of COVID 19 with organ transplant patients.

ID: **178**

Topic: **Cardiovascular Surgery » Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

A LIFE-TREATENING COMPICATION: PHLEGMESIA CERULEA DOLENS IN A CRITICALLY ILL COVID-19 PATIENT

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Background: COVID-19 infection is related with hypercoagulability and a prothrombotic state. Prevalence of deep vein thrombosis (DVT) is not fully understood in the presence of COVID-19. Phlegmasia cerula dolens (FSD) is a serious complication of DVT. This complication is an important cause of morbidity and mortality. Superficial and deep vein thrombosis lead to swelling, cyanosis, venous gangrene, compartment syndrome and even to arterial ischemia in the leg.

Case presentation: In this study, a 57-year old male was admitted to emergency service with cough and dyspnea for two weeks and swelling with cyanosis of his left leg for a week. He had no history of COVID-19 exposure and pre-existing atherosclerotic disease. A temperature of 38.2C, oxygen saturation of 96% on room air, pain, swelling and cyanosis in his left leg with nonpalpable distal pulses were found in physical examination. Leukopenia, elevated C-reactive protein, D-dimer and ferritin levels were the laboratory findings. Computed tomography demonstrated opacities in the lung. Arterial and venous doppler ultrasonography revealed venous thrombosis extending from iliac vein to distal popliteal vein without thrombosis in the arterial segment. Patient was diagnosed COVİD-19 with a complication of PCD. Leg elevation, a standard anticoagulation therapy for PCD and azithromycin therapy for COVİD-19 pneumonia were started. At the second day of treatment distal pulses were palpable and leg was relieved. With the improvement of symptoms of COVID-19, patients was discharged on day ten.

Conclusion: This case demonstrates the potential hypercoagulability complications of COVID-19. Early diagnosis and treatment of COVID-19 and related complications may prevent mortality and morbidity.

Keywords: COVID-19, Deep vein thrombosis, Phlegmasia cerula dolens

ID: **136**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

THE EFFECT OF PLASMINOGEN ACTIVATOR INHIBITOR-1 (PAI-1) (SERPINE-1) 4G/5G PROMOTER POLYMORPHISM ON PREDICTING THE COVID-19 CLINIC

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Objective: The novel coronavirus disease 2019 (Covid-19) has been associated with increased risk of arterial and venous thromboembolic disease. Human plasminogen activator inhibitor type 1 (PAI-1) (Serpin-1) is a serine protease inhibitor that inhibits proteases called tissue plasminogen activator (tPA) and urokinase (UPA). The PAI-1 gene is located on the 7th chromosome (7q21, 3-q22). In our study, it was aimed to evaluate the relationship of thrombophilia factors with Covid-19 infection and clinics of the patients.

Methods: A total of 150 patients were included in the study. 32 patients with negative Covid-19 test were determined as the control group. 118 patients were grouped as asymptomatic, symptomatic + pulmonary involvement + non-ICU, and symptomatic + pulmonary involvement + ICU patients. DNA isolation was performed from the blood samples and stored at -80 Celsius until sequencing analysis. Thrombophilia panel markers were studied by PCR method. Statistical analyses were made.

Results: No difference was observed between the groups in F2 20210 g, MTHFR c677t, MTHFR a1298ac, F5, F5 Leiden, F13a1 v35l genes ($p>0.05$). There was a significant difference in Serpine-1 4g/5g rs1799762 gene between Covid-19 (-) and Covid-19 (+) patients ($p = 0.032$). Considering the genotypes of Serpine-1 4g/5g rs1799762, there was a significant difference in the distribution of 5G/5G, 4G/5G and 4G/4G genotypes between Covid-19 (+) ICU patients and non-ICU patients ($p = 0.049$). In crude analysis, carriers of 4G/5G and 5G/5G genotypes were at lower risk to develop ICU in Covid-19 disease than those carrying 4G/4G genotype ($p = 0.035$) (crude or = 6.034, 95% ci = 1,223-29,769). Also carriers of 4G/4G genotype were at higher risk for ICU in Covid-19 disease than those carrying 4G/5G genotypes ($p = 0.033$) (crude or = 6.364, 95% ci = 1,262-32,079). Carriers of 4G/5G genotype did not differ significantly between Covid-19 (+) ICU patients and non-ICU patients compared to carriers of 5G/5G genotype ($p=0.924$).

Conclusions: It is thought that Covid-19 infection may be seen more in individuals with the 4G/4G genotype of the Serpine-1 gene. Additionally this genotype may affect the patient clinic and increase mortality due to arterial/venous thromboembolism. Further studies will increase our knowledge on this subject.

ID: **15**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

TWO UNCOMMON COMPLICATIONS OF COVID-19 IN SAME PATIENT: MINOCA AND PNEUMOTHORAX

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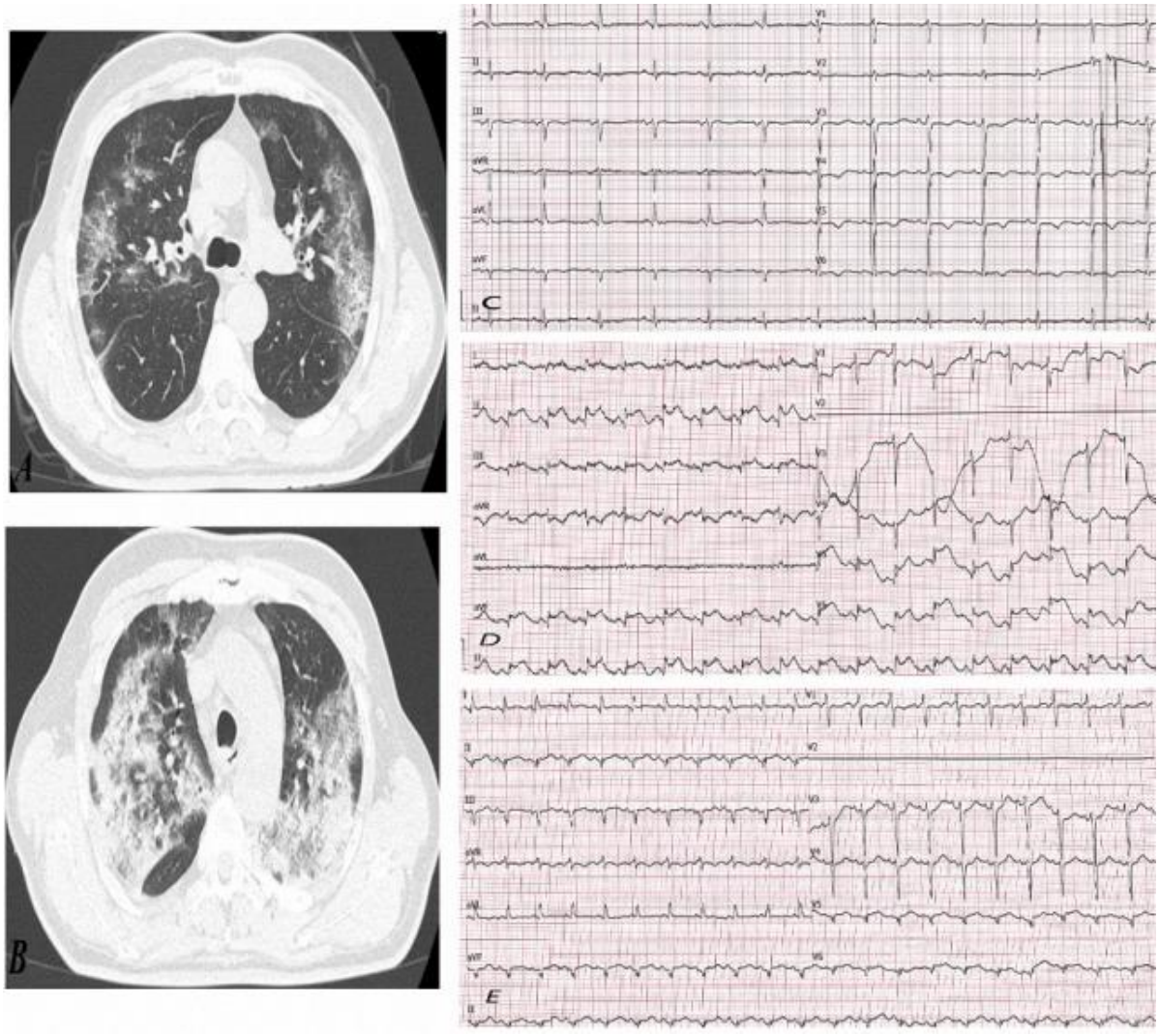

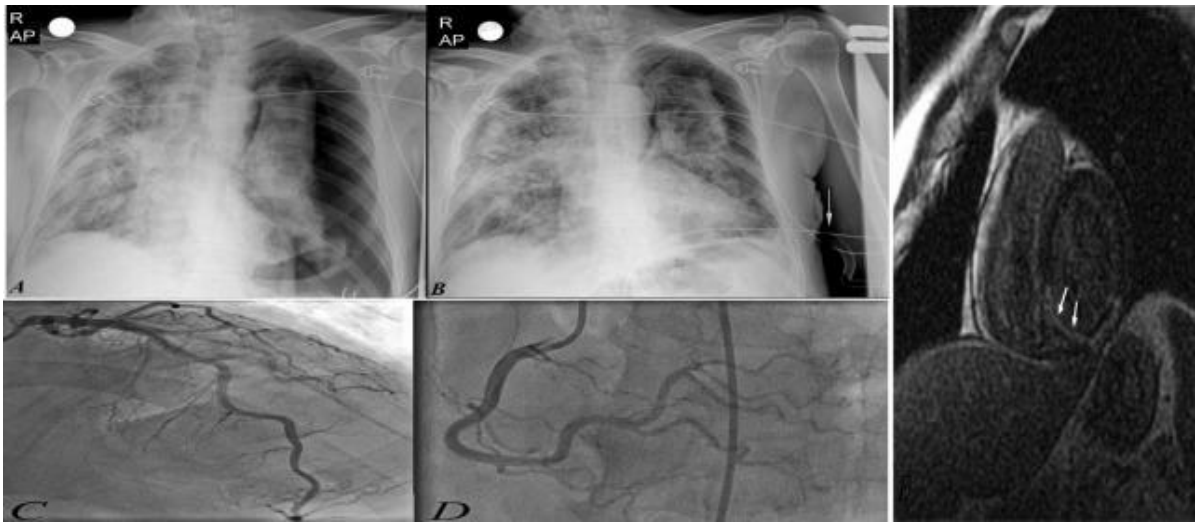

Background and Aim

There are a lot of cardiovascular system manifestations including myocardial ischemia and acute cor pulmonale in COVID-19. But myocardial infarction with non-obstructive coronary arteries (MINOCA) and pneumothorax has not yet been described as complications of COVID-19 in same patient.

Here, we describe how both MINOCA and pneumothorax presented in the same COVID-19 patient.

Results

A 67-year-old male patient presenting with fever, a cough, shortness of breath for the past five days was accepted by emergency services. He had had hypertension for approximately 10 years but no other medical problems. A computed tomography (CT) scan obtained from emergency services exhibited bilateral and peripheral ground-glass and opacities (Figure 1A). He was given oxygen supplementation with a Venturi mask. Nasopharyngeal swabs analyzed by real-time reverse-transcriptase polymerase chain reaction (RT-PCR) were positive for COVID-19.

A CT scan was obtained on the third day of hospitalization due to respiratory distress and arterial blood gases showing an oxygen saturation decrease under 90% despite oxygen supplementation with a Venturi mask. The CT scan showed more frequent consolidations, bilateral and peripheral disease, greater lung involvement and impairment (Figure 1B). He was transferred to an intensive care unit (ICU). Nasal continuous positive airway pressure (CPAP) due to lower oxygen saturation and lower molecular weight heparin was started for deep vein thrombosis prophylaxis.

A basal electrocardiogram (ECG) that showed negative T wave V4-V6 derivation and left axis was obtained in intensive care unit (Figure 1C). His troponin I level was-0.3 ng/mL (<0.020 ng/mL).

By his third day of hospitalization, the patient had respiratory distress, tachypnea and restlessness on examination and vesicular murmur was diminished on the left side of the thorax. His chest radiography was obtained and revealed a massive pneumothorax of the left lung (Figure 2A). A chest drain was inserted. Two days later, his chest radiography was obtained, which showed re-expansion of the left lung after drainage (Figure 2B).

One day later, he had chest pain and hypotension (80/60 mm/Hg), and his ECG showed derivation D2, D3, AVF, V4-V6 concave ST segment elevation (Figure 1D). He was undergone coronary angiography within one hour. There was no coronary obstruction, vasospasm, dissection, or thrombus in the coronary angiography (Figure 2C-D). After the coronary angiography, his ECG showed pathological q waves, which in derivation D2, D3, AVF, V4-V6 (Figure 1E). Level of troponin I rised to 5.2 ng/mL(<0.020 ng/mL). There was a minimal ventricular wall motion abnormality in the inferior segment at the apical two-chamber view on echocardiography. His cardiac magnetic resonance imaging (MRI) was obtained, which showed an inferior wall scar(Figure 2E).

Two days later, he was intubated because of respiratory distress and received mechanical ventilation. After that, he died due to acute respiratory disease syndrome from COVID-19.

Discussion

Pneumothorax of our case might have been caused by COVID-19-triggered diffuse alveolar injury and positive pressure ventilation and MINOCA in this patient due to the clinical findings, biochemical parameters, coronary angiography, echocardiography, and MRI images. MINOCA might be due to temporary thrombotic occlusion in this case.

Conclusion

MINOCA and pneumothorax are rare but possible complications of COVID-19.

Oral Presentation Session

Deep Vein Thrombosis: NEW APPROACHGS

Date: 05.11.2021 Time: 14:15 - 15:15 Hall: 5

ID: **223**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

COMPARISON OF LOW-DOSE VERSUS STANDARD THROMBOLYTIC PROTOCOLS IN PATIENTS WITH DEEP VEIN THROMBOSIS WHO UNDERWENT PHARMACO-MECHANICAL THROMBECTOMY

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OBJECTIVE

The aim of this study was to compare the results of patients who received standard pharmaco-mechanical thrombectomy for extensive deep vein thrombosis and low-dose thrombolytic therapy due to high bleeding risk.

METHODS

This single-operator observational report consists of data from 97consecutive patients (52 female, 46 male; age range 19-71 years) with iliofemoral deep vein thrombosis who underwent percutaneous pharmaco-mechanical thrombectomy during the 2-years period (November 2019- August 2021). 15 patients were at high risk of bleeding (8 had recent major surgery, 5 had recent gastrointestinal bleeding, 2 had vaginal bleeding). Popliteal vein was the main access site. Temporary vena cava filter was placed in all patients. Standard pharmaco-mechanical thrombectomy approach (Group 1= 82 patients) included intraprocedural 10-20 mg alteplase (tPA) then after 10 mg tPA for next 12 hours. Modified low-dose tPA protocol for patients at high risk of bleeding (Group 2 = 15 patients) included 5 mg tPA then after 5 mg tPA for the next 12 hours. Clinical data of these patient groups about bleeding events, in-hospital outcomes, and follow-up data were compered.

RESULTS

The median duration of hospitals stay was 1 day (range 1-10). No major bleeding occurred. The most common form of bleeding is a local hematoma. There was no statically differences between two groups in term of hospital day and bleeding. In Group 2, the proportion of patients requiring transfusion was higher than in Group 1 (4.9% and 18.8 %, p=0.04). No patients experienced a pulmonary embolism. Six months after the intervention, fourteen patients (85.6 %) were still free from the post-thrombotic syndrome. There was no statistically differences between groups (Group 1= 71/82 patients, 86.6%; Group 2= 12/15, 80%; p=0.5).

CONCLUSIONS

Pharmacomechanical thrombectomy with low dose tPA for patients with high bleeding risk is an effective, safe, and widely accessible therapy for rapid resolution of extensive thrombosis. Additionally, the time of symptom resolution and the rate of freedom from the post-thrombotic syndrome in the midterm period are quite satisfactory. Transfusion requirement is higher in patients with low dose tPa protocol because of the need for more aggressive aspiration attempts.

ID: **127**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

ANGIOJET THROMBECTOMY SYSTEM IN THE TREATMENT OF ACUTE DEEP VENOUS THROMBOSIS IN LOWER EXTREMITY:6-MONTHS EXPERIENCE FROM A NEWLY ESTABLISHED CARDIOVASCULAR SURGERY DEPARTMENT

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Objective: Deep venous thrombosis (DVT) is associated with significant clinical sequelae which include acute pulmonary embolism and post-thrombotic syndrome on the long term. Systemic heparin followed by oral anticoagulation does not eliminate the occurrence of pulmonary embolism or the manifestation of postthrombotic syndrome in majority of patients.Recanalization of an occluded lower extremity venous segment to prevent these complications is an attractive hypothesis that has been at the root of a variety of percutaneous or open venous thrombectomy trials. The AngioJet Thrombectomy System is a pharmacomechanical peripheral thrombectomy device with active aspiration and Power Pulse TM lytic delivery designed to treat the widest range of thrombosed vessels, rapidly restoring blood flow. Weaimed to report our experience regarding AngioJet Thrombectomy System in the treatment of acute deep venous thrombosis.

Methods: Sixty-eight consecutive patients with acute massive lower extremity deep venous thrombosis were included in this retrospective study. Records of patients who underwent AngioJet thrombectomy for acute DVT between January and July 2021 were retrospectively analyzed. Patients ranged in age from 22 to 75 (mean 51.47). There were 21 patients (10 female). Right lower extremity was involved in 6 patients, left lower extremity in 12,and bilateral lower extremities were involved in 3. Nine patients had thrombus at external iliac level,9 patients had thrombus at common iliac level, and 3 patients had thrombus at inferior vena cava. The etiology was post-cesarean section in 2 patients, fracture of long bone in 2,postoperative in 1, and idiopathic in 16. All patients received simultaneous alteplase. Percutaneous transluminal angioplasty (PTA) was applied to 10 patients.

Results: A total of 21 patients diagnosed with acute lower extremity DVT were included in the study. As a complication, an allergic reaction developed in 1(%4,6) patient due to the use of contrast and the procedure was terminated.The procedure was successful in 18 (%85.71) patients. Mean duration of hospital stay was 2.47 days. All patients were discharged on anticoagulant therapy.

Conclusion: This technique is a safe, effective and easily-performed method of endovascular treatment with a low rate of major complications and shows promising clinical results.

ID: **177**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

MULTIVASCULAR INVOLVEMENT IN A 62-YEAR OLD COVID-19 PATIENT: ACUTE ILIO-FEMORAL ARTERIAL OCCLUSION ACCOMPANYING DEEP VEIN THROMBOSIS

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Background: COVID-19 is mild or uncomplicated in most people, but in presence of serious thrombotic complications approximately 14% of patients require hospitalization. Few descriptions of the potential relationship between COVID-19 and multi-vascular peripheral thromboembolism exist in the literature.

Case presentation: A 62-year old female patients admitted to emergency department with pain, swelling and cyanosis on her right leg for two days. She had Covid-19 diagnosis 7 days ago and she was discharged with prescription of low molecular heparin. Her initial phyiscal findings are: dyspneic with 22 respiratory rate/minute, temparature of 37,7C, oxygen saturation of 89% on room air, pulseness on her right leg, swelling and cyanosis. Laboratory findings revealed leukopenia, elevated C-reactive protein, D-dimer and ferritine levels. Thorax computed tomography demonstrated opacity on the upper zone of left lung and lower extremity arterial and venous doppler ultrasonography revealed acute ilio-femoral arterial occlusion, lack of lower extremity blood flow beyond the proximal superficial femoral artery accompanying with ilio-caval deep vein thrombosis. There was no evidence of significant pre-existing atherosclerotic disease. She was intubated for respiratory failure and transferred to the operating room. Iliodistal embolectomy was performed by vascular surgeons. Distal pulses were palpable and cyanosis was disappered at postoperative follow-up period. Low-molecular heparin treatment for both arterial occlusion and venous thrombosis, ventilatory and parenteral support was continued and the patient's clinical status slowly improved. She was discharged from the hospital at 28th day.

Conclusion: COVID-19 is related with thromboembolic events and multi-vascular involvement may ocur within the same individual. With early diagnosis and appropriate medical and surgical treatment, morbidity and mortality can be prevented.

Keywords: COVID-19, Deep vein thrombosis, Arterial occlusion

ID: **57**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

DEEP VEIN THROMBOSIS DURING THE POSTPARTUM PERIOD: USEFULNESS OF CATHATER-DIRECTED THROMBECTOMY AND THROMBOLYSIS IN THE TREATMENT

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Background: Pregnancy is one of the major risk factors for the development of venous thromboembolism (VTE).

Objective: Pregnancy and the postpartum period are generally considered as contraindications for thrombolysis. We evaluate in this report the safety and effectiveness of using cathater-directed thrombectomy and thrombolysis in treating nine symptomatic postpartum deep vein thrombosis (DVT).

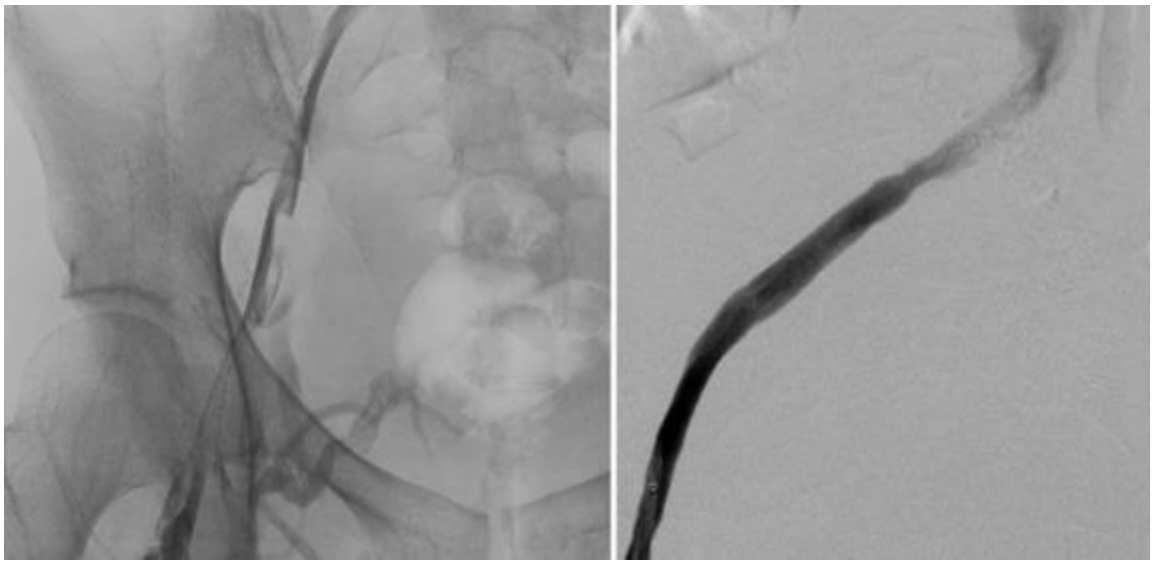
Methods: Between November 2018 and January 2021, 9 patients who underwent cathater-directed thrombectomy and thrombolysis for acute iliofemoral DVT in the postpartum period in a single center were analyzed retrospectively. Preoperative characteristics, perioperative diagnostic tool, surgical interventions and surgical success were presented.

Results: Cathater-directed thrombectomy and thrombolysis were performed for all patients. (Figure 1) Additionaly, balloon dilatation with 8 mm diameter balloon was performed for 3 (33.3%) patients to increase the outflow tract in the iliac vein. The average total dose of alteplase for each patient was 30.3 ± 3.4 mg, with an average duration of therapy of 30.6 hours. Technical success was achieved for all patients in their 6 months follow-up.

Conclusion: Cathater-directed thrombolysis is a safe and effective treatment for restoration of the venous flow in patients with postpartum iliofemoral DVT. Following mechanical thrombectomy and thrombolysis residual venous obstruction should be treated by balloon angioplasty to increase the outflow.

Key Words: Postpartum, Deep vein thrombosis, Cathater-directed thrombolysis

Figure 1. Before and after cathater-directed thrombolysis



ID: **278**

Topic: **Cardiology » Peripheral arterial diseases**

Presentation Type: **ORAL**

NERVE DAMAGE AFTER PERIPHERAL ENDOVASCULAR INTERVENTION

Şükrü ÇETİN

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Introduction: Superficial femoral artery (SFA) interventions are life-saving in patients with peripheral artery disease. However, complications may develop during the procedure. In this case report, a rare complication after SFA endovascular intervention will be shared.

Case: A 55-year-old male patient was admitted to the outpatient clinic complaining of claudication and tingling in the left foot after walking 20 meters distance. In the medical history, a stent was implanted in the left SFA distal region 3 years ago and balloon angioplasty was performed one year ago. Peripheral angiography was performed due to the patient's complaints. It was observed that the left SFA was totally occluded from the proximal segment and it was filling from the distal segment. No significant stenosis was detected in the arteries below the knee and foot . The patient's SFA lesion was passed antegrade. A 5x150 mm drug-coated balloon was applied to the distal and mid SFA, and a 7.0x80 mm drug-coated balloon was made to the mid and proximal SFA. No extravasation was observed in the vessel. The patient was taken to the intensive care unit for follow-up. Orthopedic consultation was requested due to intense pain in the left femoral region. Compartment syndrome was not considered. Analgesic therapy was recommended. After consultation with neurology and physical therapy, EMG was performed and nerve damage was observed. The neurologist opinion was there might be peripheral nerve damage and the patient would be appropriate to receive physical therapy. NSAID and gabapentin were started and the patient was transferred to the physical therapy department.

Discussion : To our knowledge, this is the first case with peripheral nerve damage in SFA endovascular intervention. This damage may have developed secondary to prolonged inflation of the SFA in the adductor channel at high atmospheric pressure. Choosing a balloon suitable for the vessel diameter in SFA interventions can reduce the risk of complications.

ID: **289**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

CONTRAST-ENHANCED COMPUTED TOMOGRAPHY AND CLINICAL FEATURES OF PATIENTS WITH ILIAC VEIN COMPRESSION SYNDROME WITHOUT THROMBUS

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Introduction and Objective: Iliac vein compression syndrome is actually seen much more than expected in the society. May and Thurner found a spur rate of 22% in the left common iliac vein in their study on cadavers. In this study, it was aimed to reveal the clinical characteristics of patients diagnosed with contrast-enhanced computed tomography (CT) without thrombosis.

Method: Thirty-seven patients diagnosed with iliac vein compression syndrome withcontrast-enhanced CT angiography were included in the study. Thestudy is a retrospective analysis of patients who applied to the Sivas Cumhuriyet University cardiovascular surgery outpatient clinic between January 2018 and December 2020 due to left leg swelling and diagnosed with iliac vein compression syndrome.

Results: No pathological findings were found in the routine complete blood count, biochemistry, coagulation parameters, and thyroid function tests of the patients. None of the patients had a history of thrombus and no thrombosis was found on CT. Twenty-seven of the diagnosed patients were female (72.9%) and ten were male (27.1%). The mean age of women was 45.3 ± 10.89 (23-64), and the mean age of men was 44.2 ± 10.68 (30-58). Swelling in the left leg was present in the histories of all patients (Table 1). In contrast-enhanced CT angiography, the severity of compression was based on causing more than 50% obstruction in the common iliac vein lumen (Figure 1).

Discussion and conclusion: Iliac vein compression syndrome; mechanical compression of the left common iliac vein between the right common iliac artery and lumbar vertebral corpus. Intimal hyperplasia within the lumen secondary to mechanical compression and arterial pulsation causes obstruction as a result of the development of "spur". This causes varicose enlargement in the proximal of the obstruction and pelvic collateral development. The tendency for venous thrombosis increases. Diagnosis and treatment before thrombosis develops will provide both regression of patients' complaints and minimize the risk of thrombosis development.

Oral Presentation Session

New Perspectives in Minimally Invasive CABG Surgery

Date: 05.11.2021 Time: 15:30 - 16:30 Hall: 5

ID: **181**

Topic: **Cardiovascular Surgery » Minimally invasive CABG**

Presentation Type: **ORAL**

THE EFFICACY OF POSTOPERATIVE CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) THERAPY IN PATIENTS UNDERGOING MINIMAL INVASIVE MULTIVESSEL CORONARY ARTERY BYPASS GRAFTING VIA LEFT ANTERIOR MINI-THORACOTOMY

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Background: Cardiac surgery is in the major surgery group, which is challenging in terms of patient rehabilitation in the postoperative period. Although minimally invasive methods are comfortable for the patient, the possibility of complications may sometimes be higher. In minimally invasive coronary bypass surgery, the risk of developing postoperative pulmonary complications may increase as one lung is generally studied with the aid of a dual lumen endotracheal tube. In our study, we aimed to investigate the contribution of routine CPAP application to postoperative recovery.

Methods: In our study, a total of 24 patients who underwent minimally invasive multi-vessel bypass operation with left anterior thoracotomy in our clinic and who were treated with CPAP in the postoperative period were retrospectively analyzed. 16 of the patients were male and 8 were female. The age ranges were 46 to 78 years, with a mean age of 61.2 ± 24 years. The patients were evaluated in terms of pulmonary complications such as atelectasis, pleural effusion, pneumonia, partial oxygen pressure decrease and blunt costodiaphragmatic sinus.

Results: Two of our patients, who had atelectasis areas in the chest X-ray in the early postoperative period, showed improvement with mild blunting of SCD, without the need for any intervention at the discharge stage after CPAP. No pneumonia table developed in the postoperative period. Two of our patients with low saturation and partial oxygen pressure achieved sufficient partial values in room air after CPAP support. Pleural effusion requiring thoracentesis was not detected in any patient. In general, no different complications were observed. In the postoperative period, our patients were discharged between 5 and 7 days.

Conclusion: Although minimally invasive cardiac surgery is popular in terms of patient comfort, the complications that may develop can be severe. The difficulties of the technique bring some risks. Pulmonary complications are one of the most important factors forcing the patient and the surgeon after minimally invasive cardiac surgery. Working with an intraoperative single lung increases the risk of complications. As seen in our study, CPAP application after cardiac surgery with thoracotomy is an effective treatment method in the prevention of pulmonary complications.

Keywords: continuous positive airway pressure,multivessel bypass, mini-thoracotomy

ID: **21**

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

Presentation Type: **ORAL**

CORONARY ARTERY BYPASS GRAFTING ON THE BEATING HEART IN ELDERLY PATIENTS: MID-TERM RESULTS

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Objective: The mid-term survival rate and surgical mortality of older patients were assessed in order to determine the success of beating heart surgery.

Methods: Between May 2014 and June 2018, 280 individuals over the age of 80 undergone beating heart surgery. Emergency situations and reoperations were left out. The average Euro-score was 5.01. (4-22). 38 % had hypertension of patients, 26% diabetes mellitus, 34 % had serious carotid artery stenosis, 16 % had kidney failure, 28 % has COPD, and 3 % had previously had neurological problems. By positioning it to both edges of the coronary artery, the Octopus Tissue Stabilizer (Medtronic Inc., Minneapolis, MN) was used. All operations were completed without the use of a coronary shunt. Each patient was followed up for at least two years by clinical evaluation. At the end of 4 years, all data were statistically processed.

Results: Post-operative neurological disorders occurred 1.1 % of patients, low cardiac output syndrome involved 1.7 %, and new-onset acute renal failure affected 2.2 %. The overall surgical and one-month mortality rates were both 1.22 %. Actuarial estimated survival rate decreased to 88% at 1 year and to 80% after 4 years of follow-up. In 3.2 % of patients, intra-aortic balloon pump (IABP) was required prior to surgery, and 1.6 % required conversion to a standard by-pass. Postoperatively, IABP required % 0.8 of patients. The average duration spent in intensive care was 1.48 days (1-6 days), and the average length of stay in the hospital was 6.6 days (3-72).

Conclusions: Revascularization of the beating heart and coronary artery yields good results in terms of operational mortality in elderly patients. Mid-term outcomes after off-pump procedures tend to have a decreased rate of adverse cardiac events.

ID: **5**

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

Presentation Type: **ORAL**

DOES THE CHA2DS2-VASC-HS SCORE PREDICT INTERNAL MAMMARY ARTERY (IMA) FLOW BEFORE CORONARY BYPASS SURGERY?

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Aim: Left internal mammary artery (LIMA) grafts should be used in patients undergoing CABG[Ed1] . No other procedure results in patency equivalent to that of the left anterior descending coronary artery (LAD)–LIMA bypass graft. The CHA2DS2-Vasc-HS scoring system can be used to successfully predict CAD severity in stable CAD patients. We aimed to investigate the relationship between LIMA flow and the CHA2DS2-Vasc-HS score.

Methods: A total of 684 patients who underwent CABG surgery were included in this study. Previous history of bypass surgery, emergency operations, patients with Leriche syndrome and patients with severe obstructive pulmonary and subclavian artery disease were excluded from our study. Patients with a LIMA flow that was suitable for bypass grafting, as determined during the intraoperative evaluation, were included in the low LIMA flow group, and the CHA2DS2-Vasc-HS score was calculated for all patients.

Results: Patients in the low LIMA flow group (Group 1) were older. The CHA2DS2-Vasc-HS score ($p<0.001$), presence of mild or moderate COPD ($p = 0.022$), number of severely diseased vessels ($p=0.036$) and BMI ($p<0.001$) were independent predictors of poor LIMA flow. The cutoff value of the CHA2DS2-VASc-HS score for the prediction of poor LIMA flow was >5.5, with a sensitivity of 92.9% and specificity of 83.4% (AUC: 0.938, 95% Cl: 0.906 – 0.970, $p<0.001$).

Conclusion: A preoperative high CHA2DS2-Vasc-HS score can be used to predict low intraoperative LIMA flow. The CHA2DS2-Vasc-HS score is an easy-to-use and reliable estimation method and can be used as a usually additional preoperative of LIMA flow in patients undergoing CABG due to severe CAD.

ID: **156**

Topic: **Cardiology » Management of Atrial Fibrillation**

Presentation Type: **ORAL**

PLASMA GALECTIN-3 LEVEL HAS HIGH SPECIFICITY AND SENSITIVITY FOR PREDICTING POSTOPERATIVE ATRIAL FIBRILLATION AFTER CORONARY ARTERY BYPASS SURGERY

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Objective: Postoperative new-onset atrial fibrillation (POAF) is common after coronary artery bypass surgery (CABG). We aimed to evaluate the specificity and sensitivity of preoperative and postoperative serum Netrin-1 and Galectin-3 levels in predicting POAF in patients undergoing CABG.

Methods: After obtaining institutional review board approval, we conducted a prospective cohort study including a total of 50 patients who underwent CABG. Plasma Netrin-1 and Galectin-3 levels were assessed before surgery (baseline) and at the 6th, 12th and 24th hours after surgery by ELISA method. The patients were divided into two groups according to the occurrence of POAF: POAF (+) and POAF (-). Data are given as mean±SD or median with quartiles. Kolmogorov–Smirnov test, Student t-test, and Mann–Whitney U test were used as appropriate. $p<0.05$ = significant. The area under the ROC curve (AUC) was used to assess specificity and sensitivity.

Results: Twenty-six patients developed POAF while 24 patients remained in sinus rhythm. There were no statistically significant differences between the two groups regarding demography or surgical data. Compared to baseline, plasma Netrin-1 levels increased at 6th, 12th, 24th hours following CABG in both POAF (+) and POAF (-) groups. Baseline plasma Netrin-1 levels, as well as the 6th, 12th and 24th-hour measurements, were similar between POAF (+) and POAF (-) patients (1381 ± 629 vs 1130 ± 237 pg/ml; 1860 ± 1180 vs 1397 ± 396 pg/ml; 1866 ± 1071 vs 1799 ± 839 pg/ml; 2106 ± 1252 vs 1642 ± 696 pg/ml, respectively). Baseline Galectin-3 levels were higher in POAF (+) patients compared to POAF (-) patients (30.7 ± 10.1 vs 15.7 ± 3.6 pg/ml, respectively). Galectin-3 levels at 6th, 12th, 24th hours following CABG increased in both POAF (+) and POAF (-) groups (46.2 ± 26.3 vs 24.9 ± 5.9 pg/ml; 45.2 ± 24.1 vs 26.6 ± 9.3 pg/ml; 54.2 ± 33.5 vs 28.6 ± 7.7 pg/ml, respectively) ($p<0.05$). ROC curve analysis showed that plasma Galectin-3 is highly specific and sensitive for the prediction of POAF at baseline and at 6th and 24 hours (AUC 0.967, CI 0.908-1.000, $p<0.0001$; AUC 0.858, CI 0.721-0.996, $p=0.002$; AUC 0.839, CI 0.687-0.991, $p=0.003$, respectively).

Conclusion: While Netrin-1 does not appear to have a promising marker for developing POAF in patients undergoing CABG, Plasma Galectin-3 level has high specificity and sensitivity for predicting postoperative atrial fibrillation after coronary artery bypass surgery and could be used as a marker to predict POAF.

ID: **131**

Topic: **Cardiovascular Surgery » Minimally invasive CABG**

Presentation Type: **ORAL**

MINIMALLY INVASIVE MULTIVESSEL CORONARY ARTERY REVASCULARIZATION THROUGH LEFT ANTERIOR MINITHORACOTOMY: A BIG CHALLENGE OF THE DECADE

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ABSTRACT

Backgrounds

Over decades median sternotomy has a been a gold standard approach for treatment of isolated multivessel coronary artery disease but this traditional approach has been associated with sternal wound healing complications leading to remarkable morbidity and mortality. Our aim was to describe our technique of left anterior minithoracotomy through fourth intercostal space for treatment of patients with multivessel coronary lesions .

Methods

Our experience includes 100 consecutive patients who were operated with the same surgical team. Left internal thoracic artery was harvested in all patients by the aid of rib retractor. All patients were operated under cardiopulmonary bypass (CPB) with blood cardioplegia through left minianterior thoracotomy of 5cm-7cm. All other grafts(radial artery,saphenous vein) were harvested endoscopically.

Results

We had one mortality(1%) due to non cardiac related cause, no early postoperative myocardial infarction was observed . No convertion to sternotomy(0%). Seven patients had postoperative atrial fiblillation(7%), 2 patient suffered postoperative stroke(resolved with minor neurologic deficit)(2%), 4 patients had revision due to postoperative bleeding(4%) perfomed through the same incision(no sternotomy was required). The mean number of bypass was 3.6 ±0.8, cross clamping time was 78.1 ± 20.6 minutes, cardiopulmonary bypass time was 153.2 ± 37.5 minutes,entubation time was 6.3± 11.3 hours, intensive care unit(ICU) stay was 1.6± 1.8 days, hospital stay was 4.9± 3.1 days.

Conclusion

CABG via left anterior thoracotomy is equally effective as traditional sternotomy but less invasive,quick recovery and is so promising in terms of less morbidity and mortality. It might be an alternative to sternotomy incision and percutaneous techniques

Keywords: left anterior mini thoracotomy, cardiopulmonary bypass, coronary artery bypass grafting

Oral Presentation Session

New Techniques in Congenital Heart Surgery

Date: 05.11.2021 Time: 16:45 - 17:45 Hall: 5

ID: **260**

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

Presentation Type: **ORAL**

GENERAL PRACTITIONERS ARE A MAINSTAY IN THE CARE OF ADULTS WITH CONGENITAL HEART DISEASE

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Background: The number of adults with congenital heart disease (ACHD) is steadily increasing. The aim of the present study was to investigate ACHD care from the perspective of patients and general practitioners.

Methods: Questionnaire-based cross-sectional study to analyze the ACHD care in Germany from the perspective of patients and primary care physicians (PCP).

Results: 4,493 ACHD (53.7% female; 41.3±16.9 years) and 1055 PCP completed the questionnaire. The majority of ACHD (79.8%) visited their PCP for noncardiac health problems but also for cardiac problems. Almost all ACHD had significant medical consultation needs. 2,014 (44.8%) patients did not know of certified ACHD specialists or specialized centers. 2,816 (62.7%) didn't know of any patient organizations. 87.5% of PCP had cared for ACHD of all severities. Many were not aware of any certified ACHD specialists. In fact, only 28.5% consulted an ACHD specialist. 23.5% were aware of ACHD patient organizations.

Conclusion: General practitioners are a mainstay of ACHD care in Germany. The present study shows that ACHD and PCPs are largely uninformed about the specialized care structures available nationwide. Solutions need to be developed to involve general practitioners more intensively in ACHD care in order to keep morbidity and mortality of affected individuals low.

ID: **30**

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

Presentation Type: **ORAL**

ROSS PROCEDURE: SINGLE CENTER EXPERIENCE

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Background Aim:
The Ross procedure, which was first performed by Donald Ross in 1967, includes the use of autogenous pulmonary valve for aortic valve replacement and right ventricular outflow tract reconstruction, is preferred especially in children and young adults with its good hemodynamic results and no need for anticoagulation. In this study, we aimed to present the early and mid-term results of the patients who underwent the pediatric ross procedure in our center.

Methods:
Eleven patients who underwent ross procedure due to aortic valve pathology in our clinic between 2013-2021 were included in the study and the patients were evaluated retrospectively. After median sternotomy, high aortic and bicaval venous cannulation was performed. In moderate hypothermia, the right ventricular outflow tract was reconstructed with Freestyle (Medtronic) in 4 patients and with Contegra (Medtronic) in 7 patients. All patients underwent CPB output transesophageal echocardiography.

Results:
Of the patients included in the study, 6 patients were female and 5 patients were male. The ages of the patients ranged from 6 months to 17 years, with a mean age of 7.81±5.44 years. The mean intensive care unit time of the patients was 8.63±8.54, and the mean service time was 7.54±3.55. mortality . The duration of cardiopulmonary bypass of the patients ranged from 158 to 341, with a mean of 247.36±69.98. The mean cross-clamp time was the longest 318 and the shortest 229, with an average of 229.18 ± 72.78 minutes. In addition to the Ross procedure, the Konno procedure was applied to 2 patients. Three patients needed ECMO in the early postoperative period. Of these patients, 2 patients died and the mortality was calculated as 18%. Cerebrovascular accident developed and neurological complications were observed in 1 patient.

Conclusion:

Although the Ross procedure has many advantages such as no need for anticoagulation, less risk of infection due to its biological grafts, relatively growing tissue, and absence of metallic valve sound, it should be performed in experienced centers after appropriate patient selection, as it is a procedure that requires technical experience.

ID: **169**

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

Presentation Type: **ORAL**

USAGE OF INTRAOPERATIVE PHENTOLAMINE AND DISTAL PERFUSSION TECHNIQUE IN PATIENTS WITH HYPOPLASTIC LEFT HEART SYNDROME

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Introduction:

Hypoplastic Left Heart Syndrome (HLHS) is a congenital anomaly characterized by hypoplasia or absence of the left ventricle and severe hypoplasia of the ascending aorta. Surgery is the only option in the treatment of these patients. Surgery can be done with two different methods. The first method is called as staged reconstruction, including 1st stage Norwood operation at the age of 0-30 days, 2nd stage Glenn operation or Hemifontan Surgery at the age of 4-10 months and 3rd stage Fontan Surgery at the age of 2-3 years. The aim of this study is to present our results and operation techniques in patients who underwent Norwood surgery with the distal perfusion technique along with the use of intraoperative phentolamine between September 2019 and September 2020 in our clinic.

Methods:

Patients who were operated for HLHS between September 2019 and September 2020 were retrospectively reviewed and patients data were collected. The type of operation and mortality rates of these patients were recorded. In addition, mortality rates in patients who underwent Norwood Stage 1 surgery and who used intraoperative phentolamine and distal perfusion technique were compared with the other group.

Results:

Between September 2019 and September 2020, 18 patients with a diagnosis of HLS were operated. 7 patients died. the mortality rate was 38.8%. Norwood stage 1 was applied to 13 patients. 4 patients died. the mortality rate was 30%. Hybrid procedure was applied to 5 patients. 3 patients died. the mortality rate was 60%.Distal perfusion technique with intraoperative phentolamine was used in 9 of 13 patients who underwent Norwood stage 1. 2 patients died. the mortality rate was 22%.

Discussion:

We aimed to present our results and operation techniques in patients who underwent Norwood surgery with the distal perfusion technique along with the use of intraoperative phentolamine between September 2019 and September 2020 in our clinic. After starting antegrade selective cerebral perfusion with a 6f cannula placed in the innominate artery, a second arterial cannula is placed through the pulmonary artery to provide cooling. After the cross clamp, the cannula in the pulmonary artery is removed and a new cannula prepared with our own technique is placed in the descending aorta prepared after the PDA division. In this way, distal organ perfusion is provided effectively during the anastomosis. Since the cannula prepared with our own technique is made of silicone material, it can be easily positioned during anastomosis and provides ease of anastomosis. Phentolamine is an alpha-adrenergic blocker and is effective in reducing systemic vascular resistance. It increases organ perfusion and reduces mortality when used together with the distal perfusion technique. In our study, the mortality in patients who underwent Norwood surgery with phentolamine and distal perfusion was 22%, while it was 50% in patients who did not.

Conclusion

We argue that the use of phentolamine together with the distal perfusion technique reduces mortality in Norwood surgery, and this hypothesis needs to be developed in the light of the literature.

ID: **162**

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

Presentation Type: **ORAL**

A NOVEL SURGICAL TECHNIQUE TO REPAIR SUPRA VALVULAR PULMONARY STENOSIS AFTER ARTERIAL SWITCH OPERATION FOR TGA

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Objective

We present here a novel surgıcal technique to repair supravalvular pulmonary stenosis that occurs after arterial switch operation for TGA. Supravalvular pulmonary stenosis was reported in about %50 percent of arterial switch operations in TGA. We have operated three cases so far using this technique.

Methods

The last case presented in this article was a ten and half months old male baby with moderate malnutrition who had an arterial switch operation on the second day of his life. Echocardiography revealed severe supravalvular pulmonary stenosis with 75 mm/s gradient; also severe tricuspid regurgitation was found. We decided to reoperated the child for both. To avoid any risk of rupture or bleeding of the anterior wall of the heart we planned to put the patient on CBP before starting sternotomy as a novel technique also whole operation was planned as beating heart without cross clamping allowing further dissection around aorta.

Therefore we started with right iliac arterial and venous cannulation in order to get on CBP before sternotomy. Having started CBP the heart was downloaded, avoiding any tension under the sternum. After clear exposure of the stenotic pulmonary artery a small incision was performed. Through the small incision, the first venting cannula was inserted into the right ventricle; further incision towards pulmonary artery was carried out bloodless with clear exposure on the beating heart without cross clamping. So we could address not only supravalvular pulmonary stenosis as well as valvular stenosis by Hegar dilator. Then to enlarge supravalvular pulmonary stenosis, a bovine pericardium was tailored to reach the target pulmonary artery size in proportion to the age and weight of the patient. At this point we inserted a second venting cannula through the pulmonary artery in an antegrade fashion to establish clear exposure. Bovine pericardium sutured previously dilated pulmonary artery. We kept both venting cannulas in situ to the very end of the anastomosis to maintain bloodless exposure.

We proceed to the second part of the operation for tricuspitoplasty. Again on the beating heart a vertical right atriotomy incision was performed in order to expose the tricuspid valve. A venting cannula was inserted to the right ventricle. Coronary sinus blood flow was continuously aspirated by the pump suction. Then Modified De Vega Ring annuloplasty sutures were inserted under the clear exposure on the beating heart.

Figure: Right iliac arterial and venous cannulation and vent cannulas in the right ventricle and pulmonary artery

Result

Cases	Age	Complaint	Medical History	EKO	Discharge
1.	5	Dyspnea	ASO for TGA	Severe SPS	At 10th postop day with no symptoms
2.	3	Dyspnea	ASO for TGA	Severe SPS	At 15th postop day with no symptoms
3.	1	Malnutrition	ASO for TGA	Severe SPS+TR	At 7th postop day with no symptoms

Table: Clinical information and results of patients using the new technique.

Conclusions

In this new technique we used in the repair of supravalvular pulmonary stenosis after arterial switch operation, we used peripheral cannulation and vent cannulas. Peripheral cannulation made sternotomy safer. Vent cannulas provided bloodless exploration of the pulmonary artery.Completing the operation in a beating heart and without cross-clamping prevented important postoperative complications.

ID: **250**

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

Presentation Type: **ORAL**

CONVENTIONAL DOPPLER MYOCARDIAL PERFORMANCE (TEI) INDEX, TRICUSPID AND MITRAL ANNULAR PLANE SYSTOLIC EXCURSION (TAPSE AND MAPSE) IN NEWBORN WITH TRANSIENT TACHYPNEA AND CONGENITAL PNEUMONIA

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Abstract: Objective: Tei index and TAPSE & MAPSE are very useful and reliable non-invasive methods to assess the global myocardial systolic and diastolic functions, and right and left ventricular longitudinal myocardial functions, respectively. In this study, we aimed to assess right and left ventricle (RV and LV) functions by myocardial performance index (Tei index) and tricuspid and mitral annular plane systolic excursions (TAPSE and MAPSE) newborn patients with transient tachypnea and congenital pneumonia.

Methods: The findings of echocardiographies performed in our neonatal intensive care unit and pediatric cardiology echovardiograpy department for control purposes between October 2020 and June 2021 were assessed. In group 1 (Patient group) 38 patient, group 2 (control group) 27 newborn which are at 35-41 weeks of gestation, Tei index and TAPSE and MAPSE measurements were recorded. Repeating echocardiographies, premature infants were excluded from the study.

Results: Of all neonates included in the study (n=65), LV Tei index was 0.44±0.15, RV Tei index was 0.38±0.26, TAPSE was 10.2±1.97 mm, TAPSE/m2 44.95±6.44 and MAPSE 6.03±1.39 mm, MAPSE/m2 26.51±4.75. Significant difference was observed in TAPSE//TAPSE/m2 and MAPSE//MAPSE/m2 values (p=0.001//p=0.015 and p=0.001//p=0.024) respectively. Also, LV and RV Tei index were significantly lower in patient group (p=0.026 and p=0.002). EF, FS values were the same in both groups.

Conclusion: Tei index, and TAPSE and MAPSE are reliable noninvasive methods for global heart functions and annular plane systolic longitudinal functions of right and left ventricles, respectively, which are easily used on as well as children who are healthy or with congenital pneumonia and transient tachypnea; and these methods also can be used in the routine clinical practice.

Oral Presentation Session

Understanding the Surgery for Congenital Heart Diseases

Date: 05.11.2021 Time: 18:00 - 19:00 Hall: 5

ID: **263**

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

Presentation Type: **ORAL**

PATIENT-REPORTED SEX-DIFFERENCES IN ADULTS WITH CONGENITAL HEART DISEASE

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Background: Currently, far more than 1.2 - 2.7 million adults with congenital heart disease (ACHD) are expected to live across Europe. Although there is sufficient evidence that sex-/gender-based differences can influence treatment decisions and healthcare for adults with congenital heart disease (ACHD), there are major research shortfalls in this regard. Therefore, the aim of this study was to assess gender-specific differences in a large ACHD cohort

Methods: This cross-sectional, questionnaire-based study included 3,880 ACHD (53.6% female; 41.9 ±17.1 [range: 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).

Results: Significant differences were observed included a female predominance in tetralogy of Fallot (p<.001), atrial septal defects(p<.001), and persistent ductus arteriosus (p=.028), and a male predominance in aortic valve stenosis/insufficiency (p=.001) and transposition of the great arteries (p<.001). The prevalence of coronary artery disease was significantly higher in men (p<.001),while women reported a higher prevalence of pulmonary hypertension (p<.001), cardiac arrhythmias (p<.001), and mental impairments (p=.003). 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 2,194 patients (54.4% of them female) stated that they had never been referred to an institution specialized in CHD. Both sexes had a high counselling demand, but there were significant differences between male and female participants (see table). In terms of QoL, female participants reported greater impairments, especially in everyday activities, more pain/physical complaints, and more anxiety/depression.

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 sensitized 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.

ID: **146**

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

Presentation Type: **ORAL**

DIAPHRAGMATIC PARALYSIS AFTER CONGENITAL CARDIAC SURGERY

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Abstract

Objective: Phrenic nerve injury resulting in hemidiaphragm paralysis (DP) leads to morbidity in children undergoing repair of congenital heart defects. Surgical plication of the diaphragm is believed to be beneficial to the patient, with difficult weaning from ventilation; however, the optimal timing remains unclear. In this study, we aimed to present the results of patients with DP after congenital heart surgery.

Methods: A retrospective analysis of all patients with paresis of the diaphragm between 2011 and 2021 was performed, with special attention to the rate of reintubations, ventilation and intensive care unit stay and the rate of plication. We analyzed the incidence, clinical course, surgical management and follow up of the patients with DP, retrospectively. Patients with postoperative DP diagnosed by chest X-ray, ultrasound, or fluoroscopy.

Results: During the study period, total 5365 patients operated, 58(1,08%) patients with diaphragmatic paralysis were diagnosed and included. Diaphragmatic plication was performed in 46(82%) patients, 29 of them had biventricular repair and 17 patients had single ventricle repair performed. Phrenic nerve injury was documented at a median of 8 days (1–84 days) after operation. The duration of assisted ventilation after cardiac surgery was 13 days (1-54 days), and the median time to plication was 21 days (range 7-210 days). Eight patients(17%) who underwent plication died, and all were under 1 year of age. Most deaths were due to post-plication pulmonary complications after plication. Four patients required tracheostomy.

Conclusions: DP complicating pediatric heart surgery is rare, but portends significantly worse outcomes. One-half of patients underwent plication. Early diagnosis and plication result in timely extubation. Transthoracic diaphragmatic plication is an effective treatment of DP especially in newborns and small children, to wean patients from mechanical ventilation and to prevent long-term side effects of mechanical ventilation.

ID: **44**

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

Presentation Type: **ORAL**

CLINICAL AND BIOCHEMICAL EVALUATION OF APROTININ USAGE IN PATIENT UNDERGOING OPEN HEART SURGERY DUE TO CONGENITAL HEART DISEASE

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Objective

Various agents have been used to minimizze side effects caused by cardiopulmonary bypass(CPB), supressed inflammatory reaction and reduce coagulopathy. Studies have shown that the use of serine protease inhibitor aprotinin reduce the negative effects of CPB on the hemotological and inflammatory systems.

Methods

In this study, the biochemical and clinical results of using aprotinin in 40 pediatric patient who undergoing open heart surgery due to congenital heart disease were evaluateted. Patients with normal preoperative renal and hepatic functions, PT, INR and aPTT were included. Patient who had a previous sternotomy, used antiagregant therapy before the operation and had a body weigt 20 kg were excluded.

Aprotinin was administreted to 20 randomly selected 40 patients(group 1), with 35000 KIU/KG boluses before starting the operation, 350000 kıu/kg in prime solution during CPB, and 100000 KIU/kg/h infusion throughout the operation. Tjhe other 20 patient (group 2) underwent open heart surgery without the use of aprotinin.

Results

There was no significant diffirence between the two groups in terms of cross clemp time, CPB duration and operation period. There was significant diffrence in terms of hemostosis time between the two groups. Group 1 had shorter hemostosis time than group 2.

In group 1, the amount of drainage and the need fot blood and TDP were less after operation. In this group postoperative Htc, Hb and WBC were higher. The diffrence is statistical significant.

In group 1, the duration of stay in intensive care unit and mechanical ventilation time were shorter. But, there was no significant diffrence.

Conclusions

The positive effect of IL-8 levels on reducing the inflammation caused by CPB in patients given and not given Aprotinin was not demonstrated in our study.

ID: **275**

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

Presentation Type: **ORAL**

IS AMPLATZER DUCT OCCLUDER II ADDITIONAL SIZE EFFECTIVE AND SAFETY FOR OCCLUSION OF PATENT DUCTUS ARTERIOSUS?: EARLY RESULTS AND MIDTERM FOLLOW-UP

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Background:

The closure of patent ductus arteriosus (PDA) with the transcatheter method has taken its place as the first choice in treatment with the development of new devices and techniques. In this study, our cases that were closed using new device Amplatzer duct occluder II additional sizes (ADO II AS) were presented, and the efficacy and safety of PDA closure with these devices in children were discussed.

Methods:

Between August 2018 and August 2021, a total of 41 patients, 5 of whom were less than 1 months old, underwent PDA closure with ADO II AS device. The median age of the patients was 28.26 months (11 days-192 months). There were 5 patients ≤3 kg and mean follow-up was 28.5 months, range (36 -0) 36 months. Twenty seven (65.8%) were females, and 14 (34.2%) were males. Twenty nine of the patients were closed by antegrad route and 12 of them closed by retrograde route. The mean PDA diameter was 1.9 mm at its narrowest point. Duration of the procedure and fluoroscopy were 42 mins and 7 mins, respectively. The procedure was successful in all cases. No major complications were observed. An 11-day-old newborn baby weighing 1 kg died 3 days after the procedure due to sepsis and premature problems. The patients were asymptomatic at the follow-up, and none of the patients had any residual leak. None of the patients showed coarctation or left pulmonary artery stenosis at the latest follow-up.

Results:

This study showed that the ADO II AS device is safe and effective in PDA closure in all age groups. In addition, it is an advantageous device with its low profile catheter use in premature and newborn babies, minimal embolization risk and low residual shunt rate.

Conclusion:

ADO II AS device can be considered as an alternative because it can be better positioned and stable in small PDA's compared to coils. The lower profile and symmetry of this device allows for venous or arterial approach and smaller delivery catheter size. More patients will support these findings in new studies involving long-term outcomes.

Keywords: Amplatzer Duct Occluder II Additional Sizes, Patent Ductus Arteriosus closure, Transcatheter Intervention, Congenital Heart Defect

ID: **279**

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

Presentation Type: **ORAL**

A DURABLE HOMOGRAFT AS RV-PA CONDUIT FOR 20 YEARS AGO – A CASE REPORT

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Tetralogy of Fallot is the most common cardiac anomaly among cyanotic congenital heart diseases[1]. In patients with this anomaly, primarily palliative surgery or full correction operation is decided according to the development status of the pulmonary arteries[2]. This operation decision is made according to McGoon ratio, Nakata index and Z value measurements [3]. Total correction In the case we will talk about, first a modified Blalock shunt operation was performed and then a full correction surgery was performed using aortic homograft. In this patient, the need for reoperation arose 20 years later.

A 1-year-old male patient, who applied to the clinic with a cyanotic appearance, was diagnosed with Tetrology of Fallot as a result of echocardiography in 1999. The patient was operated for palliative surgery in 1999 and a BT shunt was performed. In 2001, a total correction operation was performed using homograft as fresh antibiotic preserved homograft taken from an explated heart from recepient for heart transplatation. Durıng regular follow up, in 2021, the patient with the complaint about fatigue applied to the pediatric cardiology clinic for control. And echocardiograpfhy releaved. Gradient between the RV (right ventricle) -PA (pulmonary artery) was measured as 62 mmHg and it was observed that the homograft was thickened and calcified and there were 90% of stenoses in it. In addition, the presence of 1st degree tricuspid valve insufficiency and significant pulmonary stenosis were noted.

The patient was evaluated in the pediatric cardiology and pediatric cardiovascular surgery council, and it was decided to have reoperation 21 years later that the first homograft operation. In the reoperation, the right jugular vein was used together with the femoral artery and vein as peripheral cannulation. The number 27 bioprosthetic aortic valve was sutured into 2 part of 30 numbered dacron grafts and turned into a valved conduit. The homograft, which was found to be calcified, was separated from the pulmonary artery and right ventricle and excised. The manually prepared valved conduit graft was anastomosed to the pulmonary artery and right ventricle using prolene sutures. Surgery was completed under cardiopulmonary bypass, at 32 degrees Celsius, without the use of a cross-clamp.

The patient had an unevetful postoperative period, and control echocardiography on the 5th postoperative day, the gradient in the conduit was determined as 9 mmHg. The patient was discharged after clinical evaluations.

It is noteworthy that fresh antibiotic preserved homograft that can be used in congenital heart surgery, was used in the patient we mentioned and that it was durable for 20 years. We think that this is an important case to show the long-term results of homografts used.

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Oral Presentation Session

Challenges in Valvular Surgery

Date: 05.11.2021 Time: 19:30 - 20:30 Hall: 5

ID: **116**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **ORAL**

COMPARATIVE EVALUATION OF MORTALITY AND HAEMODYNAMIC PERFORMANCE BETWEEN ATS AND ST JUDE MECHANICAL HEART VALVES IN AORTIC AND MITRAL POSITIONS

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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 presented 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 was seen a few prosthetic valve complications after ATS and ST JUDE mechanical heart valve implantation (total number of implanted ATS mechanical heart valve were 70 and total number of implanted ST JUDE mechanical heart valve were 78), early mortality was (hospital mortality) 6 patients (4.05%) and late mortality during 3 years follow up was 10 patients (6.7%). 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 and ST JUDE mechanical heart valves are very good regarding trans valvular gradient and function but low prosthetic valve noise is just seen in ATS mechanical heart valve.

ID: **7**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

A CASE REPORT : MITRAL CHORDAE RUPTURE WITH CARDIOGENIC SHOCK THAT MIMICS ACUTE CORONARY SYNDROME

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Introduction

Diagnosis, treatment and manegment of acute valvular regurgitations are largely case reports dependent. There is no rondomized trial in literature to guide practitioners. Spontan acute mitral chordae rupture (MCR) is a rare and frequently misdiagnosed as acute pulmonary disease in emergancy department because of the same symptoms, same radiology findings and absence of murmur. We report a case of acute mitral chordae rupture mimics acute coronary syndrome.

Case report

72 years old woman admitted to our hospital sudden onset severe chest and back pain with sweating. Blood pressure was 70/40 mmHg while dopamin is gonig on maxiumum dose, heart rate was 100 bpm and ECG (figure 1) shows ST elevation on AVR and downsloping ST depression on the other derivations. Physical examination showed a soft systolic murmur and there wasn't any crepitation in lungs. Transthoracic echocardiography(TTE) was performed quickly and bedside. Ejection fraction was 70 there was no dissection on asendan aorta, echogenicity was poor and it was imposible to eveluate mitral valve pathologies. Coronary angiography was performed, normal coronary arteries was seen and ventriculography was performed and severe mitral regurgitation was detected. To understand the pathology of mitral regurgitation Transesophageal echocardiography was performed on angiography table (Video 1). Mitral anterior leaflet viewed inside of left ventricular outflow tract and mitral chordae rupture was detected. Intra aortic balloon was performed, hemodynamic parameters getting better than before, patient was transferred to the cardiovascular surgery in another hospital becouse of tecnical causes. Mitral valve replacement was administarated sucsesfully and patient had discharged 1 week later.

Discussion

Acute MCR is a life threatening condition with poor prognonsis. Practitioners should be aware of in these cases because seconds are very important to save patients life. History, physical examination, ECG and TTE are so important to identify the cases. Despite severe hemodinamic instability, either a soft or no murmur is detected at MCR because of the equalisation of left ventricular and left atrial pressure in mid-systole3 There is no specific ECG signs for acute MCR but ST depressions can occured by cardiogenic shock like in our case. ST depressions, hemodynamic instability and pain can leads practitioners to ACS. Despite transthoracic echocardiography has less sensivity than transesophageal echocardiograph, the initial diagnostic mehod should be TTE because these patients are frequently hemodynamically unstable to undergo invasive procedures. Acute MCR generally occurs as a result of myocardial infarction, trauma or romatizmal heart valve disease, syphilis, periarteritis nodosa, vegetating valvulitis, myocardial abscess, iatrogenic, and cocaine use.
In our case, most of the clues shown us left main occlusion except TTE. Because of the emergency of situation, TTE were performed on bedside and on rush. After MCR, papiller chorda or valve generally seen on left atrium and we did not see it on left atrium and that made our case harder. In such cases, rapid diagosis is vital. We report this case to inform practitioners about the causes of the cardiogenic shock.

Conclusion

Acute MCR can present with cardiogenic shock and it can mimic acute coronary syndromes. Clinicians should be aware of other pathologies like MCR when evaluating patients presenting to emergancy departments.

ID: **52**

Topic: **Cardiology »Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

BLUNT CHEST TRAUMA CAUSED BY ISOLATED SINGLE PAPILLARY MUSCLE RUPTURE AND SEVERE MITRAL REGURGITATION

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Objective;

Cardiac injuries constitute a significant portion of trauma-related deaths. Cardiac injuries can be blunt or penetrating. These traumas occur either as asymptomatic cardiac injuries or as fatal cardiac injuries such as rupture of coronary arteries, valves or cardiac cavities. In this case report, we present a case of posterıomedial papillary muscle rupture in a 39-year-old man with blunt chest trauma due to vehicle traffic accident.

Case Report;

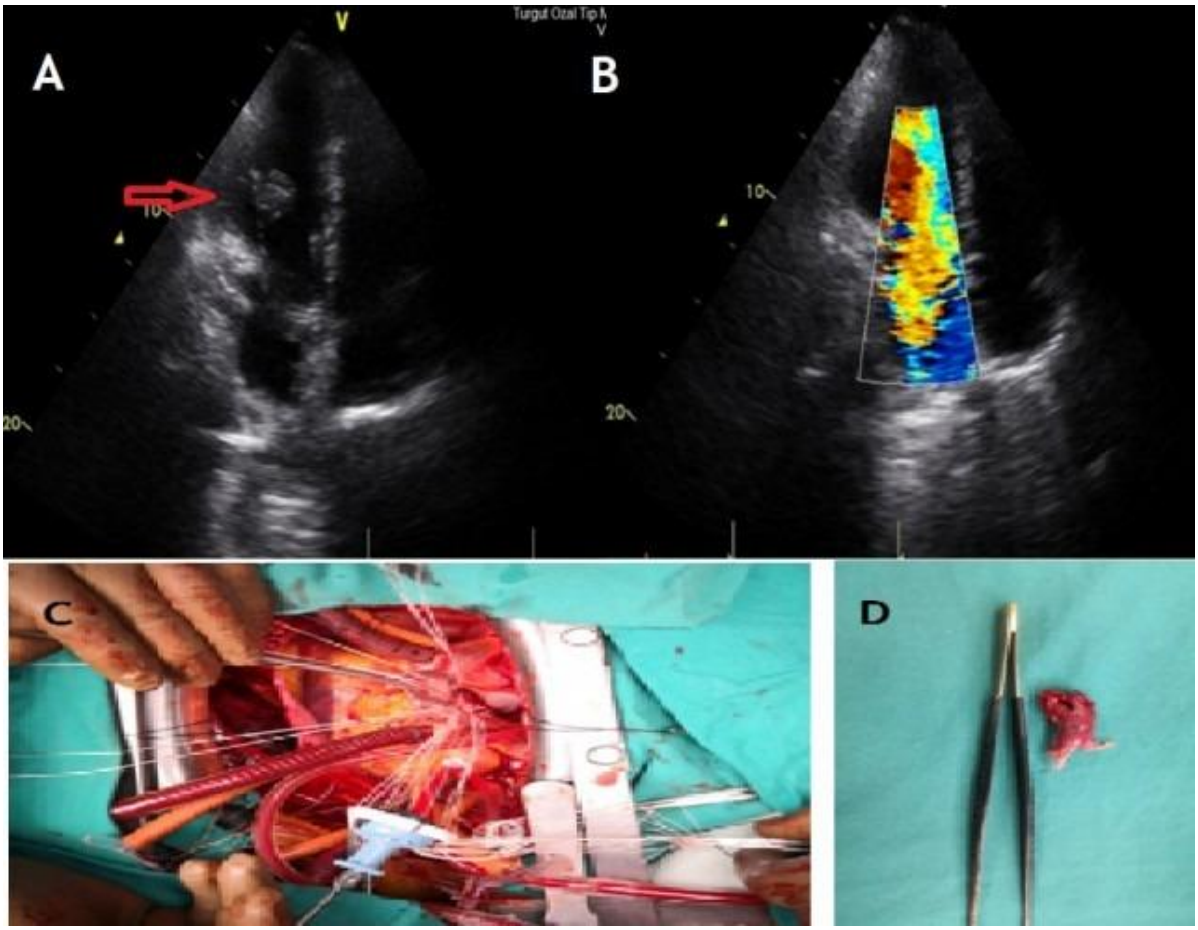
A 39-year-old male patient with no known disease history was brought to the emergency service with complaints of shortness of breath, chest pain and dizziness after a in-vehicle accident. At the admission, blood pressure 75/50 mmHg, oxygen saturation 77%, pulse 124 beats/min, and respiratory rate 24. The admission Electrocardiography (ECG) was consistent with sinus tachycardia, right bundle branch block, rare ventricular extrasystole, and ST depression in the inferior leads. Cardiac auscultation revealed a 3/6 systolic murmur at the cardiac apex. Chest computed tomography showed pneumothorax in the left lung, bilateral pulmonary edema and normal aorta were detected. Bedside transthoracic echocardiography performed with suspicion of cardiac injury revealed severe mitral regurgitation due to ruptured posteromedial papillary muscle.The patient, who was hemodynamically unstable due to acute mitral regurgitation, was operated under emergency conditions.It was observed that the intraoperative posteromedial papillary muscle was ruptured almost to the full thickness. Mitral valve replacement was performed because it was not suitable for repair. The patient underwent surgery without any problems and was transferred to the intensive care unit. His vitals were stabilized during his follow-ups in the intensive care unit. The patient was discharged on the 8th postoperative day with recovery.

Discussion;

Traumatic papillary muscle rupture was first reported in the literature by Glendy and White in 1936. In valve injuries due to trauma, aortic valve lesions are most common, followed by mitral and tricuspid valve lesions. Mitral valvular injury may consist of papillary muscle rupture, chordae tendineae rupture, and laceration of the valve leaflets. Papillary muscle rupture may be partial when involving one or more apical heads, or complete, which involves entirely the muscle belly. If we look at the mechanism of papillary injury; Compression of the heart may occur during late diastole or isovolemic contraction when the valves are about to close or have just closed. Treatment of papillary muscle rupture consists of different surgical approaches such as mitral valve replacement or mitral annuloplasty, repair and muscle reimplantation. In our case, mitral valve replacement was the surgical technique chosen because of the almost complete rupture of the papillary muscle and the severe anatomical damage.

Conclusions;

The first step in the diagnosis phase should be a suspicious approach. All patients presenting to the emergency department with severe blunt chest trauma should undergo a thorough cardiac examination to exclude injuries to the heart structure (aorta, valve, coronary, muscle). Mitral valve repair should be the first surgical option in cases of papillary muscle rupture due to blunt cardiac trauma. However, as in our patient, mitral valve replacement can also be considered in cases of non-repairable causes (full-thickness rupture, severe anatomical damage).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ID: **144**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **ORAL**

OPTIMAL TIMING FOR TRICUSPID VALVE REPLACEMENT SURGERY IS THE KEY TO SUCCESS

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Background and Aim: Tricuspid valve disease is increasingly encountered, but replacement surgery is rarely performed in part because of a reported higher operative risk than other valve operations. Other reports related to tricuspid valve surgery also revealed a high mortality rate of more than 10% after previous valvular surgery. In Istanbul Basaksehir Cam and Sakura Hospital, we have performed a total of 441 open heart surgeries since the date we started our cardiac surgery program in June 2020. During this period, 17 patients underwent tricuspid valve replacement and we reviewed and analyzed these patients in order to evaluate patient profile and risk factors for surgical outcomes.

Methods: All patients who underwent tricuspid valve replacement between June 2020 and July 31, 2021 were reviewed retrospectively. We identified patient characteristics, demographics, previous operations and postoperative mortality and morbidity. All operations were performed via a median sternotomy.

Results: A total of 17 patients who underwent tricuspid valve replacement were included in the study. There were 4 male and 13 female patients with a mean age of 55.7±14.7 years old. 11 (64.7%) patients had previous open heart surgery, with valve operation in 10 and coronary artery bypass grafting in 1. In 3 patients with previous valve surgery, tricuspid ring or annuloplasty was also performed. Native tricuspid valve endocarditis was present in 2 patients.
Biological valve replacement was performed in 16 patients and mechanical valve replacement was performed in 1 patient. Isolated tricuspid valve replacement was performed in 5 of 17 patients. Mitral and tricuspid valve replacements were performed in 7 patients one of which had concomitant coronary bypass grafting and mitral, aortic and tricuspid valve replacements were performed in 5 patients. 1 elective patient died due to multiorgan failure 24 days after operation. One patient with acute endocarditis and septic shock died of sepsis on postoperative 3rd day. Early mortality in elective patients was 6.2%.

Conclusion: Although isolated tricuspid valve replacement is rare, it can be performed secondary or concomitant to other valve pathologies. The difficulty of tricuspid valve replacement lies in the requirement of multiple procedures, redo operations, long cross clamp and cardiopulmonary bypass times. Nevertheless, low mortality rates can be achieved in elective patients with careful patient selection and optimal timing of surgery.

Keywords: Tricuspid valve replacement, cardiac surgery, evaluation of results

ID: **172**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

LONG TERM PROBLEMS OF PROSTHETIC MITRAL VALVE SURGERY IN A PATIENT WITH SUPERIOR-INFERIOR VENTRICLE

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Mitral valve repair is the choice of treatment in congenitally malformed mitral valves. Rarely mitral valve replacement may be necessary. The superior-inferior location of the two cardiac ventricles characterized by a modification of the usual spatial relation of the ventricles, separated by a horizontal ventricular septum represents a distinct and rare entity. Here we present a patient who had mitral valve surgery three times, admitted with decompensated heart failure signs and left ventricle-right atrium communication. The defect was closed successfully. Superior inferior ventricular location was suspected at the last surgical intervention and thereby confirmed with radiology.

Case. A 37-year old male patient was admitted with decompensated congestive heart failure, tachycardia of about 120-130/minute, high bilirubin levels, severe right ventricular overload, ascites. Left ventricle-right atrial communication and pulmonary hypertension (60mmHg) were detected on echocardiography. His past medical history revealed two times mitral valve replacements at four years and nine years of age during childhood. Then he was lost to follow up. Four years ago he was treated with a mitral occluder device for the mitral paravalvular leak. 15 months ago he had severe paravalvular mitral regurgitation, pulmonary hypertension (120mmHg) equal to systemic pressure; redo mitral valve replacement 29 No St Jude, de Vega tricuspid annuloplasty and, partial closure of a 10mm atrial septal defect was performed because of severe pulmonary hypertension. On the last admission cardiac CT angiography revealed a pseudoaneurysm near the mitral valve extending to the right atrium(Figure). Surgical intervention was decided by our cardiology- cardiac surgery team. The surgery was carried out with cardiopulmonary bypass. A right atriotomy was performed, near fossa ovalis, an atrial septal defect around 7mm diameter was detected, and on the other side of the defect, we saw the left ventricle. So we suspected that the patient might have superior-inferior ventricle anatomy because mitral valve was located superiorly. We excluded both vsd and pseudoaneurysm. The defect was closed with a 10mm patch. We revised the deVega annuloplasty. The postoperative course was uneventful and he was discharged on the 7th postoperative day in a good clinical condition.

Discussion. Mitral valve replacement may be complicated during the follow-up period when performed in childhood. Left ventricle-right atrial communication near the membranous septum may be observed in Gerbode type ventricular septal defects but in our patient defect was near fossa ovalis. On the other side of the defect, we detected the left ventricular cavity. These clues at the final surgical intervention lead us to suspect the superior inferior ventricular location and confirmed the diagnosis with cardiac ct images.

ID: **202**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **ORAL**

A MINI REVIEW OF RIGHT HEART ENDOCARDITIS ACCOMPANIED BY A CASE

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OBJECTIVE: Infective endocarditis , which most commonly affects the left side of the heart, carries a high risk of morbidity and mortality. On the other hand, right-sided IE, which constitutes 5% to 10% of cases and most often involves the tricuspid valve, is thought to be more benign and respond to medical treatment. 90% of right heart endocarditis occurs in patients with injected drug users and 10% in patients with intravascular catheters for hemodialysis, ports for chemotherapy, vascular prostheses or intracardiac devices.

METHODS: Herein we report a succesfull operation of tricuspid valve in a 39-year-old male with history of chronic renal insufficiency who presented with resistant fever, fatigue, and diagnosed as tricuspid endocarditis. The patient had placement of permanent tunnel catheter for hemodyalisis 4 months ago. His laboratory findings were elevated C-reactive protein, erythrocyte sedimentation rate, white blood cell. and negatif PCR swap for corona virus. On physical examination, his bilateral knees had tenderness and warmth and he was unable to walk. There were no peripheral signs of infective endocarditis. Transthoracic echocardiogram (TTE) revealed a large tricuspid valve vegetation.(24*21mm) His blood cultures came out positive for Methicillin-resistant Staphylococcus aureus (MRSA) bacteremia. He received a 2-week course of Daptomicin. Despite the medication the clinic did not improve and no reduction in vegetation was observed, the decision was made for surgery.

RESULTS: He underwent abscess debridement and tricuspid valve repair with replacement of a septal leaflet with the pericardium (Figure 1,2). He received a 6-week course of Daptomicin after operation. He successfully recovered from MRSA bacteremia, and follow-up TTE was negative for any vegetations. He was discharged on postopereatif day 45 on acetilsalicilic asit.

CONCLUSIONS: Chronic hemodialysis has been defined as an important risk factor for IE in recent years and has been identified in approximately 10% of patients. Patients on hemodialysis are at high risk of IE due to impaired immunity, frequent intravenous interventions, and intravascular calcifications. The incidence of IE in hemodialysis patients is 300-1200 / 100 000 patient-years, 50-200 times higher than the incidence of IE in the general population. Operative mortality for TV surgery for right-sided IE ranges between 6% and 10%. Large vegetation size (> 2.0 cm diameter) is associated with an increased risk of death. Tricuspid valve replacement should be avoided whenever possible. Earlier surgery can both allow more valve repairs and improve results.

ID: **274**

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

Presentation Type: **ORAL**

THE RELATION BETWEEN HAS-BLED SCORE AND PROCEDURAL OUTCOMES IN PATIENTS UNDERGO TAVI

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Background:
Patients that candidate for trans-catheter aortic valve implantation (TAVI) are frail and prone to complications during the procedure. The effect of HAS-BLED score to procedure related complications has not been widely investigated before.

Aim:
In this study, we sought to detect the relation between HAS-BLED score and clinical outcomes following the TAVI procedure.

Material and methods:
Study population consisted of 153 consecutive patients that had undergone TAVI between 2013-2020 in a single centre. Access site complication was defined as the occurrence of inguinal hematoma and/or iliac artery injury requiring surgical intervention. Post-procedural data, including mortality, access site complication, need for blood transfusion, occurrence of acute kidney injury were noted. The relation of the HAS-BLED score and procedural outcome was assessed by univariate analysis.

Results
A total of 153 patients were included in the study, with an average age of 78,14±7,17 and 81 (52,9%) of them being female. Mean HAS-BLED scores was 2,67 ±0,90. Patients with a high HAS-BLED score had a greater one-year mortality rate. (3,04 ± 1,02 vs 2,60 ± 0,84 p = 0,035). In addition, patients that received blood transfusion during index hospitalization exhibited higher HAS-BLAD score (2,89 ± 0,86 vs. 2,55 ± 0,901 p= 0,025). HAS-BLED scores were not different among to patients that acute kidney injury occurred and patients with access site complication.

Conclusion
TAVI patients with one-year mortality and those who underwent blood transfusion during the index hospitalization have a higher HAS-BLED score.

Oral Presentation Session

Deep Vein Thrombosis: Medical Perspectives

Date: 06.11.2021 Time: 08:30 - 09:30 Hall: 4

ID: **189**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

THE RELATIONSHIP BETWEEN VITAMIN D AND VITAMIN B12 LEVELS AND DEEP VENOUS THROMBOSIS

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Objective: Vitamin D is fat soluble vitamin that has a critical role in maintaining the metabolism of calcium and phosphorus. Deep venous thrombosis (DVT) is an important health problem worldwide. An increasing number of studies have reported that vitamin D deficiency is associate with deep venous thrombosis. Venous thromboembolism is the common result of many pathophysiological mechanisms. B12 deficiency is one of the causes of acquired hyperhomocysteinemia (HH). HH is associated with arterial and venous thrombosis. In our study, we aimed to investigate whether there is a relationship between vitamin D and B12 levels and DVT.

Materials And Methods: The study was designed as a retrospective cohort study. The study was conducted by selecting patients who were diagnosed with DVT between 30.07.2021 and 30.10.2021 after obtaining local ethical approval (2021/328), and whose vitamin D and vitamin B12 levels were measured. Those with a vitamin D level below 20 mg/ml were considered deficient, those with 20-30 mg/ml were considered insufficient, and those between 30-100 were considered adequate. Those with a vitamin B12 level below 200 pg/ml were considered as vitamin B12 deficiency. Patients who were diagnosed with DVT at the time of the study protocol but did not have vitamin D and B12 levels were excluded from the study. The DVT group and the control group of similar age and gender were included in the study.

Results: A total of 199 patients were included in the study. 100 of the patients included in the study were DVT group and 99 were control group. There were 49 males and 50 were females in DVT group. Vitamin D level was 19.72±8.94 mg/ml in the DVT group and 25.45±10.45 mg/ml in the control group. Vitamin D level was significantly different between the two groups and was lower in the DVT group (p<.001). When the DVT group and the control group were compared, the vitamin B12 level was found to be 256.89±104.24 pg/ml in the DVT group and 340.71±104.04 pg/ml in the control group. Vitamin B12 levels were significantly different between the two groups (P<.001) (Table-1). Whether vitamin D and B12 could be diagnostic between DVT and control group was evaluated with ROC curve. AUC was 0.67 for vitamin D and 0.72 for Vitamin B12.

Conclusion: In our study, we found that vitamin D and vitamin B12 deficiency were lower in the DVT group. Our study is consistent with studies that associate vitamin D and B12 deficiency with DVT. The coexistence of these two vitamin deficiencies is likely to increase the risk of thrombosis.

ID: **242**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

OUR CLINICAL EXPERIENCE IN THE MEDICAL TREATMENT OF DEEP VEIN THROMBOSIS

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Objective: The traditional medical treatment of Deep Vein Thrombosis (DVT) consists of low molecular weight heparin (LMWH) combined with warfarin sodium. Treatment goal is to keep international normalized ratio (INR) levels between 2 and 3 for 3 to 6 months. Thereby difficulties in keeping INR levels between desired values and complications related with warfarin use lead physicians to use direct oral anticoagulants (DOACs). In our study, patients using warfarin and rivaroxaban were followed up clinically.

Methods: 10 patients were enrolled in the study. All patients were physically examined in emergency service. Acute DVT was diagnosed by duplex ultrasonography in all patients. Goal of our study was to achieve clinical follow up of patients treated with rivaroxaban and warfarin. Half of the patients were treated with warfarin + LMWH, other half were treated by rivaroxaban. All patients were hospitalized for 3 days. Leg elevation and immobilization were administered. Patients treated with rivaroxaban were discharged at the 3rd day. Day of discharge in patients treated with warfarin varied between 3 to 7 days due to INR adjustment. All patients were evaluated clinically at the seventh day and each month. If the INR values were not between 2 and 3, patients in the warfarin group were evaluated and INR values were measured every 3 days. Patients were followed up for 6 month.
Results: In the rivaroxaban group no complications or clinical problems were encountered. Monthly clinical evaluations and physical examinations showed that clinical improvement was significant in the rivaroxaban group. Although clinical improvement was also significant in the warfarin group 3 patients could not achieve desired INR levels (2 to 3). These patients required more laboratory tests. At the end of 6 month follow up patients in the warfarin group also showed clinical improvement.

Conclusions: In the treatment of DVT no clinical difference were observed in patients treated with warfarin and rivaroxaban. Nevertheless patients treated with warfarin required more blood tests and frequent follow ups. Adaptation process, nutrition difficulties, need of frequent blood tests both causes discomfort in patients and increases overall cost of treatment.

ID: **208**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

DOES UNILATERAL LOWER EXTREMITY SKIN PURPLE DISCOLORATION, SUGGEST MAY-THURNER SYNDROME IN 11-MONTH- OLD INFANT?

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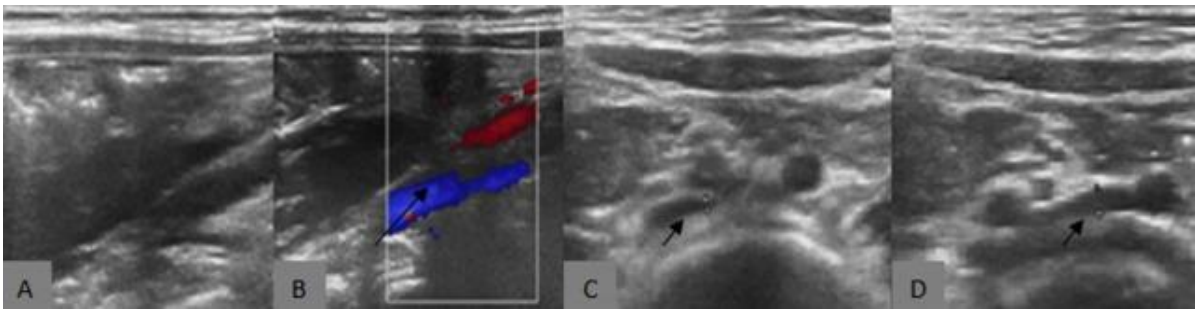
Introduction

May-Thurner Syndrome is the compression of the left common iliac vein by the right common iliac artery, resulting in the narrowing of the vein lumen by the physical strain and trauma of the repeated arterial pulse force. This compression can lead to venous thrombosis. It is a rare vascular disease especially presenting in young women between the ages of 20 and 30.
The main complaint in most of the patients with MTS is caused by venous claudication, often defined as pain, swelling and tension in the affected leg during daytime with or without physical inactivity and a decrease with resting and leg elevation. Leg skin discoloration, skin strain, varices or edema may also occur due to venous congestion.

CASE REPORT
When an 11-month-old boy had purple discoloration in his left leg while he was held in lap, his parents referred him to our clinic. The patient was examined by dermatology clinic multiple times with this complaint.
On physical examination, there was a slight purple discoloration on the left lower extremity when the infant was held on mom lap with legs down.
The pelvic vascular colour Doppler ultrasound performed by the radiologist showed the compression of the right common iliac artery over the left common iliac vein. In vascular doppler ultrasonography, the diameter of the left main iliac vein was lowering to 0.9 mm under compression and 2.1 mm before the arterial compression point. The compression ratio in diameter was 2.33 to 1. These findings indicate vascular compression. (Picture-1). Other imaging options, such as CT and MRI angiography , were not performed because the ultrasound gave a clear view of the compression.



Picture-1 A, Vascular Doppler USG. B,Colour Vascular USG Indentation of the right common iliac artery (black arrow) to the left common iliac vein. C and D, İdentification of vascular compression ratios.

Discussion

Long-term compression and pulsatile trauma on the left common iliac vein between right common iliac artery and lumbar vertebra trunk in May-Thurner Syndrome can cause stenosis by causing changes in vessel intima.1,8 In the pediatric patient group, DVTs are frequently diagnosed in patients with central venous catheters, malignancy, trauma and infection. Anatomic anomalies are not often considered as a common cause of DVT in children.

This case report focuses on the management and possible outcomes of MTS diagnosed asymptomatic early age. In unilateral lower extremity discoloration, all clinicians should consider MTS in the differential diagnosis.

ID: **192**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

EVALUATION OF THE EFFICIENCY OF NOVEL ORAL ANTICOAGULANTS AND WARFARIN IN DEEP VEIN THROMBOSIS WITH SIMPLE BLOOD PARAMETERS

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OBJECTIVE: The main treatment of deep vein thrombosis (DVT) includes the use of heparin and its derivatives and oral anticoagulants. In this study, during the treatment of DVT patients with novel oral anticoagulants and warfarin; hematological parameters and ratios are intended to be used in the evaluation of treatment effectiveness by scanning venous doppler ultrasonography imaging and venous thromboembolism recurrence.

METHODS: Medical records, of the 109 patients who were evaluated between January 2013 and March 2019 by the Department of Cardiovascular Surgery of Trakya University Faculty of Medicine and given oral anticoagulant therapy (apixaban, rivaroxaban, warfarin) within a week after the onset of symptoms, were retrospectively investigated. The data of the patients and hematological parameters at the initial, 1st, 3rd, 6th and 12th-month follow-up after the diagnosis date of ultrasonography were examined according to recanalization responses in the doppler ultrasonographic examinations and venous thromboembolism recurrence with oral anticoagulant therapy.

RESULTS: 68 (63%) of the patients were male and 41 (37%) were female. The average age was 56.3 ± 16.75. Ilio-femoral DVT in 41 (37.5%) patients, femoropopliteal DVT in 60 (55%) patients, and distal DVT in 8 (7.5%) patients were diagnosed. Venous thromboembolism recurrence was observed in 7 (6%) patients. At the end of follow-up, complete recanalization has developed in 49 (44.9%) patients, partial recanalization has developed in 39 (35.8%) patients and delayed recanalization has developed in 21 (19.3%). RDW was found to be increased in the ilio-femoral group significantly compared to the calf group (p=0.046). MCV was found to be increased significantly in the DVT+PE group compared to the isolated DVT group (p=0.016). Complete recanalization occurs earlier in rivaroxaban group than in warfarin group (p=0.006). Median WBC, NEU, NLR parameters in the follow-up of all recanalization groups decreased significantly compared to the time of diagnosis (complete: p=0.009, p=0.001, p=0.000 partial: p=0.001, p=0.001, p=0.005 delayed: p=0.017, p=0.013, p=0.039) and it was found that these parameters did not differ between drug groups. In the complete recanalization group, the median WBC and NEU parameters were higher than the partial recanalization group (p=0.025, p=0.020).

CONCLUSION: The hematological parameters of patients with DVT at the time of diagnosis and follow-up differ according to the treatment results; however, they are not effective criteria for evaluating the efficiency of the treatment.

ID: **58**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

THE TWO HORNS OF A DILEMMA IN PATIENTS WITH VENOUS INSUFFICIENCY AND OSTEROARTHRITS: PREOPERATIVE PREDICTORS OF LOWER EXTREMITY SWELLING FOLLOWING TOTAL KNEE ARTHROPLASTY

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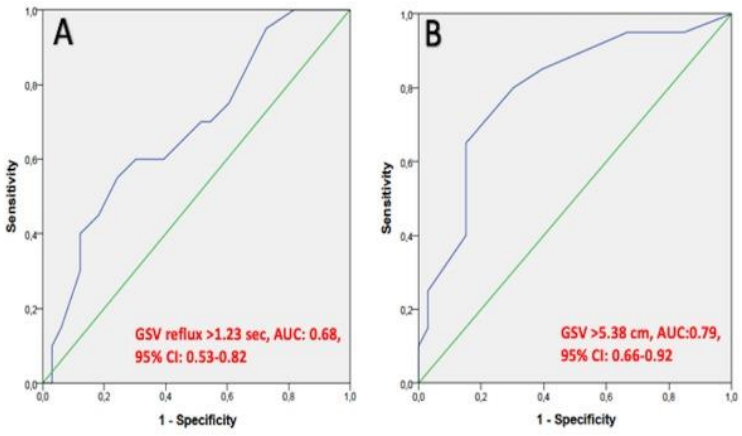
Objectives: Postoperative swelling and edema following total knee arthroplasty (TKA) are one of the most important causes of dissatisfaction. We aimed to assess the clinical variables associated with postoperative swelling and edema after TKA and to compare their performance in respect of predicting them preoperatively.

Methods: The study cohort comprised 116 patients who underwent TKA between January 2018 and May 2019 in our center. The diameters and the grade of venous insufficiency (VI) in the lower extremity veins were measured with duplex ultrasonography preoperatively and at 1 and 3 months postoperatively. The study cohort was divided into the patients with leg swelling positive with a difference in leg circumference of > 2 cm (n = 56, 48.2%) and leg swelling negative with a difference of ≤2cm (n = 60, 51.7%) from preoperative leg diameter.

Results: Independent predictors for lower extremity swelling were preoperative great saphenous diameter (GSV) diameter > 5.5 cm [odds ratio (OR) 2.51, 95% CI 0.24–0.91; p= 0.0012], GSV reflux > 1 sec [OR 3.28, 95% CI 1.16–12.1; p = 0.003], deep only VI [OR 1.32, 95% CI 0.74–1.87; p = 0.021], CEAP C4-6 [OR 1.62, 95% CI 0.36-0.91; p = 0.018] and hypothyroidism [OR 1.55, 95% CI 1.31-11.2; p = 0.031]. The best discrimination performance of the predictive values was found with a resulting area under the curve value of 0.68 (95% CI 0.53–0.82) for GSV reflux duration > 1.23 sec and 0.79 (95% CI 0.66–0.92) or GSV diameter > 5.38 cm in predicting lower extremity swelling following TKA, respectively

Conclusion: GSV reflux duration > 1.23 sec and GSV diameter > 5.38 cm were independent predictors of postoperative swelling and edema following TKA. Current available studies do not include any data in respect of the effect of severe venous patology on postoperative results following TKA.

Keywords: Total Knee Arthroplasty, Venous insufficiency, Swelling, Edema, Dissatisfaction



ID: **74**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

THE USAGE AND OUTCOMES OF DEXTRAN IN THE TREATMENT OF ACUTE DEEP VENOUS THROMBOSIS

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Abstract

Objective: In this study, we compared the results of acute deep vein thrombosis patients treated with Dextran 40 infusion and unfractionated heparin concomitantly with the results of patients treated only with unfractionated heparin.

Method: We evaluated 104 patients who were hospitalized with the diagnosis of acute deep vein thrombosis. The pain complaints of the patients at the time of admission and the pain complaints in the calf with dorsiflexion of the foot were evaluated with the visual analogue pain scale and were recorded. In addition, calf diameter of affected limbs was measured and recorded. According to the treatment choices of the clinician, 55 patients had Dextran 40 infusion and unfractionated heparin treatment concomitantly (Group HD), while 49 patients had only unfractionated heparin treatment (Group H). Heparin dose was adjusted to obtain 1,5-2,5 folds of normal activated partial thromboplastin time in both groups. Oral anticoagulant was administered in the first day and resumed. Unfractionated heparin infusion therapy was resumed until obtaining international normalized ratio values of 2-2,5 in both groups. Dextran 40 infusion therapy was administered for 72 hours. Calf diameters were re-measured, current pain and calf pain at foot dorsiflexion were recorded at 48 hours and 72 hours.

Results: Patients in both groups had similar demographic and physical examination data. At 48 and 72 hours of therapy, it was determined that the decrease of the calf diameter and the pain were significant more both at 48th and 72nd hours in the Group HD. When patients with Homans sign were evaluated for their calf pain at foot dorsiflexion, both group had decreased pain at 48th and 72nd hours. There was no statistically significant difference in the decrease rate of the pain with foot dorsiflexion between two groups.

Table 1. Patient's demographic data

	Group H (n=49)	Group HD (n=55)	P value
Gender (M/F)	33 / 16	36 / 19	-
Mean age (years)	47.63 ± 12.99	49.64 ± 13.90	0.381
DVT Side (n) (%)			
Left	26	20	-
Right	27	31	-
Localization (n) (%)			
Proximal DVT (n)	19	20	0.800
Distal DVT (n)	31	34	
DVT etiology (n) (%)			
Advanced age	3 (6.1)	4 (7.3)	-
Prolonged immobility	6 (12.2)	5 (9.1)	-
Obesity	3 (6.1)	2 (3.6)	-
Recent surgery	10 (20.4)	12 (21.8)	-
History of major trauma	6 (12.2)	5 (9.1)	-
Idiopathic	21 (42.9)	26 (47.3)	-
Oral contraceptives	0 (0)	1 (1.8)	-
Physical examination data during admission			
Leg pain during admission	6,08 ± 1.06	5,96 ± 1.10	0.588
Pain in the calf with dorsiflexion of the foot (n) (%)	25 (51)	31 (56)	-
Calf diameter difference (cm)	3,58 ± 0,48	3,68 ± 0,52	0.290

M: Male, F: Female, DVT: Deep vein thrombosis

Table 2. Data; 48 and 72 hours after starting treatment

	Group H (n=49)	Group HD (n=55)	P value
Calf diameter regression at 48 hour (cm)	1,68 ± 0,61	2,46 ± 0,42	0.000
Calf diameter regression at 72 hour (cm)	1,76 ± 0,56	2,58 ± 0,39	0.000
Leg pain at 48 hour	4,08 ± 1,04	2,51 ± 1,45	0.000
Leg pain at 72 hour	3,35 ± 1,11	1,24 ± 1,02	0.000
Subjective recovery evaluation	1,27 ± 0,67	1,65 ± 0,48	0.002

Recovery evaluation: 0=not recovered at all, 1=partially recovered, 2=fully recovered

Table 3. Calf pain changes before and after treatment in patients with Homans sign

	Group H (n=25)	Group HD (n=31)	P value
Calf pain with dorsiflexion of the foot before treatment	7,96 ± 1,06	7,90 ± 0,94	0.768
Calf pain with dorsiflexion of the foot at 48 hours during treatment	1,64 ± 0,86	1,42 ± 1,06	0.352
Calf pain with dorsiflexion of the foot at 48 hours during treatment	1,04 ± 0,79	0,97 ± 0,91	0.682

Oral Presentation Session

Challenging Solutions for Difficult Problems in Cardiovascular Surgery

Date: 06.11.2021 Time: 09:45 - 10:45 Hall: 5

ID: **225**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

DEMOGRAPHIC AND OPERATIVE CHARACTERISTICS OF PATIENTS WHO UNDERWENT SURGICAL TREATMENT FOR INFECTIVE ENDOCARDITIS, COMPLICATIONS AND TREATMENT APPROACHES: SINGLE CENTER 1 YEAR EXPERIENCE

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Objective:
Demographic and clinical characteristics, echocardiographic and microbiological findings, as well as surgical results of patients who underwent surgical treatment with the diagnosis of infective endocarditis in our clinic were investigated in this study.

Methods:
Twenty patients (14 males, 6 females; mean age 49±16 years; range 26-70 years) who underwent infective endocarditis surgery in our clinic between July 2020 and July 2021 and received antibiotherapy for 2-6 weeks after surgical treatment were included in this study. Demographic and clinical characteristics of the patients, echocardiographic and microbiological findings, indications for surgical treatment and surgical results were retrospectively analyzed.

Results:
The most common presenting symptoms of the patients were dyspnea and the physical examination finding, fever. Blood culture was negative in 7 patients (35%). Enterococcus faecalis were the most frequently detected microbiological pathogens (25%). Congestive heart failure was the most common indication for surgery in 9 patients (45%). 12 patients were operated for native valve endocarditis, 6 patients for prosthetic valve endocarditis, 1 patient for aortic root pseudoaneurysm and 1 patient for aortic root pseudoaneurysm with prosthetic valve endocarditis. While 12 patients underwent cardiac surgery for the first time, 8 patients were identified as redo cases.

Valve replacement was the preferred procedure in all patients. Six of the patients who underwent surgical treatment died in the postoperative period. The mortality rate was (30%). Four of the patients who developed mortality were patients who were operated on urgently. Preoperative ischemic cerebrovascular disease in 1 patient, postoperative cerebrovacular disease in 1 patient, postoperative subdural hemorrhage in 1 patient, and postoperative gastrointestinal bleeding in 1 patient were effective on mortality. One patient required a permanent pacemaker due to the development of complete postoperative atrioventricular block. Independent predictors of surgical mortality were Class 3-4 functional capacity and emergency procedure.

Conclusion:
Although infective endocarditis can be treated surgically in complicated cases, the mortality and morbidity rates of surgical treatment are high.

ID: **276**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

POUCH SCISSORS (DEMİRTAŞ) DEVELOPED TO REDUCE CALCIFICATION EMBOLISMS AFTER AORTIC VALVE SURGERY.

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Aim: Our aim in developing Demirtaş tissue scissors is to prevent calcification-related cerebrovascular events seen in the early surgical period of severe aortic stenosis.
Method:
Demirtaş scissors were used in the operations of 43 and 59 years old male patients who applied to our clinic with the complaint of chest pain due to severe calcific aortic stenosis. Severe calcification of the aortic valve was observed during surgical exploration in both patients. During the resection, a pouch-shaped scissors with a collection chamber in the form of a pouch at the lower end of the Demirtaş scissors, patented by the Turkish Patent Institute with the number TR 2018 05611 B and produced by the Turkish representative of the Lawton surgical instrument company for demo purposes, was used . After mechanical valve replacement, patients were followed up in the intensive care unit for 48 hours. The patients were discharged on the 6th postoperative day. In both of our cases, no cerebrovascular accident was encountered in the in-hospital and early post-discharge controls.
Conclusion:
We believe that the widespread use of Demirtaş scissors, which we designed to reduce calcification embolic events in advanced AS, by surgical clinics will reduce morbidity and morbidity.

ID: **67**

Topic: **Cardiovascular Surgery » Thoracic Aortic Aneurysm and Dissection**

Presentation Type: **ORAL**

OPEN AND ENDOVASCULAR REPAIR OF THORACIC AORTIC DISEASE: 12-MONTH EXPERIENCE FROM A NEWLY ESTABLISHED CARDIOVASCULAR SURGERY DEPARTMENT

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Background: Thoracic aortic aneurysms and dissections remain a leading cause of mortality in the developed world. Early diagnosis and timely intervention are essential to prevent devastating complications such as free rupture, cardiac tamponade, renal failure, stroke, paraplegia, and death. We aimed to report our experience regarding open surgical, endovascular and hybrid treatment of thoracic aortic disease in a newly established cardiovascular surgery department.

Methods: This was a retrospective, single-center, descriptive study. Records of patients who underwent open and/or endovascular repair for aortic aneurysms and dissections between July 2020 and July 2021 were retrospectively analyzed. Patients with isolated abdominal aortic disease were excluded (Figure 1). Patient demographics, procedural details and postoperative outcomes were noted. Mortality was defined as death occurring within 30 days after intervention. Continuous variables were presented as mean (range). Categorical variables were presented as absolute numbers (n) and proportions (%).

Results: A total of 61 patients (15 women) underwent 36 emergency and 25 elective thoracic aortic procedures (51 open repair, 8 TEVAR, and 2 hybrid). Mean age was 52.45 (22-75) years. All TEVAR procedures were performed on an emergency basis. The indication for TEVAR was rupture of a descending aortic aneurysm in 5 patients, acute Stanford type B dissection in 4, and blunt traumatic aortic injury in 1. Hospital survivors were followed-up for a mean of 126.86 (17-323) days. Mean durations of intensive care unit and hospital stay were 6.2 (1-59) and 13.72 (1-70) days, respectively. Postoperative mortality occurred in 18 (29.51%) patients. Of note, 13/18 of deaths were observed in patients who presented in extremis and underwent salvage procedures. Mortality rate was 30% among isolated and hybrid TEVAR patients, and 29.41% among open surgery patients (Table 1).

Conclusion: Although not sufficient to draw firm conclusions due to small sample size, this preliminary report form a newly established cardiovascular surgery department signifies the importance of incorporation of endovascular capabilities in the management of thoracic aortic disease. In addition, early diagnosis and prompt intervention may be life-saving for this patient group since mortality rates seem to be lower when interventions are performed in an elective setting.

Figure 1. Flow diagram

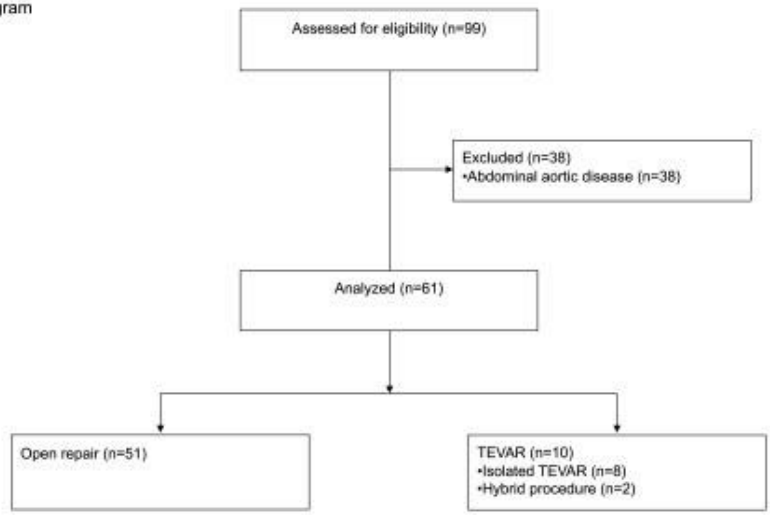

Table 1. Patient demographics, operative details and postoperative outcomes

	Open repair (n=51)	TEVAR / hybrid (n=10)	All patients (n=61)
Age (years), mean (range)	52.45 (22-75)	55.4 (38-79)	52.93 (22-79)
Female sex, n (%)	12 (23.53)	3 (30)	15 (24.59)
BAV disease, n (%)	12 (23.53)	0 (0)	12 (19.67)
Indication for intervention, n (%) Ascending/arch aneurysm Ruptured descending aneurysm Aortic root pseudoaneurysm Stanford type A dissection Stanford type B dissection Blunt traumatic injury	 27 (52.94) 1 (1.96) 2 (3.92) 21 (41.17) 0 (0) 0 (0)	 0 (0) 5 (50) 0 (0) 0 (0) 4 (40) 1 (10)	 27 (44.26) 6 (9.84) 2 (3.28) 21 (34.43) 4 (6.56) 1 (1.64)
Emergency procedure, n (%)	26 (50.98)	10 (100)	36 (59.802)
Redo surgery, n (%)	11 (21.57)	0 (0)	11 (18.03)
CPB duration (min), mean (range)	202.94 (108-395)	233 (104-362)	204.1 (104-395)
Aortic cross clamp duration (min), mean (range)	126.44 (54-254)	96.5 (55-138)	125.29 (54-254)
ACP, n (%)	33 (64.71)	2 (20)	35 (57.38)
ACP duration (min), mean (range)	24.85 (2-72)	38 (16-60)	25.6 (2-72)
Circulatory arrest, n (%)	14 (27.45)	0 (0)	14 (22.95)
Circulatory arrest duration (min), mean (range)	13.29 (1-69)	0 (0)	13.29 (1-69)
Arterial cannulation site, n (%) Aorta Axillary artery Innominate artery Femoral artery	 15 (29.41) 16 (31.37) 9 (17.64) 10 (19.61)	 0 (0) 0 (0) 2 (20) 0 (0)	 15 (24.6) 16 (26.23) 11 (18.03) 10 (16.39)
Length of ICU stay (days), mean (range)	6.63 (1-59)	4 (1-7)	6.2 (1-59)
Length of hospital stay (days), mean (range)	14.69 (1-70)	8.8 (1-32)	13.72 (1-70)
Mortality, n (%)	15 (29.41)	3 (30)	18 (29.51)
Re-exploration, n (%)	15 (29.41)	1 (10)	16 (26.23)
Stroke, n (%)	7 (13.73)	0 (0)	7 (11.48)
Paraplegia, n (%)	2 (3.92)	0 (0)	2 (3.28)
Acute kidney injury, n (%)	17 (33,33)	4 (40)	21 (34,43)
Pneumonia, n (%)	14 (27.45)	2 (20)	16 (26.23)
Surgical site infection, n (%)	3 (5.88)	1 (10)	4 (6.56)
Follow-up duration (days), mean (range)	122.37 (17-323)	149.29 (35-271)	126.86 (17-323)

ACP, antegrade cerebral perfusion; *BAV*, bicuspid aortic valve; *CPB*, cardiopulmonary bypass; *ICU*, intensive care unit; *min*, minutes; *TEVAR*, thoracic endovascular aortic repair

ID: **174**

Topic: **Cardiovascular Surgery » Thoracic Aortic Aneurysm and Dissection**

Presentation Type: **ORAL**

PAINLESS AND TRANSIENT LOWER EXTREMITY PARAPLEGIA: ATYPICAL PRESENTATION OF ACUTE TYPE B DISSECTION

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Background: Acute aortic dissection is the one of the most challenging emergency that is generally misdiagnosed or undetected by the most experienced physicians in a patient presenting with atypical symptoms. Although neurological syptoms are common manifestations of aortic dissection, painless paraplegia is rare and may mask the underlying condition which has been found in 2 to 5 % of patients. Here by we present two new cases with painless paraplegia of aortic dissection.
Case presentations: A 38-year-old man who initially presented with complaints of acute onset of leg weakness with a medical history revealed significant hypertension. In emergency department visit, he had a blood pressure of 170/95 mm Hg, heart rate of 92 beats/min, a temperature of 36.8°C and a respiratory rate of 20 breaths/min with preserved mental function, positive bilateral Babinski sign, , grade 2 left limb muscle strength, grade 4 right limb muscle strength. Lower right limb was cold and both pulses were (-) in bilateral lower extremity. Computed tomography (CT) of the brain without contrast was ordered to rule out acute stroke, and contrasted CT revealed aortic dissection originated distally to left subclavian artery to right common iliac artery.
A 52-year-old man presented to emergency department because of a sudden inability to walk without chest, back or leg pain and traumatic history. Deep tendon reflexes were absent in his legs and he had paraplegia and paresthesia. CT revealed aortic dissection from descending aorta to the common iliac arteries bilaterally.
Lumbar catheter were inserted for cerebrospinal fluid (CSF) drainage and both patients underwent emergent thoracic endovascular aortic repair. Paraplegia and paresthesia were regressed on the first postoperative day in both patients and first patient had complete recovery on the fourth day. The second patient was rehabilitated with physical therapy after discharge.
Conclusion: Acute aortic dissection still remains one of the most challenging disease with variable manifestations that the cardiovascular surgeon faces and can lead to death unless there is an early diagnosis. Aortic dissection must be considered as a differential diagnose in any patient with painless paraplegia. Prompt diagnosis and intervention can prevent morbidity and mortality.

Keywords: Aortic dissection, Painless, Paraplegia

ID: **235**

Topic: **Cardiovascular Surgery » Thoracic Aortic Aneurysm and Dissection**

Presentation Type: **ORAL**

THE EVALUATION OF MEDULLA SPINALIS PERFUSION AT MODERATE HYPOTHERMIA WITH PATIENTS WHO UNDERGO ANTEGRADE SELECTIVE CEREBRAL PERFUSION (ASCP) IN ASCENDING AND ARCUS AORTIC SURGERY

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Background: Antegrade Selective Cerebral Perfusion (ASCP) is widely used in ascending and aortic arch surgery. During ASCP, spinal cord and visceral organs are exposed to ischemia which if lasts long enough can lead to postoperative organ dysfunctions and neurological complications. The aim of this study is to evaluate methods that can provide early detection of spinal cord ischemia during aortic arch surgery.

Methods: Thirty consecutive patients who underwent aortic arch surgery in our clinic were prospectively enrolled in the study. Near infrared spectrometry (NIRS) data obtained from thoracic 5th and 10th region of the spine, S100β protein, lactate levels in blood samples and postoperative neurological outcomes were evaluated in terms of spinal cord injury.

Results: A total of 30 patients underwent elective hemi arch (%73.29) or total arch (%23.31) replacement and in-hospital mortality was 6.66% (two patients). Paraparesis developed in one patient (3,33%). The s100β fell significantly on the 6th postoperative hour compared to the end of ASCP period. Lactate levels rose significantly during ASCP ($p=0.002$), were highest at the end of ASCP ($p<0.001$) and then began to fall at the postoperative 2nd and 6th hours when compared to the preASCP period ($p<0,001$). There was no correlation between S100β and lactate values taken simultaneously at the end of ASCP period ($r = 0.174$, $p = 0.357$) and on the 6th postoperative hour ($r = 0.115$, $p = 0.545$). Thoracic region NIRS values were lowest during the ASCP period ($p<0.001$) with a significant difference between the T5 and T10 levels (55.40 vs 51.07 respectively, $p=0.001$) indicating a flow disturbance at the 10ththoracic vertebra level during this period. A good correlation was seen between these data during the same period as well ($r=0.853$, $p<0.001$). The lactate levels in the blood taken from descending aorta and the NIRS values at the T10 level displayed a moderately negative correlation during ASCP ($r =-0.514$, $p = 0.004$).

Conclusion: According to the NIRS values found in this study, a significant flow difference between the distal and proximal part of the spinal cord occurs during ASCP in aortic arch surgery. Measuring lactate levels with thoracic NIRS monitoring seems promising and future studies with larger volumes and longer ASCP periods may better identify a threshold for an ischemic insult to the spinal cord.

Keywords: Antegrade cerebral perfusion, Near-Infrared Spectroscopy, Spinal Cord Ischemia, S-100b Protein, lactate

ID: **209**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **ORAL**

RECURRENT DEFORMATIC STERNAL DEHISCENCE IN AN OBESE PATIENT AFTER ASCENDING AORTIC REPLACEMENT

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Abstract: Anueysmatic segment replacement operation is done via sternotomy. Dehiscence is one of the complications related to the procedure. In our case, the patient had been operated on for ascending aortic aneurysm and has a congenital sternal deformity. During the postoperative follow-up period, he was found to have sternal dehiscence. His depressed sternum was fixated twice in one week.

Introduction: ascending aortic aneurysm is a serious vascular pathology that may result in fetal complications when ruptured or dissected. Like the other open-heart surgeries this type of operation started with median sternotomy. The sternal deformity is one of the tough challenges that make fixation difficult. stainless-steel wires, clips, sternal clips, and plates with screws are some management methods of sternum dehiscence (1,2).

Case report: A-46-years old male patient was diagnosed as a case of ascending aortic aneurysm of about 55 mm. The patient was over obese (BMI 44.19) and had congenital depressed sternum deformity (figure 1a). Ascending aortic replacement was done via median sternotomy successfully. During the postoperative follow-up period, he was found to have sternal dehiscence. The patient was taken to the operation room and under general anesthesia, the operative wound was opened and the old stainless-steel wires were taken off. There were multiple devastations in the sternum bone. After debridement, the sternum was closed by using sternal locked clips instead of the wires. Unfortunately on the postoperative 3.rd day after an attack of hard cough, he developed sternal dehiscence again. At second sternal fixation, the sternum was found broken at the lower one-third. At this time, fixation was done by using plates and screws (figure 1b) after locked clips had been removed.

Discussion: sternal dehiscence can be a serious complication after sternotomy. It showed be managed in the most appropriate form. Many fixation methods had been described. The stainless-steel wires method is the most used fixation method (3).obesity and sternum deformity are risk factors that increased the possibility of developing sternal dehiscence after open-heart surgeries. We used stainless-steel wires in our first operation as usual, but unfortunately, it was not enough to prevent dehiscence. the second choice was locked clips, but the clips broke the sternum and dehiscence occurred again. At the third operation plates and screws was effective fixation method of such cases.

Conclusion: sternal fixation method after sternotomy should depend on the patient's situation and sternum morphology besides the surgeon’s experience.

ID: **288**

Topic: **Cardiovascular Surgery » Thoracic Aortic Aneurysm and Dissection**

Presentation Type: **ORAL**

PENETRATING AORTIC ULCER WITH OESOPHAGEAL FISTULISATION - ENDOVASCULAR STENT GRAFT REPAIR

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INTRODUCTION

Penetrating aortic ulcers rupturing into the oesophagus are uncommon. The diagnosis of aortoesophageal fistula is associated with significant rates of mortality. It is occurring more frequently in the context of an ageing population and burden of cardiovascular risk factors for atherosclerotic disease such as hypertension and smoking. Management options include conventional open surgery and endovascular stent graft repair.

METHOD

The aim of this study is to report two cases of aortoesophageal fistula treated via endovascular stent graft repair. We present two cases of elderly patients, with no conditions for conventional surgery, that presented with acute gastrointestinal haemorrhage. The diagnosis of aortoesophageal fistula was suggested during upper gastrointestinal endoscopy and confirmed with CTA. Both patients underwent endovascular stent graft repair of the aortoenteric fistulae. A Ryle's tube was introduced and its position in the stomach was confirmed through fluoroscopy.

RESULTS

Contrary to common practice, no active surgical intervention was carried out for the oesophageal lesions. Total parenteral nutrition was begun in the immediate postoperative period and both patients were maintained on broad-spectrum antibiotic coverage. Both patients were discharged with enteric nutrition through the Ryle's tube and under antibiotic coverage. Consecutive upper gastrointestinal endoscopies revealed a reduction of the fistula's diameter until their complete closure. The patients remained under antibiotic coverage and initiated oral nutrition, with no significant adverse events.

Conclusions

Penetrating aortic ulcer with oesophageal fistulisation is becoming more prevalent. Hence, it is essential to raise awareness about this subject, in order to provide the patient the best possible treatment. Endovascular stent graft repair is an appropriate treatment alternative in selected patients that are unable to undergo conventional surgery.

Oral Presentation Session

Risk assessment, complications and outcomes.

Date: 06.11.2021 Time: 11:00 – 11:30 Hall: 4

ID: **268**

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

Presentation Type: **ORAL**

CHA2DS2VASC SCORE MAY PREDICT EXISTENCE OF CORONARY ARTERY DISEASE IN TAVI CANDIDATES

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Background

Coronary artery disease (CAD) is very common among to aortic stenosis (AS) patients that undergo trans-catheter aortic valve implantation (TAVI). Pre-procedural routine coronary angiography may be harmful in these patients due to frailty, chronic kidney disease and peripheral artery disease. Also, potential risk of access site complication may delay the procedure or may compel to change access site. Because of that, the decision of pre-procedural diagnostic coronary angiography is very critical. In the present study, we aimed to demonstrate whether CHA2DS2VASC score could be used for risk assessment for occurrence of CAD in TAVI candidates.

Material and Methods

In this study, we evaluated totally 182 consecutive patients that had undergone TAVI procedure due to calcific AS. Patients that had no any prior history of CAD and that CAD had not been demonstrated before the procedure excluded from the analysis. Occurrence of CAD was accepted as existence of coronary plaque (including non-critical plaques) that had been detected in pre-procedural coronary angiography, history of myocardial infarction or prior coronary revascularisation. Predictors for CAD were evaluated by logistic regression

Results

Study population consisted of 157 consecutive patients with a median age of 79 (74-82 [25-75 IQR]) and 81 (51,6 %) were female. Coronary artery disease was observed in 123 (78,3 %) patients. The average CHADS2VASC score was 5,4 (± 1,34). Patients that had CAD higher Logistic Euro score (7,32 vs. 4,77 p=0,033 in patients with and without CAD respectively). Male gender was more common in CAD+ group. In multivariable logistic regression analysis; male gender (OR 39,89 [7,44-213,6] p< 0.0001), CHADS2VASC score (OR 10,35 [4,030-26,62] p<0.001), hyperlipidemia (OR 2,84 [0,98-8,21]) were found to be independent predictors of CAD

Conclusion

Beyond to well-known risk factors, CHA2DS2VASC score may also be used as a diagnostic tool for risk assessment of CAD in AS patients that candidate for TAVI procedure.

ID: **79**

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

Presentation Type: **ORAL**

EVALUATION OF PROCEDURAL, CLINICAL OUTCOMES AND 8-YEAR SURVIVALS OF TAVI: A SINGLE-CENTER EXPERIENCE WITH DIFFERENT BIOPROSTHETIC VALVES

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BACKGROUND: Indications for transcatheter aortic valve implantation (TAVI) have expanded in the last decade due to the number of experienced operators' increase and improved results and longer survival rates from many clinical trials. We aimed to present clinical, electrocardiographic and laboratory results of TAVI with four different bioprosthetic valves.

METHOD: A retrospective, single-center study included 441 patients with symptomatic severe aortic stenosis out of 459 patients who applied to the Cardiology Department of Dokuz Eylul University Hospital between June 2012 and May 2019 and were approved for TAVI by the heart team.

RESULTS: A total of 441 patients with severe aortic stenosis, including 243 women (55%), were included in the study. The average age of the patients was 77.7 ± 7.8 years. The mean logistic EuroSCORE and mean STS score were 23.34±11,3% and 3.92±2.05%, respectively. Transthoracic echocardiography were shown baseline LVEF was 51.62 ±13.67 %. 211 (47.8%) of the patients were treated with Medtronic CoreValve (MCV, Medtronic, Minneapolis, MN), 176 (39.9%) were treated with Portico valve, 51 (11.6%) were treated with Edwards-SAPIEN XT valve (ESV, Edwards Lifesciences, Irvine, CA) and 3 (0.7%) were treated with Direct Flow Medical (DFM, Santa Rosa, CA). The median follow-up of intensive care unit and hospital stay were four days and 14 days, respectively. After TAVI, LVEF improved in all patients, especially in the patients with LVEF below 40%. The device success rate was 88.4% according to VARC-2 and 84.1% according to VARC-3.

Vascular complications were observed in 47 (10.7%) patients. Interestingly, vascular complications were detected less common in patients with 0 blood type. 47 (10.7%) of patients needed permanent pacemaker implantation. Acute cerebrovascular event developed in 2.1% of patients; contrast nephropathy developed in 9.1% and the need for hemodialysis developed in 1.4% of the patients.

In-hospital mortality rate was 7%. The independent predictors of in-hospital mortality were detected pre-TAVI serum albumin level (OR: 0.230; p=0.028), post-TAVI cerebrovascular event development (OR: 15.904; p=0.004) and post-TAVI contrast nephropathy (OR: 6.322; p=0.001). In addition, all-cause first-year mortality was observed in 21.3% of the patients. Pre-TAVI serum albumin level (OR: 0.364; p=0.011) and pre-TAVI serum neutrophil/lymphocyte ratio (OR: 1.144; p=0.019) were detected as the independent predictors of all cause first-year mortality.

In the analysis of Kaplan Meier curve, the median survival time was detected 53 months at the 8-year follow-up. According to Kaplan Meier analysis, longer survival time was observed in women of 61 months compared to men of 40 months (p=0.024 Log Rank). Finally, the fifth-year and the eighth-year survival rate were 46,5% and 26.2%, respectively.

CONCLUSION: Our study is one of the studies with the largest patient population in Turkey, in which our TAVI experiences were shared using different types of bioprothesis valves, in-hospital and first-year mortality predictors, single-center, eight-year follow-up period.

ID: **100**

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

Presentation Type: **ORAL**

MULTIPLE FISTULAS AFTER TRANSCATHETER AORTIC VALVE IMPLANTATION

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An 83-years-old male patient presented with chest pain, coronary angiography was performed with the diagnosis of NON-ST MI. TAVI was planned with the decision of the council for the patient who was found to have non-critical coronary artery disease and severe aortic stenosis in TTE. After the preparations, a temporary pacemaker was first placed in the patient via the right femoral vein. A 14F sheat was placed in the left femoral artery and aortic root angiography was performed with a pigtail. The pigtail catheter was exchanged with an AL2 catheter and a 0.038inch flat-ended guidewire was passed to the left ventricle. The AL2 catheter was exchanged with a pigtail and the SAFARI guidewire was inserted into the ventricle. Predilatation was performed with a 25mm balloon. MYVAL 29mm sized aortic bioprosthesis valve was implanted in the appropriate position. After the controls for a paravalvular leak, the left femoral artery was closed with vascular closure. After the procedure, the patient had no problem in follow-ups and was discharged with a polyclinic control plan. 5 months after the procedure, he applied to the emergency department with the complaint of shortness of breath and was admitted to the cardiology service with the preliminary diagnosis of decompensated heart failure. In his vitals BP 118/46; heart rate 77bpm, fever 36.4°C, SaO2 91. Laboratory panel revealed CRP 56, WBC 7.21, neutrophil 73.3%, eGFR 79, AST 242, ALT 138, negative cardiac enzymes. Furosemide infusion was started with intake and output monitoring. Also with the preliminary diagnosis of pneumonia, ceftriaxone 2x1gr treatment was started. In the control TTE, EF %45, moderate paravalvular AR was detected, the bioprosthetic aortic valve gradients were found to be in the normal range. In the follow-ups, the CRP values decreased; the edema and dyspnea complaints regressed after treatment. In the anamnesis records, it was seen that infectious diseases consultation was not requested, and blood culture was not taken during hospitalization. After 2 months after being discharged, the patient was re-admitted to the cardiology service with decompensated heart failure. Due to a suspicious fistula appearance in TTE, TEE was planned and a fistula image of 2.8mm in width between the sinus valsalva and the right atrium; 6mm in width between the sinus valva and right ventricle were detected. As a result of the decision of the council to be surgical, the patient did not accept the procedure, and it was decided to follow up with medical treatment.

ID: **282**

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

Presentation Type: **ORAL**

THE EFFECT OF TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) ON OTHER VALVE PATHOLOGIES; THE CONSEQUENCES OF THIS ON MORTALITY AND HOSPITALIZATIONS

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Aim

TAVI is performed as an alternative treatment to surgery in patients with high surgical risk. Functional moderate or severe mitral insufficiency and tricuspid insufficiency accompany approximately 20-60% of the patients who underwent TAVI. In this study, we aimed to evaluate the impact of TAVI on mitral and tricuspid regurgitation, pulmonary hypertension and right ventricular functions in patients who underwent TAVI. We assessed the relationship between decreased mitral and tricuspid regurgitation grade and mortality also hospital admission.

Material and Method

We retrospectively examined 79 patients who underwent TAVI in our clinic between 2016 and 2019. Data of this study were obtained from the electronic health database of our hospital. Whether the patients included in the study were alive, or dead were interrogated from the electronic death notification system with the identification number. In this context, data regarding the pre-procedural general demographic data, comorbidities, TTE parameters before and after the procedure, 2-year mortality status, and the number of re-hospitalizations were obtained.

Results

46.8% (n = 37) of the patients were male and 53,2% (n = 42) were female. 24.1% (n = 19) of the patients died within 2 years. While there were 34 (43%) patients with moderate-to-severe MR before TAVI, it decreased to 18 (22,7%) after the procedure. There was a statistically significant difference between moderate-severe MR rates pre- and post-TAVI. While there were 26 (32,9 %) patients with moderate-to-severe TR before TAVI, it decreased to 12 (15%) after the procedure. There was a statistically significant difference between moderate-severe TR rates before and after TAVI. While 50,6% (n = 40) of the patients were never admitted to hospital, 31,6% (n = 25) once, 15,2% (n = 12) twice and 2,5% (n = 2) 3 times were hospitalized. The mean sPAP (mmHg) value of AS patients were 44.30 (± 14.42) before TAVI and were 39.09 (± 11.77) after the procedure and this difference was statistically significant (Z = -3.506, p <0.001). The mean TJV (m/sec) value of patients was 2,91 (±0,58) before TAVI and was 2,88 (±3,34) after the procedure; and this difference was statistically significant (Z = -3.506, p <0.001). However, there was no statistically significant difference between the measurement averages of TAPSE (mm), Lateral annular S '(cm/sec), LAV (ml), and LAVI (ml / m2) pre-and post-TAVI (p> 0.05).

Conclusion

There is a significant decrease in the rate of moderate to severe MR and TR patients after TAVI. The reduction in moderate-to-severe MR and TR grade was not associated with a reduction in 2-year mortality and hospitalizations. There was no significant difference in the parameters of right ventricular systolic functions before and after the procedure. In addition, there is no significant difference in LAV and LAVI pre-and post-TAVI. In the pre-TAVI assessment, moderate-severe MR and TR should not be an obstacle for TAVI.

Key Words: Transcatheter aortic valve implantation, mitral regurgitation, tricuspid regurgitation.

ID: **273**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

FEATURES OF NUTRITION OF PATIENTS WITH CARDIOVASCULAR DISEASES

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A radical change in the nutritional habits of modern humans - the transition from a low-carbohydrate diet with a high content of fat to a high-carbohydrate diet with a low content of them - is the cause of many cardiovascular diseases (CVD). Although the lipid hypothesis of increased mortality from coronary heart disease (CHD) appeared as early as the middle of the 19th century, scientists did not even try to associate diet with the deposition of cholesterol and the presence of atherosclerotic plaques in the arteries. According to the then prevailing theory, the cause of CVD was the intake of saturated animal fat.

It is paradoxical that the lipid hypothesis steadily dominated, despite a large number of very contradictory results from different researchers. Back in 1968, as part of a project to study atherosclerosis, pathological examination was carried out on 22,000 deceased people from 14 countries. The results of this large randomized study were stunning: the prevalence and degree of development of atherosclerotic plaques did not depend at all on either diet or on the part of the world and was the same, both in countries with a high level of CVD, as in those where people hardly suffer from them.

Omega-3s and monounsaturated fats (good fats) reduce inflammation, while altered hydrogenated ones, which are widespread in processed foods, increase it. In addition, fat is required for the absorption and transport of vitamins, namely A, D, E and K. They do not dissolve in water and can only be absorbed in the small intestine in combination with fat. Lack of vitamin D causes a decrease in immunity, the development of depression, chronic fatigue syndrome.

Homocysteine. An increase in the level of this amino acid accompanies many pathological conditions, including atherosclerosis (narrowing and hardening of the arteries), heart disease, stroke and dementia; it is often easy to reduce it with B vitamins.

Reception of omega 3 and omega 6 (1: 1 norm). It is advisable to eat fish at least twice a week. To replenish the required amounts of omega-3, it is advisable to consume salmon, trout, tuna, herring, halibut or mackerel 2-3 times a week. Frozen fish has almost no omega 3. The best source of omega – 3 is flaxseed. Linseed oil is easier to use, but, unfortunately, it does not contain as many lignins and quickly oxidizes and goes rancid.

Alpha lipoic acid (concentrated in spinach, broccoli, kidneys, liver, heart) also has a preventive effect on the accumulation of lipofuscin, reduces inflammation.

Essential fatty acids, choline and calcium are needed for greater effect and absorption of vitamin D. It makes more sense to use foods that contain essential vitamins in an easily digestible form and in sufficient quantities.

Olive oil is a source of monounsaturated fatty acids, squalene, vitamins E and K.

It is very important to eat foods containing a large amount of magnesium salts - nuts, dried apricots, bran. It is necessary to increase the consumption of foods containing a large amount of potassium salts: dried apricots, prunes, raisins, Jerusalem artichoke, ginger, "jacket" potatoes. It should be noted that turmeric is an important immunomodulator for any disease, moreover, it is a powerful antineoplastic agent.

Vitamin D and its active metabolites play an important role in the immune, cardiovascular, and reproductive systems.
Thus, adherence to a balanced diet and physical activity contributes to the fastest recovery and prevention of the development of atherosclerotic processes.

Oral Presentation Session

Solutions for Peripheral Vascular Access Problems

Date: 06.11.2021 Time: 11:30 - 12:30 Hall: 4

ID: **31**

Topic: **Cardiovascular Surgery » Varices and DVT**

Presentation Type: **ORAL**

ENOXAPARIN VERSUS BEMIPARIN IN PERMENANT HEMODIALYSIS CATHETER THROMBOSIS

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Introduction

Patients with chronic kidney disease require hemodialysis. Central venous catheters is also very common for these patients. Catheter-related vascular thrombosis or catheter thrombosis is a common complication that causes catheter dysfunction.1 Avoiding these problems in such morbidity is very important for patients' comfort and for functional hemodialysis

Method

Patients with indwelling catheters were retrospectively analyzed for 2 years. A total of 247 patients are in the study. 56 patients already had a catheter, and a 14.5 F catheter was re-inserted due to catheter thrombosis. 28 of these patients used enoxaparin sodium (100 IU / kg (1mg / kg)) (Group E). Other 28 of them used bemiparin (2500 IU in patients weighing less than 60 kg, 3,500 IU in patients weighing more than 60 kg) (Group B) It was administered subcutaneously as a single daily dose for 3 months. At the end of 3 months, we have compared the catheter thrombosis, venous thrombus in the vein that catheter inserted and morbidity in these 2 patient groups. In this study, we investigated the effect of enoxoparin sodium and bemiparin sodium on catheter patency and morbidity in patients with catheter dysfunction due to catheter thrombosis.

Results

There was no statistically significant difference in terms of gender and age in both groups of total 56 patients.(p: 0.422, p: 0.883).A permanent catheter was placed through the subclavian vein in 6 patients in Group B and 4 patients in Group E. There was no statistical difference in the patient's preoperative demographic data (hypertension, diabetus mellustus, peripheric artery disease) (Table-1). There was no statistical difference between Group B and Group E in terms of LMWH side effects (bleeding, hematoma, hematuria, GIS bleeding, Heparin induced thrombocytopenia). (Table-1) There are 3 patients in Group B and 6 patients in Group E, who suffered from catheter dysfunction due to catheter thrombosis during the 3-month follow-ups. However, there is no statistically significant difference (p: 0.469). There was a single patient in Group E who suffered from extremity deep vein thrombosis and no significant difference between groups.

Discussion

Our study has presented that there is no difference between enoxaparin and bemiparin groups in terms of catheter patency and morbidity. But, in patients with catheter dysfunction due to thrombosis, LMWH is thought to be more protective in the formation of thrombosis in new deep vein and catheter.

ID: **118**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

ULTRASONOGRAPHY GUIDED DIRECT PERCUTANEOUS ALTEPLASE INJECTION IN LONG SEGMENT NATIVE HEMODIALYSIS FISTULA THROMBI IN THE ACUTE PERIOD: A PRACTICAL SOLUTION

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Ultrasonography Guided Direct Percutaneous Alteplase Injection in Long Segment Native Hemodialysis Fistula Thrombi in the Acute Period: A Practical Solution

Background: The present study aims to evaluate the effectiveness of ultrasound-guided percutaneous alteplase injection in the treatment of long segment thrombi in the efferent veins of arteriovenous fistulas in hemodialysis patients.

Methods: A total of 9 patients who underwent alteplase (t-PA) application under ultrasound guidance in the interventional radiology clinic between 2016 and 2020 were included in the study. Patients' information such as age, gender, age of fistula, thrombosis duration and fistula type were obtained from hospital records. During the procedure, information such as thrombosed segment length, t-PA dose, number of sessions, presence of aneurysmal segment, bleeding after the procedure and the need for percutaneous transluminal angioplasty (PTA) were recorded. Restoring the flow in the fistula was considered the successful outcome. The SPSS 24.0 (IBM Corporation, Armonk, New York, United States) program was used for the statistical analysis.

Results: Of the patients included in the study, the mean agewas 48.7±14 years, the fistula age was 28.7±11 months, the thrombosis age was 3.5±2 days, and the thrombosed segment length was 17.7±2.9 cm. After the procedure, flow was provided in all veins. Aneurysmal segment was detected in 3 patients, post-procedure bleeding that did not require replacement in 2 patients, and stenosis in the proximal fistula in 6 patients. PTA was applied to 7 patients after t-PA.

Conclusion: Reflow can be achieved with ultrasound-guided t-PA injection even if thrombi developed in native AV hemodialysis which are long-segment (>10 cm) without any surgical or angiographic procedure.

ID: **179**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

COMPARISON OF CUT-DOWN AND PERCUTANEOUS TECHNIQUES FOR INDWELLING PORT PLACEMENT IN OBESE PATIENTS

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Introduction: To compare cut-down and percutaneous techniques for indwelling port replacement in obese patients.

Methods: Charts of patients hospitalized for indwelling port catheter placement with cut-down or percutaneous technique between January 1st, 2014 and January 1st, 2019, were retrospectively analyzed. Patients with cancer diagnosis and BMI ≥ 30 kg/m2 were included in the study. Patients' characteristics were recorded and notes were made of operation time, side of procedure, anatomic site for port placement, follow-up length, the success and complications of procedures.

Results: Eventually, 198 patients were enrolled into the study. Cut-down technique was performed in 108 patients, and percutaneous technique, in 90. Operation time is significantly longer in patients with cut-down technique (33.3 minutes vs 17.5 minutes, p= 0.001). Cephalic vein and subclavian vein were most preferred veins in cut-down and percutaneous technique (p= 0.001). Early term complications occurred in three patients with cut-down technique, and in 11 patients with percutaneous technique (p= 0.010). Late term complications were detected in eight patients in both groups (p= 0.703). Total complications were significantly higher in patients with indwelling port placement with percutaneous technique (p= 0.033). Logistic regression analysis revealed that percutaneous technique and BMI >35 kg/m2 increased the complications 3.389 and 3.843 fold-times (p= 0.007 and p= 0.003, respectively).

Conclusion: Our study demonstrated that operation time was significantly shorter with percutaneous technique for indwelling port placement in obese patients. In contrast, cut-down technique led to significantly fewer early complications and total complications. Additionally, percutaneous technique and BMI >35 kg/m2 increased the complications.

Keywords: cut-down, indwelling port, obese, oncology, percutaneous, port placement

ID: **188**

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

Presentation Type: **ORAL**

OUTCOMES OF ARTERIOVENOUS FISTULA FOR HEMODIALYSIS IN A SINGLE CENTER

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OBJECTIVE: Arteriovenous fistulas (AVF) for hemodialysis are of vital importance for the maintenance of life in patients with chronic renal failure. In this study, we aimed to share our experience about AVF operations performed in our clinic.

METHODS: 129 A-V fistula operations were performed on 104 patients by different surgeons between January 2018 and January 2021 in the Cardiovascular Surgery Clinic of Niğde Training and Research Hospital. The patients were divided into four groups according to the area of A-V fistula operation as forearm distal radio-cephalic, forearm proximal radio-cephalic, antecubital brachio-cephalic and basilic superficialization. In addition, autogenous saphenous graft was used in 2 (1.6%) patients. The distribution of operations is as follows;

-Forearm distal radio-cephalic: 82 (63.6%)
-Forearm proximal radio-cephalic: 8 (6.2%)
-Antecubital brachio-cephalic: 37 (28.6%)
-Basilic superficialization: 2 (1.6%)

RESULTS: The mean age of the patients was 58 (21-93). The gender distribution of the patients were 71 (68.3%) male and 33 (31.7%) female. 2 (1.6%) side-to-side and 127 (98.4%) end-to-side anastomoses were performed. In retrospective follow-ups, the 1-month patency rate was 84.1% and the 6-month patency rate was 78% for forearm distal radiocephalic fistula. The 1-month patency rate was 89.2% and the 6-month patency rate was 86.5% for antecubital brachio-cephalic fistula. All of the performed forearm proximal radio-cephalic and basilic superficialization A-V Fistula operations had an patency rate of more than 6 months. Complications developed in 6 patients in the early period. Of these, 3 patients had hematoma and 3 patients had distal limb ischemia.

CONCLUSION: Although kidney transplantation is the gold standard treatment method in end-stage renal disease, these patients still live on dialysis for various reasons. For dialysis treatment, AVF is the most comfortable and most frequently used method, and its long-term maintenance without any problems depends on appropriate surgical interventions and good techniques.

ID: **240**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

OPEN HEART SURGERY AFTER VASCULAR COMPLICATION IN A PATIENT WITH TUNNELED HEMODIALYSIS CATHETER: A CASE REPORT

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Introduction

Venous catheterization is the preferred method for hemodialysis in patients who need acute hemodialysis and who are not suitable for arterio-venous fistula opening due to peripheral vascular pathologies. Internal jugular vein catheterization is one of the hemodialysis catheterization methods, and the need for urgent intervention for vascular pathologies, which is one of the complications that may occur during the procedure, should always be considered.

In this case, emergency vascular surgery repair of the brachiocephalic vein (BSV) and superior vena cava (SVC) injury occurred during the procedure in a patient with a hemodialysis catheter is presented.

Case

A 64-year-old female patient with the diagnosis of hypertension, diabetes, and chronic renal failure and who needed hemodialysis a tunneled hemodialysis catheter was inserted into the left internal jugular vein (IJV) by the interventional radiology department. After the procedure, the patient developed severe chest pain and it was found that the hemodialysis catheter did not work. In thorax computed tomography, the catheter was extraluminal in the proximal left BSV and posterior of the SVC, and accordingly, blurring in the anterior mediastinal structures and mild pneumothorax-effusion in the right hemithorax were detected. The innominate vein and SVC were explored by median mini sternotomy, and the catheter tip was extraluminal in the innominate vein and a bleeding focus was found in the posterior of the VCS. The extraluminal catheter tip was cut and removed, the hematoma material was evacuated, the ruptured area, and the bleeding focus detected in the posterior VCS was repaired.

Conclusion

Today, the most preferred method for central catheterization is the internal jugular way, and it is a procedure that needs attention due to complications that may occur during catheterization. Considering the vascular pathologies and that may occur during hemodialysis catheterization and the need for vascular repair with vascular surgery will provide a more appropriate and accurate approach in the management of these complications.

Oral Presentation Session

New Dimensions in Endovascular Venous Interventions

Date: 06.11.2021 Time: 12:45 - 13:45 Hall: 4

ID: **193**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

TWENTY-FOUR MONTHS RESULTS OF PATIENTS TREATED WITH ENDOVASCULAR METHODS FOR PELVIC VENOUS CONGESTION SYNDROME

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OBJECTIVE: Pelvic venous congestion syndrome is one of the most important causes of chronic pelvic pain. In addition, ovarian venous insufficiency should be considered in the etiology in patients with recurrent lower extremity varicose veins. In general, in the treatment of pelvic venous insufficiency, transcatheter ovarian vein coil-embolization has preceded open surgical treatment.

METHODS: We evaluated the results of 20 patients who underwent catheter-mediated coil-embolization in our clinic due to pelvic venous congestion syndrome at the end of 2 years.

RESULTS: The mean age of the patients was 37.2 ± 5.7. All patients had complaints of chronic pelvic pain. Among other symptoms and signs; dyspareunia was detected in 12 (60%), dysmenorrhea 5 (25%), vulvavaginal varicous veins in 9 (45%), urgency 4 (20%) and lower extremity varicous veins in 13 (65%) patients. In patients with pelvic congestion, the left ovarian vein was closed in all patients by using the catheter-mediated coil-embolization method simultaneously with venography. Concurrent closure of the left internal iliac vein was required in 2 patients. After the procedure, the patients were discharged on the 1st postoperative day. No major complications developed during the hospitalization period. The patients were followed up at 1, 6, 12 and 24 months postoperatively. In the 1st month follow-up of the patients, complaints of pain radiating to the lower back and inguinal region were observed in 7 (35%), but it was stated that this pain completely disappeared after the 1st month. Only 3 (15%) of the patients complained of the garlic odor of the embolizing agent. At the 24th month follow-up of the patients, chronic pelvic pain was completely relieved, however, internal iliac vein coil embolization was required in 2 (10%) patients whose pain continued at the 6th-month follow-up. Re-interventional procedure was required in 2 (10%) of the patients. Complaints of dyspareunia were reduced in 8 of 12 patients (66.6% reduction), dysmenorrhea was reduced in 3 of 5 patients (60% reduction), and urgency was reduced in 3 of 4 patients (75% reduction). In 5 (55.5%) of 9 patients with vulvovaginal varicose veins that regressed after the procedure. A new varicose intervention was required in 3 (33.3%) of 13 patients with recurrent lower extremity varicose veins.

CONCLUSION: We think that catheter-mediated coil embolization treatment of pelvic venous congestion is a safe and generally effective treatment method compared to the 24-month controls.

ID: **27**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

COMPARING EDOVENOUS LASER ABLATION AND FOAM SCLEROTHERAPY IN INSUFFICIENCY GREAT SAPHENOUS VEIN

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Objective: The goal of this study was to compare endovenous laser ablation with foam sclerotherapy for primary venous insufficiency in terms of great saphenous varicose vein obliteration at 6 months, patient outcomes and cost.

Methods: All patients with symptomatic venous insufficiency of the great saphenous vein were randomized to either Endovenous laser ablation (n=40) or foam sclerotherapy (n=40) from July 2016 and April 2019. In both groups, Doppler ultrasonography was conducted in the 6 month of the patients. Financial statements from the obliteration of the great saphenous vein were noted.

Results: After one week, 6 patients required re-injection of foam sclerotherapy. At 6 months, all of the patients in both groups had their great saphenous veins obliterated. In both groups, there was no improvement in clinical score. While the foam sclerotherapy group used less analgesics, they were prepared to recover to normal activity sooner. The costs of laser ablation and foam sclerotherapy, on the other hand, were same. Both groups had equal incidence of local complications.

Conclusions: With respect to early evaluations of patient outcomes, foam sclerotherapy is a less analgesic and early return to normal activity alternative to endovenous laser ablation for primary venous insufficiency.

ID: **76**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

AUTOGENOUSLY DERIVED REGENERATIVE CELL THERAPY FOR VENOUS LEG ULCERS

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Objective

Venous leg ulcers (VLUs), which arise from chronic venous insufficiency in the lower limbs, are a major cause of morbidity and significantly negatively impact patients' health-related quality of life. Treatment of venous ulcers can be either conservative or surgical. Despite appropriate treatment, VLUs can be resistant to healing. Clinical results of treatment of venous foot ulcers with adipose-derived autologous stem cells, which did not improve despite the surgical treatment of the underlying venous pathology in the following case series, are reported.

Methods

Between April 2015 and January 2016, a total of 31 patients who had undergone surgery for underlying venous pathology but the venous ulcer had not healed were included in the study. The mean venous ulcer size was 3.6–6.2 cm (range: 2 to 8 cm by 3 to 9 cm). All patients were treated with adipose-derived autologous stem cells prepared using the MyStem Regenerative Adipose-Derived Stem Cell Purification Kit (MyStem LLC, USA). The ulcer diameter was measured and recorded in the third, sixth and twelfth months. The follow-up time was 12 months after ulcer healing.

Results

Eighteen ulcers demonstrated complete healing at the 12th month. Thirteen ulcers exhibited serious contraction and epithelialization even though the ulcer was not completely closed. At the 12th month, the ulcer size was reduced by 96.00 ±1.74% in these patients. The reduction in the ulcer area based on the month analyzed was significant ($p = 0.001$; $p < 0.01$). After the ulcers healed, the patients were followed for recurrence for one year. Recurrent ulcers were observed at the treated sites in 3 of 31 patients (9%). No adverse events, such as infection, inflammation, or tissue reactions, were observed.

Conclusions

Application of cell therapy in venous leg ulcer is currently used exclusively in patients not responding to the standard treatment. Autogenously derived regenerative cell therapy for VLUs can be considered as an additional treatment to primary surgical therapy.

ID: **285**

Topic: **Cardiovascular Surgery » Various Veins**

Presentation Type: **ORAL**

ROLE OF TRANSCUTANEOUS RADIOFREQUENCY TREATMENT IN LOWER EXTREMITY VENOUS INSUFFICIENCY

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Amaç: Antik çağlardan beri bilinen kronik venöz hastalık (KVH), yüksek tanı ve tedavi maliyetleri, iş gücü kaybı, epidemiyolojik ve sosyoekonomik sonuçları ile günlük yaşamı ciddi şekilde etkileyen önemli bir sağlık sorunudur. Bu çalışmada klinik-etiyolojik-anatomik-patofizyolojik (CEAP) sınıflamasına göre C1s/a olan hastalarda radyofrekans (RF) etkinliğinin KVH tanısı ile belirlenmesi amaçlanmıştır.

Gereç ve Yöntemler: Bu çalışma, 2018-2019 yılları arasında KVH nedeniyle Erciyes Varis Tedavi Merkezine başvuran CEAP sınıflamasına göre C1s/a olan hastalar dahil edilerek yapılmıştır. Hastalar uygulanan tedavi yöntemlerine göre 2 gruba ayrıldı. Grup 1'deki Hastalar; 27.12-MHz RF tedavisi, venoaktif ilaç (VAD) tedavisi (kalsiyum dobesilat), işlem sonrası kompresyon tedavisi ve antistaz egzersiz tedavileri uygulandı. Grup 2'deki hastalara VAD tedavisi (kalsiyum dobesilat), kompresyon tedavisi (Sınıf 1) ve antistaz egzersiz tedavileri uygulandı.

Bulgular: Çalışmaya ortanca yaşı 41 (35,25-46) olan 61 (%50,8) kadın, 59 (%49,16) erkek olmak üzere toplam 120 hasta dahil edildi. Grup 1'deki hastaların yaşlarının ortanca değeri 40 (33,25-44), Grup 2'de 42 (37-49,5) bulundu. Hastalar semptomatik durumlarına göre incelendiğinde 96 olarak bulundu. Hastalar (%80) asemptomatikti ve 24 (%20) hasta semptomatikti. Semptomlar arasında ağrı (%25) ve bacak şişmesi (%15) en sık görülenlerdi.

Sonuç: KVH'nin birincil tedavisi hastaların eğitimi ve yaşam tarzı değişiklikleridir. KVH'da kompresyon çorabı ve medikal tedaviye ek olarak RF, hastaların kliniklerini olumlu yönde etkileyebilecek alternatif bir tedavi yöntemi olarak düşünülebilir.

ID: **259**

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

Presentation Type: **ORAL**

TREATMENT OF A JUVENILE RHEUMATOID ARTIRITIS AND FAMILIAL MEDITERANIAN FEVER PATIENT WITH POSTERIOR NUTCRACKER SYNDROME WITH RENOCAVAL BY-PASS

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Objective: Nutcracker Syndrome (NS) is a rare causes of hematuria, proteinuria and abdominal pain in children and is classified as Type 1 (anterior NS) Type 2 (posterior NS). Posterior NS is less rare than anterior NS. Pelvic Simultaneous posterior NS and Familial Mediterian Fever (FMF) have been reported in few cases. There is no reported case with the association of FMF + Posterior NS + Juvenile Rheumatoid Arthritis (JRA). This case report describes the treatment of a posterior NS with FMF and JRA patient with surgical renocaval bypass.

Case: An 18-year-old woman with JRA and FMF presented with left upper quadrant, flank pain, proteinuria. Physical examination was unremarkable. She had FMF with m694v mutation. She was on methotrexate and colchicine. Ct Angiography confirmed compression of the left renal vein (LRV) by the aortic bifurcation, renal vein could not be observed between the mesenteric artery and the aorta. Renal vein was located retroaortic. The patient was operated under general anesthesia. Intestines were retracted with a midline incision. The inferior vena cava, renal vein, iliac vein, and iliac arteries were explored in the retroperitoneum. It was observed that the LRV was compressed between the aorta and vertebral column and drained into the left iliac vein. (Fig 1) Under systemic heparinization, the Dacron graft was interposed between the aorta and the renal vein with an end-to-side anastomosis (fig 2)

Conclusion: During fetal life, LRV maturates between the 4th and the 8th gestational weeks. During this maturation, abnormal variations of the renal venous system may occur. In a study conducted with 1452 patients, retro aortic variations were found at around 2.1%. Since posterior renal vein variation can progress asymptomatically, its true prevalence is not known. Nevertheless, PNS is a very rare disease.

The association of JRA, FMF and PNS has not yet been described in the literature. Surgical treatment options for PNS include renal vein anterior transposition, graft interposition, saphenous bypass, and endovascular treatment. In our case, we preferred reno-caval bypass using a graft, which is a feasible surgical method in PNS with satisfactory outcome.

In conclusion, one of the causes of childhood proteinuria is nutcracker syndrome. Nutcracker syndrome may be an isolated cause of proteinuria or may be associated with other proteinuria-causing diseases such as FMF and JRA and could be treated surgically.

Oral Presentation Session

Endovascular Interventions: One Step Further

Date: 06.11.2021 Time: 14:00 - 15:00 Hall: 4

ID: **8**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

SINGLE CENTER EXPERIENCE IN VASCULAR AND ENDOVASCULAR SURGERY DURING THE COVID-19 PANDEMIC

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OBJECTIVE: Along with other areas of specialization, the cardiovascular surgery clinic is a department that has a significant contribution to the COVID-19 pandemic process with both the management of vascular emergencies and the rapid and effective use of interventional methods. This study aims to present endovascular and open vascular surgical procedures performed in single center between March 2020 and December 2020 during the ongoing pandemic.

METHODS: A total of 230 number of patients underwent open surgery (60 patients) or endovascular / interventional treatment (170 patients) by the Cardiovascular Surgery clinic were included in the study. It was aimed to determine the procedural details of the patients, follow-up results, complications and mortality rates.

RESULTS: In the open vascular surgery group, the mean age was 51.4±23.2 years (range 12–90 years). Sixteen (26.7%) patients were female and 44 (73.3%) male. The median follow-up from the time of the open vascular procedure was 4.3±1.2 months. There were ten (16.7%) minor complications. There were five deaths after procedures. In the endovascular / interventional group, the mean age was 58.5±18.6 years (range 18–94 years). Ninety-one (53.5%) patients were female and 79 (46.5%) male. The median follow-up from the time of the drug-eluting balloon angioplasty and pharmacomechanical thrombectomy patients were 4.0±1.1 months. There were thirty four (20%) minor complications. There were two deaths after procedures.

CONCLUSIONS: Our experience and successful results shows how surgical and interventional procedures participated in the care of hospitalized COVID-19 patients during the height of the coronavirus pandemic.

ID: **157**

Topic: **Cardiovascular Surgery » Thoracic Aortic Aneurysm and Dissection**

Presentation Type: **ORAL**

SUCCESSFUL TREATMENT OF AN INTRATHORACIC LEFT SUBCLAVIAN ARTERY ANEURYSM. AN ENDOVASCULAR INTERVENTION BY USING TEVAR AND COIL EMBOLISM SIMULTANEOUSLY.

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Objectives: Subclavian artery aneurysms are an extraordinary variety of aneurysms throughout the entire vascularization in the body. The incidence is only %1 amongst aneurysms associated with the aorta and peripheral arteries. Potential complications of subclavian artery aneurysms are rupture, distal embolization, and compression of surrounding tissues1. Complicated subclavian aneurysms should be intervented. In this case report, we discuss the interventional approach of the patient who was 63 years old, had an uncomplicated aneurysm at the origin of the left subclavian artery.

Method: Repairment of complicated gaint subclavian artery aneurysm was achieved with endovascular interventions. We have used thoracic endovascular aort replacement and coil embolisation tecniques for repairment.

Results: Succesful repairment of gaint left subclavian artery aneurysm was performed with intervetional procedures.

Conclucion: Interventional approaches of the intrathoracic aneurysms are more valuable than before. Open surgery risks of patients conduct the clinicians to interventional procedures. Gaint intrathoracic aneurysms in subclavian origin from aorta can be repaired with thoracic endovascular aort replacement and coil embolisation. Endovascular graft stent for blocking proximal blood flow, coil embolization for blocking retrograd blood flow can be used for the treatment of intrathoracic aneurisms like ours.

ID: **198**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **ORAL**

ENDOVASCULAR TREATMENT OF THORACIC AND ABDOMINAL AORTIC EMERGENCIES

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Background: Acute aortic diseases are relatively uncommon, but are life-threatening conditions. Prompt diagnosis and treatment is important for successful results. We aimed to present our experience and results of endovascular repair of acute thoracic and abdominal aortic pathologies.

Methods: Between 2013 and 2020, a total of 82 patients (69 male, 13 female and mean age 60.6 ± 11.5 years) with thoracic and /or abdominal aortic emergency underwent endovascular repair in our clinic. Computed tomography (CT) angiography was performed for diagnosis and follow-up. Patient characteristics, procedural success rate and results were analyzed retrospectively.

Results: Aortic pathology was type B dissection in 59 (71.9%) patients, ruptured abdominal aortic aneurysm in 19 (23.3%) patients, intramural hematoma in 3 (3.6%) patients, iatrogenic aortic injury in 1 (1.2%) patient, and aortoenteric fistula in 1 patient. Etiology was blunt trauma in 13 patients with type B dissection. Treatment was endovascular aortic repair (EVAR) in 21 patients, thoracic endovascular aortic repair (TEVAR) in 55 patients, aortic stent in 3 patients, and EVAR and TEVAR in 3 patients. The endovascular procedure was applied successfully in all patients. Hospital mortality was 14.6% with 12 cases, and these patients were mostly lost due to hemodynamic instability or multiple trauma.

Conclusion: Thoracic and abdominal aortic emergencies are life-threatening pathologies. The majority of patients die without treatment due to massive bleeding. In addition, surgical mortality rates are high due to hemodynamic instability and comorbidities. Endovascular treatment is a promising and alternative to surgery in these patients.

ID: **204**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **ORAL**

ENDOVASCULAR AORTIC STENT-GRAFT APPLICATIONS IN OUR NEWLY ESTABLISHED CLINIC, 10 MONTHS-18 CASES

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BACKGROUND: Due to the difficulties of open surgical intervention and the frequency of complications in the treatment of thoracal and abdominal aortic aneurysms and dissections, endovascular interventions have taken the first place in the treatment today. In this article, we reviewed our experience with abdominal (EVAR) and thoracic (TEVAR) aortic endovascular stent graft interventions as a new clinic.

METHODS: Between October 2020 and July 2021, a total of 18 patients, including 15 EVAR and 3 TEVAR, were treated. All of these patients were male. The mean age was 69 years. Three of the EVAR cases were patients with a ruptured abdominal aortic aneurysm and one of the TEVAR cases was a type B aortic dissection. The mean abdominal aortic diameter was measured as 70 mm in patients who underwent EVAR, and the mean thoracic aortic diameter was measured as 62 mm in patients who underwent TEVAR. In all EVAR cases, bilateral femoral arteries were explored and intervention was performed. A simultaneous left femoral embolectomy operation was performed due to the absence of a distal pulse in 1 patient who underwent EVAR. In TEVAR cases, unilateral femoral artery was explored, and the other femoral artery was used for percutaneous intervention. Carotico-subclavian bypass was performed as a preoperative preparation in 1 patient who underwent TEVAR. Postoperatively, all patients were taken into the intensive care unit.

RESULTS: Chronic renal failure developed in one patient who underwent EVAR and needed hemodialysis. Pneumonia developed in 2 of our patients who underwent EVAR and improved with medical treatment. The mean postoperative hospital stay was 5 days in EVAR patients and 6 days in TEVAR patients. One patient who underwent EVAR with the diagnosis of ruptured abdominal aortic aneurysm, whose general condition was poor, died. There was no mortality in the patients we performed TEVAR.

CONCLUSIONS: Increasing clinical experience and decreasing procedure time improve the success of endovascular interventions even more. Postoperative mortality and morbidity were significantly reduced in patients who underwent EVAR and TEVAR compared to open surgery. In our newly established clinic with a hybrid operating theatre, EVAR and TEVAR operations are successfully applied in the light of current data in suitable patients.

Gender	Male Female Total	100% (n=18) 0% (n=0) 100% (n=18)
Mean age	69 (47-91 years)	
Etiology	Abdominal aortic aneurysm Ruptured Abdominal Aortic Aneurysm Thoracic Aortic Aneurysm Type B Dissection Total	66% (n=12) 16% (n=3) 11% (n=2) 6% (n=1) 100% (n=18)
Mean aortic diameter	Thoracic aorta Abdominal aorta	62 mm (55-69 mm) 72 mm (56-84 mm)
Comorbidities	Diabetes mellitus Hyperlipidemia Coronary artery disease Peripheral arterial disease	33% (n=6) 22% (n=4) 33% (n=6) 11% (n=2)
Habits	Smoking	83% (n=15)
Preoperative morbidity	Splenectomy+thrombocytosis Coronary bypass CVA history Colon cancer Pott's disease Bentall procedure Chronic kidney disease	5% (n=1) 5% (n=1) 16% (n=3) 5% (n=1) 5% (n=1) 5% (n=1) 5% (n=1)
Operation performed	EVAR TEVAR	83% (n=15) 16% (n=3)

n= Number of Patients

Table 1. Demographic, pathological and operative characteristics of the patients.

ID: **238**

Topic: **Cardiovascular Surgery » EVAR, TEVAR**

Presentation Type: **ORAL**

5 YEAR FOLLOW UP OF 220 EVAR PATIENTS-A SINGLE CENTER EXPERIENCE

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Objective: Mid-term results and late-term results of EVAR in elder patients (above 70 years) is controversial , consequently we want to debate the 5 year follow up results of 220 patients from a single center.

Methods: While patients over 70 years of age constituted group-1, patients under 70 years of age were determined as group-2. Length of ICU stay, repeat intervention, early mortality, late mortality and follow-up time were evaluated.

Results:Male gender was higher in patients under 70 years of age (94.5% vs. 84.9%, p=0.017).The length of stay in the ICU was longer in patients over 70 years of age (12 hours vs. 8 hours, p=0.014). All 4 early deaths were occurred in patients over 70 years of age (p=0.031). There is no statistical difference in terms of follow-up periods (32 vs. 31 months)p=0.859).

There was no difference between the groups in terms of late mortality (8% vs. 13%, p=0.219) and secondary intervention (6% vs. 7%, p=0.770).
No difference was found between the two groups in the survival analysis. 3-year survival 91% vs 85%. (log-rank p=0.199)

Conclusions: EVAR is becoming the preferential treatment method for abdominal aortic aneurysm in eligible patients. There is still a debate for mid-term and late-term results of EVAR. Open surgical intervention is still has superior late-term outcomes but thanks to increasing experience EVAR may perform with satisfactory results.

In our study, we want to assess the mid-term and late-term results of patients over 70 years age. Patients over 70 years of age are still in risk of ICU stay and early death, but there is no difference in survival, late mortality and secondary intervention. EVAR may perform with satisfactory mid-term and late-term results in patients over 70 years age.

ID: **40**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

EFFICACY AND SAFETY OF THE ANGIOSEAL VASCULAR CLOSURE DEVICE POST POPLITEAL ARTER PUNCTURE

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Purpose:
To investigate the feasibility and safety of the ANİOSEL vascular closure device (VCD) in achieving hemostasis in popliteal arterial interventions.

Methods:
Between February 2020 and February 2021, 24 patients (mean age 59.17+10.40 (40-76)) involving popliteal arterial access were analyzed retrospectively.Hemostasis was achieved with manuel compression(MC) in 12 patients (A group),And hemostasis was achieved with the ANJİOSEL (VCD) in 12 patients (B group) . The primary efficacy end points were time to hemostasis (TTH) and time to ambulation (TTA), and the primary safety endpoints were periprocedural and 30-day incidence of arterial access-related complications.

Results:
The trial assigned 24 patients . Procedural success was 100% in the VCD. Mean TTH was 4.08 +1.24 (2-6) min in the VCD versus 16.17+3.41 (10-20) min in the MC group(p <0.001) . Likewise, TTA was significantly shorter in the VCD 4.17+0.93 (3-6) than in the MC (19.42+3.92 (12-24) h) (p <0.001) .There were no major complications in any of the 12 cases of repeated vascular closure, but there were 3 major complications in the MC group.

Conclusions:
The ANJİOSEL VCD can be safely used for hemostasis in interventions that use popliteal arterial approaches, with a high technical success rate and a low rate of entry-site complications.Key words: popliteal artery, retrograde access, vascular access, vascular closure device.

Oral Presentation Session

New Ideas and Applications in Peripheral Vascular Interventions

Date: 06.11.2021 Time: 15:15 - 16:15 Hall: 4

ID: **218**

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

Presentation Type: **ORAL**

ENDOVASCULAR TREATMENT OF UPPER EXTREMITY PERIPHERAL ARTERY OCCLUSSIVE DISEASE

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Objective

Upper extremity peripheral artery occlusive disease (PAOD) is often asymptomatic. The patients frequently admit to the hospital with numbness in the arm and hand, a difference in blood pressure more than 20 mmHg between two arms, fatigue, distal embolization and with symptoms related to steal syndrome, neurological complaints, or chest pain in patients with previous CABG surgery. (1) We presented the results of the patients who underwent endovascular treatment for upper extremity PAOD in this study.
Methods

Eighteen symptomatic patients who underwent endovascular treatment for upper extremity PAOD between January 2019- June 2021, were included to the study. The diagnosis and planning of the intervention and stent sizing was done according to computed tomography angiography (CTA). The ipsilateral brachial artery was preferred for vascular access. We preferred using covered stents for total occlusions in the first part of the subclavian artery, and we preferred using bare stents for lesions involving vertebral artery or mammarian artery origin. (2-3)

Results

Five female and 13 male patients enrolled to the study. The mean age of the patients was 59±7 years. The occlusive lesions were located at the right subclavian artery in two patients, and at the left subclavian artery in 15 patients and at distal subclavian artery in one patient. There were 5 chronic total occlusion (CTO) and two patients was presented with acute arterial occlusion. Steal symptoms were present in five patients, distal microembolization was present in two patients, and the remaining patients had numbness and fatigue in the arm.

Predilatation was performed in four patients with CTO. Balloon expandable stents (Restorer®, I-vascular) were used in five patients and covered stents (Advanta V12®, Atrium, Getinge Group) were used in 13 patients. Technical success of the interventions was 100%. No complication related to interventions was observed. Dual antiplatelet and antilipid therapy was given all the patients after the intervention. The mean follow-up period is 20±8 months. The primary patency rate was 94.4%. One patient required surgery due to restenosis. The symptoms of the remaining patients resolved completely after the intervention and there was no need for secondary intervention. During the follow-up period, one patient had endovascular intervention due to lower extremity PAOD. No additional cardiovascular events were observed in the other patients.

Conclusions

Endovascular treatments are safe in symptomatic upper extremity PAOD and may be preferred over surgical treatment in patients with suitable anatomy, due to low mortality and morbidity rates.

Keywords: Endovascular therapy, peripheral artery occlusive disease, stents, upper extremity.

References:

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ID: **236**

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

Presentation Type: **ORAL**

OUTCOMES OF ATHERECTOMY FOR LIMB ISCHEMIA IN A NEWLY ESTABLISHED CARDIOVASCULAR SURGERY CENTER

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Background: Peripheral artery disease is a difficult-to-treat, highly prevalent disease with much controversy about its optimal treatment strategy. Endovascular therapies have gained broader application in the recent years. Atherectomy is performed to accompany angioplasty and/or stenting, especially in patients with a high atherosclerotic load. Complications of atherectomy include dissection, perforation, abrupt occlusion, distal embolization, access-related complications, as well as treatment failures such as residual stenosis. The aim of the present study is to report results of patients who underwent atherectomy in a new cardiovascular surgery department.

Methods: The study design was single-center, retrospective and descriptive. Data of patients who underwent atherectomy in our department between August 2020 and August 2021 was obtained from electronic health records. Demographic data, peri-procedural details and outcomes of procedures were noted. Procedural success was defined as <30% residual stenosis in the atherectomized vessel. Adverse events were defined as amputation, death, target lesion/vessel revascularization, angiographic distal embolization that required a separate intervention, dissection, perforation, access-related complications and abrupt occlusion. Continuous variables were presented as mean (range). Categorical variables were presented as numbers (n) and frequency (%).

Results: Within the study period, atherectomy was performed on 30 patients (2 women, mean age 59.85 [36-79] years, diabetes mellitus 45.45%, hypertension 30.3%, hyperlipidemia 12.12%) and 33 limbs (1 upper limb). All patients underwent directional (HawkOne, Medtronic, Boston, MA,USA) or rotational (JetStream, Boston Scientific, Marlborough, MA,USA) atherectomy with subsequent angioplasty or angioplasty + stenting. Ischemia was classified as Rutherford class II in 4 limbs, class III in 9, class IV in 7, class V in 11 and class VI in 2. There was a history of previous intervention in 6 target vessels (2 stents, 4 balloon angioplasty). Target vessel was isolated superficial femoral artery (SFA) in 17 limbs, SFA + popliteal artery (POP) in 8, isolated POP in 3, SFA + POP + tibioperoneal trunk in 1, posterior tibial artery in 2, anterior tibial artery in 1, and brachial artery in 1. A concomitant intervention to another vessel was performed during 23 (69.7%) procedures. Procedural success was achieved in 29 (87.88%) limbs (75% with rotational atherectomy and 100% with directional atherectomy). Patients were followed-up for a mean of 73.76 days. Restenosis ≥50% was observed in 5 (15.15%) limbs during follow-up. A re-intervention was needed in 3 (60%) of those who developed restenosis. During atherectomy procedures, dissection was observed in 2 cases, access-related complications in 2, distal embolization in 1, abrupt closure in 4, and perforation in 0. Three patients underwent major amputations within the follow-up period, and no deaths were observed (Table 1).

Conclusion: Endovascular atherectomy devices are being increasingly popular in the treatment of peripheral artery disease. Even though controversy remains around their efficiency and safety, they offer good results when performed on well-selected lesions. In the present study with a limited sample size, amputation-free survival was achieved in a majority of patients. More research with larger populations is needed.

Table 1. Patient demographics, comorbidities, operative details and outcomes of procedures

	Rotational Atherectomy (n=16)	Directional Atherectomy (n=17)	Total (n=33)
Age (years), mean (range)	54.19 (36-69)	65.18 (50-78)	59.85 (36-78)
Female sex, n (%)	1 (6.26)	1 (5.88)	2 (6,06)
Comorbidities, n (%)			
Diabetes Mellitus	6 (37.5)	9 (52.94)	15 (45.45)
Hypertension	5 (0.31)	5 (29.41)	10 (30.30)
Hyperlipidemia	2 (12.5)	2 (11.76)	4 (12.12)
Rutherford class, n (%)			
I	0 (0)	0 (0)	0 (0)
II	3 (18.75)	1 (5.88)	4 (12.12)
III	4 ((25)	5 (29.41)	9 (27.27)
IV	2 (12.5)	5 (29.41)	7 (21.21)
V	6 (37.5)	5 (29.41)	11 (33.33)
VI	1(6.25)	1 (5.88)	2 (6.06)
History of stents at target vessel, n (%)	2 (12.5)	0 (0)	2 (6.06)
History of angioplasty at target vessel, n (%)	2 (12.5)	2 (11.76)	4 (12.12)
Lesion location, n (%)			
SFA	8 (50)	9 (52.94)	17 (51.52)
SFA+POP	2 (12.5)	6 (35.29)	8 (24.24)
POP	1 (6.25)	2 (11.76)	3 (9.09)
SFA+POP+TP trunk	1 (6.25)	0 (0)	1 (3.03)
ATA	1 (6.25)	0 (0)	1 (3.03)
PTA	2 (12.5)	0 (0)	2 (6.06)
PA	0 (0)	0 (0)	0 (0)
Brachial artery	1 (6.25)	0 (0)	1 (3.03)
Additonal angioplasty/stent at target vessel, n (%)	16 (100)	17 (100)	33 (100)
Stent/angioplasty at another segment of target limb, n (%)	11 (68.75)	12 (70.59)	23 (69.7)
Residual stenosis > 30%, n (%)	4 (25)	0 (0)	4 (12.12)
Restenosis > 50%, n (%)	4 (25)	1 (5.88)	5 (15.15)
Dissection, n (%)	1 (6.25)	1 (5.88)	2 (6.06)
Perforation, n (%)	0 (0)	0 (0)	0 (0)
Access-releated complication, n (%)	2 (12.5)	0 (0)	2 (6.06)
Distal embolisation, n (%)	1 (6.25)	0 (0)	1 (3.03)
Abrupt closure, n (%)	4 (25)	0 (0)	4 (12.12)
Target lesion/vessel reintervention, n (%)	3 (18.75)	0 (0)	3 (9.09)
Amputation, n (%)	2 (12.5)	1 (5.88)	3 (9.09)
Death, n (%)	0 (0)	0 (0)	0 (0)
Length of ICU stay (days), mean (range)	0.81 (0-4)	0.29 (0-1)	0.55 (0-4)
Length of hospital stay (days), mean (range)	2.5 (1-10)	1.29 (1-2)	1.88 (1-10)
Follow-up duration (days), mean	67.88	79.29	73.76

ATA, anterior tibial artery; ICU, intensive care unite; PA, peroneal artery; POP, popliteal artery; PTA, posterior tibial artery; SFA, superficial femoral artery; TP trunk, tibioperoneal trunk.

ID: **153**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

WHICH INTERVENTION METHOD SHOULD BE CHOSEN SUPERFICIAL FEMORAL ARTERY BALLOON ANGIOPLASTY: ANTEGRADE OR RETROGRADE? A SINGLE-CENTER EXPERIENCE

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Objective: To determine which method is preferable for intervention in Superficial Femoral Artery (SFA) lesions and has a lower risk of complications.
Methods: During the first six months of 2021, 153 patients undergoing peripheral angiography for an arterial origin were retrospectively reviewed. Patients without an SFA lesion, contralateral procedures, and those who had previously undergone balloon angioplasty for an SFA lesion were excluded from the study. Patients with interventions with antegrade femoral artery or retrograde popliteal artery were included in the study. Patients with severe SFA lesions (more than 70% stenosis, including occlusions) were included in the study. Thus, 97 peripheral angiographic procedures in 82 patients were included in the study. Complications after the procedure were evaluated.
Results: The median age was 62 years (IQR 41-89 years); 91.5% of the patients were male. 64.6% of patients had hypertension, 12.2% had hyperlipidemia, 28% had diabetes mellitus, 41.5% had coronary artery disease, and 8.5% had chronic renal failure. Ninety-seven interventions were performed: 37.1% (n=36) of them antegrade and 62.9% (n=61) of retrograde procedures. Dissection was observed in 3 patients with antegrade SFA procedure, severely restricting flow; in these patients, the flow was restored by insertion of a stent. Although retrograde procedures were performed more frequently, no flow-restricting dissection was observed. Hematomas formed after angioplasty in 5 patients who underwent antegrade procedures. One of these hematomas was surgically removed, while the others later regressed spontaneously. An arteriovenous (AV) fistula developed in 2 patients. Since the fistula tract was thin, closure with a pressure dressing was observed in one patient after some time. The other patient underwent surgery, and the fistula was closed. No fistula was observed in the patients who underwent the retrograde procedure. However, four patients had pseudoaneurysm, and two patients had a hematoma. In these patients, the retrograde intervention was performed include the gastrocnemius muscle. Two of the pseudoaneurysms were operated on, and the vessels were repaired. The other two regressed in the long term with the pressure dressing. No hematoma or pseudoaneurysm was observed in any of the patients operated over the gastrocnemius muscle. In both procedures, dissection was higher in patients with occlusion than in patients without occlusion, which was statistically significant ($p< 0.05$).
Conclusions: Retrograde procedures were used more frequently in balloon angioplasty, and no flow-limiting dissection was observed. While complications such as hematoma and pseudoaneurysm were observed in punctures that included the gastrocnemius muscle, no complications occurred in more proximal retrograde punctures. Because dissection is more common with occlusions, a retrograde procedure may be preferable.

ID: **171**

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

Presentation Type: **ORAL**

LONG-TERM RESULTS OF ILIO-FEMORAL RECONSTRUCTION WITH KISSING STENT PLACEMENT IN ILIO-FEMORAL OCCLUSIVE DISEASES

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Introduction: Treatment of aortoiliac occlusive disease (AIOD) includes endovascular interventions, hybrid procedures, and surgical reconstruction. The aim of this study was to evaluate outcomes of extensive ilio-femoral reconstruction combining both iliac kissing stents (IKS) with stenting of the external iliac artery (SEIA) and/or surgical femoral endarterectomy (SFE)in patients with Trans-Atlantic Intercommunal Consensus II (TASC-II) D AIOD lesions.

Methods: The study included patients treated with SEIA and/or SFE in combination with IKS with comprehensive AIOD classified as TASC II class D between January 2016 and January 2020. IKS + SEIA, ICS + SFE or ICS + SEIA + SFE procedures were performed on the patients. Demographics, procedure details, and postoperative results were recorded. Primary endpoints were primary patency (PP), primary assisted patency (PAP), and secondary patency (SP). Long-term patency was assessed by annual clinical and ultrasonographic examination.

Results: The study included 37 patients (79% male; median age, 62 years) from 70 consecutive IKS procedures. In all, 24 patients (64%) underwent IKS+SEIA; 8 (21%) patients underwent IKS + SFE; 5 (13%) patients underwent ICKS + SEIA + SFE. The indication for surgery was either claudication (n=31, 84%) or extremity-threatening critical ischemia (n=6, 16%). A total of 57 limbs, including 76 balloon expandable and 35 self-expanding nitinol stents, were revascularized with 100% technical success. There was no mortality in the early period, and local complications that did not require intervention were seen in 3 (8%) patients. Long-term patency rates: Total PP, PAP, SP at 2 years 78%, 82% and 88%, respectively; At 5 years, total PP, PAP, and SP were 68%, 72% and 88%, respectively. After a mean follow-up of 32±27 months, 21% (8/37) patients underwent late reinterventions with new iliac(n=3) or femoral(n=2) stenosis, iliac occlusion (n=1) or external iliac restenosis (n=2).

Conclusion: External iliac artery stenting and/or surgical femoral endarterectomy treatment with iliac kissing stent placement in the treatment of disseminated ilio-femoral occlusive disease is safe and effective, providing satisfactory long-term secondary patency in exchange for significant reintervention.

Keywords: peripheral artery disease, aortoiliac occlusive disease, kissing stent,hybrid

ID: **194**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

PRIMARY STENTING OF SUBCLAVIAN ARTERY STENOSIS: A REPORT OF 2 CASES

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OBJECTIVE: Subclavian artery stenosis (SAS) is a significant form of peripheral artery disease that can lead to symptomatic ischemia affecting the upper extremities, the brain, and, in some cases, the heart. As percutaneous treatment methods evolved, they started to be used more in suitable patients due to the decrease in morbidity and mortality. The aim of this study is to examine two different subclavian stenting cases applied in our clinic as a report.

METHODS: Two patients who applied to Department of Cardiovascular Surgery of Trakya University Faculty of Medicine in 2020 underwent endovascular treatment for stenosis of the subclavian artery has evaluated. On physical examination, it was observed that there was a difference in blood pressure between the two arms of the patients, and the lesions were diagnosed by computed tomography angiography before treatment. Cases were performed under local anesthesia.

RESULTS: The first patient was 64-year-old male patient who applied by describing claudication in the left arm. For this patient self-expandable stent was placed in the lesion in the subclavian artery after a balloon was applied to the proximal left vertebral artery to prevent embolism. The second patient was 62-year-old male patient who has been describing angina, dizziness and left arm soreness and had coronary artery bypass grafting surgery underwent 20 years ago. A self-expandable stent was placed in the lesion in the subclavian artery. In both patients, complete patency was observed when control angiography was performed at the end of the procedure. In the second patient it was observed that internal mammary artery graft flow increased. There were no complications. The symptoms of the patients ceased. Restenosis did not develop during the follow-up period.

CONCLUSION: Stenting is a safe and effective method for treating subclavian artery stenosis with regard to the success rate and clinical efficacy. It should not be forgotten that more care should be taken when applying subclavian stent procedure to protect vertebral artery patency in patients with developed vertebral artery and to protect internal mammary artery graft patency in patients who have undergone coronary artery bypass grafting surgery, as in our cases.

Oral Presentation Session

Congenital Heart Surgery: What Is New?

Date: 06.11.2021 Time: 16:30 – 17:30 Hall: 4

ID: **257**

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

Presentation Type: **ORAL**

BIOELECTRICAL IMPEDANCE ANALYSIS AS A BIOMARKER IN ADULTS WITH MARFAN- OR LOEYS-DIETZ-SYNDROME

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Background: It is clinically widely overlooked that many patients with Marfan- (MFS) or Loeys-Dietz-Syndrome (LDS) are obese, as anthropometric routine parameters are not very suitable for detection. In contrast, the Bioelectrical Impedance Analysis (BIA) provides reliable noninvasive data about the body composition of patients. The aim of the study was to assess the body composition of patients with MFS/LDS by BIA in order to detect occult obesity, which may be a risk marker for aortic or vascular complications.

Methods: In this exploratory cross-sectional study, 32 patients (56.3% female; mean age: 36.4 ± 10.7 [range: 17 - 56] years) with a molecular genetic (n=28; 87,5%) or clinical (n=4; 12,5%) diagnosis of MFS or LDS were enrolled between June 2020 an August 2021. All BIA-measurements were performed with the Multifrequence-Impedance-Analyzer Nutriguard-MS (Data Input, Pöcking, Germany).

Results: The MFS/LDS collective was significantly different from an age-, sex-, and BMI-adjusted control in terms of percent body fat (p<.001), percent cellularity (p<.001), ECM/BCM index (p<.001), and phase angle (p<.001). The mean BIA-measured bodyfat was 29.3 ± 8.2% [range: 9.5 – 43.3%], while the mean calculated BMI of the included patients was 21.9 ± 3.6 kg/m2 [range: 15.2 – 29.7 kg/m2]. Therefore, using the obesity cut-off values for the body fat percentage of 25% in men and 35% in women, the BIA classifies as many as 14 patients (43.6%) as obese, while only 7 patients (21.9%) were pre-obese by BMI. The significant difference (p<.001) had an accordance of 40.2 %. In addition, there is a strong positive correlation between body fat (.480) determined by BIA and the diastolic diameter of the bulbus aortae (p=.006).

Conclusion: The fact that many patients with MFS or LDS are obese is widely unknown, although adipositas may be associated with impaired vascular endothelial function and an increased risk of cardiovascular complications. Also in patients with MFS/LDS, BIA allows a reliable assessment of the body composition beyond the normal anthropometric parameters, such as BMI. In the future, BIA-data may be of particular importance for the assessment of the vascular risk of MFS/LDS patients, besides the aortic diameters.

ID: **270**

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

Presentation Type: **ORAL**

OUR CLINICAL EXPERIENCES WITH LATE PRIMARY ARTERIAL SWITCH OPERATION IN D-TGA /IVS PATIENTS

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OBJECTIVE: The most appropriate surgical strategy for d-TGA/IVS patients who admitted late (>3 weeks postnatally) is still controversial. Many studies have reported successful results in patients undergoing primary arterial switch. The aim of this study is to compare and share our clinical experience with the literature data on late primary arterial switch in d-TGA /IVS patients .

METHOD: Between December 2018 and July 2021 , 5 patients with a diagnosis of d-TGA/IVS over 1 month old admitted to our clinic and their peroperative data were retrospectively evaluated. Preoperative echocardiographic and angiographic data of the patients were analysed. Postoperative intensive care processes of patients who underwent primary arterial switch surgery were compared with current literature data.

RESULTS: The earliest admission was 8 weeks, and the latest was 64 weeks. The weights of the patients ranged between 4200-6500 g. All patients were profoundly hypoxic (SO2 < 70%). None of the patients were receiving prostaglandin infusion therapy and all had restrictive atrial septum. Preoperative echocardiography and cardiac catheterization procedures were performed on all patients. Echocardiograms of the patients revealed that the IVS was deviated to the left, but the LV muscle mass was sufficient (>35 mg/mm). The LV/RV ratio was >0.6 in cardiac catheterizations. After the operation,the sternum of patients were left open and the patients were transferred to the intensive care unit with low-dose inotrophic support (milrinone 0.5 mcg/kg/min, 0.05-0.1 mcg/kg/min epinephrine). Three of the patients showed low cardiac output signs and developed pulmonary edema in the first 6 hours of admission to the intensive care unit. Elective central VA ECMO therapy were initiated in patients in need of increasing inotropic support .Following ECMO treatments for 5, 10 and 12 days, respectively, two patients were successfully weaned from ECMO, and one patient died due to sepsis. Other patients did not need any mechanical support and discharged without complication.

CONCLUSION: Primary arterial switch operation can be performed successfully in d-TGA/IVS patients with late admission. It should be considered that some patients may need VA ECMO support in the early postoperative period, and when signs of uncompensated heart failure develops, immediate switching to ECMO treatment may be life-saving.

ID: **6**

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

Presentation Type: **ORAL**

EARLY POSTOPERATIVE OUTCOMES AFTER SURGICAL REPAIR OF COMPLETE ATRIOVENTRICULAR SEPTAL DEFECTS IN CHILDREN WITH DOWN SYNDROME

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Objective: The aim of this study is to evaluate the early postoperative outcomes of Down syndrome (DS) and Non- Down syndrome children with complete atrioventricular septal defect repair surgically.

Patients and Methods: In this prospective study, a total of 30 children, 20 of whom had Down syndrome, were admitted to the pediatric intensive care unit following surgical repair of complete atrioventricular septal defect.

Results: Children with DS were operated numerically earlier. Median: 16.5 months (4-72) and median: 23 months (3-48) for DS and Non-Down syndrome (NDS), respectively ($p = 0.640$). There was no early postoperative mortality. The most common arrhythmia was ectopic tachycardia, and the prevalence of ectopic tachycardia was similar between the two groups ($p = 1$). The rate of non-cardiac complications such as pneumothorax, pleural effusion and infection was significantly higher in total in children with DS than in children with NDS ($p = 0.032$). There was a significantly longer duration of mechanical ventilation in children with DS, 6.8 hours [2-37 hours] and 1.9 hours [1-4 hours], respectively, $p = 0.013$). However, there was no statistical difference between the two groups in terms of ICU and hospital stay (9 days [1-37 days] and 4.9 days [0-13 days], respectively, $p = 0.166$).

Conclusion: The rate of non-cardiac complications in the early postoperative period was significantly higher in children with DS compared to children NDS.

Keywords: Atrioventricular septal defect, Down Syndrome, surgical repair, congenital heart disease

ID: **28**

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

Presentation Type: **ORAL**

ANTERIOR VS. LATERAL THORACOTOMY IN THE PULMONARY ARTERY BANDING PROCEDURE

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Objective: The aim of this study is to compare the results of patents regarding two different pulmonary artery banding (PAB) methods in terms of efficacy and safety through left anterior thoracotomy (AT) and left lateral thoracotomy (LT) in neonates.

Methods: Data of overall 28 (16M, 12F) infants who had undergone PAB between January 2016 and June 2020 were retrospectively reviewed. The patients were divided into two groups according to surgical approaches (13 MT, 15 LT). The choice of surgical incision was not randomized; however, gradually changed in favor of anterior mini-thoracotomy following the clinic's increasing experience. In both methods, appropriate diameter of the band calculated according to Trusler formula and subsequent surgical steps including placement, fixation and adjustment of the PAB according to direct blood pressure measurements from pre and post-band area were similar (Figure 1).

Results: The median ages and weights of the patients according to AM and LT groups were 58 days days (47-126d), 3300 g (range 2550–4600 g) and 63 days (44-111d), 3100g (2700-4750g) respectively. There was no difference in demographics and indications between groups (Table 1). There was no mortality. Only one case in AMT group required re-adjustment. Postoperative transthoracic echocardiography revealed adequate peak gradient pressure (55-76 mmHg) in all patients. The extubation time and stay in ICU were insignificant between groups (p=0,675 and p=0613, respectively). In three patients chylothorax was observed (2ATM, 1LT). In two cases, the drainage tailed of when oral nutrition discontinued. In other case, the drainage ended following somatostatin treatment. One patient in posterolateral thoracotomy group had local complication (wound infection) and required prolonged antibiotherapy.

Conclusion: PAB via AMT is an effective and easy-applicable method and demonstrated satisfactory results when compared to classical LT incision. Nevertheless, precautions should be taken considering the possible complications that may be occur during surgery.

Figure 1A/B: An operative and a postoperative image of PAB through AMT

Table 1: Demographics, Indications and Postoperative Outcomes

	Anterior Thoracotomy (n=13)	**Lateral Thoracotomy (n=15)**
Gender **Male** **Female**	7 (53.8%) 6 (46.2%)	9 (60%) 6 (40%)
Age (days) **Weight (g)**	58 (47-126), 3300 (2550–4600)	63 (44-111) , 3100 (2700-4750)
Diagnoses (n, %) **cAVSD** **VSD** **UVH**	8 (61.5%) 2 (15.3%) 3 (23%)	11 (73.3%) 2 (13.3%) 2 (13.3)
Extubation Time	6.6h (2hours-6days)	7.1(3hours-5days)
Stay in ICU (days)	2.4 (1-8)	3.1(1-11)
Duration of chest tube (days)	3.5	4.2
Complications (n, %) **Redo Surgery** **Pulmonary crisis** **Chylothorax** **Wound Infection**	5 (38.4%) 1 (7.6%) 2 (15.3) 2 (15.3) -	4 (26.6%) - 2 (13.3%) 1 (6.7%) 1 (6.7%)

Oral Presentation Session

Endovascular Surgery Update

Date: 06.11.2021 Time: 17:45 – 18:45 Hall: 4

ID: **211**

Topic: **Cardiovascular Surgery » Thoracic and Thoracoabdominal Aortic Dissections and Aneurisms**

Presentation Type: **ORAL**

A FIST IN THE RUPTURED ABDOMINAL AORTA TO STOP BLEEDING TILL CLAMPING THE AORTA

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Abstract: Abdominal aortic aneurysm (AAA) carries the risk of rupture and maybe fetal. In this case report, we had a male patient with ruptured AAA where the surgeon used his fist into the abdominal aorta to prevent the massive bleeding till he can apply the cross-clamp over the proximal aorta.

Introduction: About 85% of AAA occurs at the level below the kidneys. Early diagnoses and management can save the life of the patient. In such emergency cases, it is important to operate on the patient as soon as possible. The most critical point in the management of such patients is how to stop bleeding before or during clamping the abdominal aorta proximally to the aneurysm.

Case report: A-63-year old male patient presented emergency room with severe mid abdominal pain for several hours. İnvestigation showed self-limited ruptured AAA (9.5 cm) with huge retroperitoneal hematoma. The decision of operation was taken and the patient was taken into the operating room. During intubation, the patient his blood pressure had fallen to 60/35. Median laparotomy was done immediately and huge amounts of blood aspirated from the abdominal cavity while the surgeon tried to compress the wall of the aorta to stop bleeding. This technique wasn't enough, inflation of foley's catheter was tried too, but the bleeding continued in. The surgeon then put his fist into the ruptured aneurysm upwardly and he could stop the bleeding till a suitable place was found to put a cross-clamp. Then Dacron 'Y' graft was used to repair the ruptured abdominal aortic segment. On the 9.th day of the operation, the patient was discharged in good health.

Discussion: Timing and procedure techniques are the most critical surgical points in emergency cases. In the ruptured abdominal aorta, till clamping the aorta, some surgeons do compression over the aorta to prevent bleeding while others introduce foleys catheter to the proximal part of the ruptured segment and inflate. Unfortunately, sometimes neither of those techniques can stop bleeding as we had in our case, so we tried the fist technique into the ruptured segment and upward which was sufficient and could stop bleeding till the cross clamp was applied.

Conclusion: Surgeons should never give up and should try all the techniques to save patients' lives. A fist in the ruptured abdominal aorta can be a good technique to stop bleeding till clamping the aorta.

ID: **47**

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

Presentation Type: **ORAL**

COULD THE NEUTROPHIL LYMPHOCYTE RATIO BE A PREDICTOR OF MORTALITY AND MORBIDITY IN PATIENTS THAT HAD EMBOLECTOMY FOR ACUTE ARTERIAL EMBOLISM

Veysel BAŞAR, **Serkan AYGÜN**

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Background

In this study, we aimed to investigate the effectiveness of neutrophil lymphocyte ratio as a predictor of mortality and morbidity in patients who underwent embolectomy for acute arterial embolism.

Material And Method

This study included which were elder than or equal to 70 years old 218 patients of 624 patients who underwent embolectomy due to acute arterial embolism in our clinic between June 2014 and March 2020. Patient datas from the hospital archive and automation system were analyzed and recorded retrospectively. Of the patients, 121 (55.5%) were female and 97 (44.5%) were male. In addition to the demographic characteristics of the patients, the neutrophil lymphocyte ratios were calculated by dividing the numbers of neutrophils and lymphocytes. The relationship between amputation and mortality data and Neutrophil Lymphocyte Ratio rates was statistically analyzed.

Results

218 patients who underwent embolectomy were examined, Neutrophil Lymphocyte Ratio rate, Mean Platelet Volume rate were higher in the exitus group. ($p<0.05$), the rate of exitus was higher in the group with pre-operative Chronic Kidney Disease and Diabetes Mellitus history, and in the post-operative period, in the group with acute renal failure, wound infection and wound hematoma. The effect of platelet lymphocyte ratio, amputation, age and gender on mortality were examined, and there were no statistically significant difference between the exitus group and the other group. ($p>0.05$)

Conclusion

The neutrophil/lymphocyte ratio is associated with mortality and morbidity in patients undergoing embolectomy for acute arterial embolism. This ratio can be used for risk assessment in acute arterial embolism cases with high mortality and morbidity.

Key Words: neutrophil, lymphocyte, embolism, arterial embolism, ischemia

ID: **237**

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

Presentation Type: **ORAL**

EVALUATION OF MEAN PLATELET VOLUME LEVELS IN PATIENTS WITH SUBCLAVIAN ARTERY STENOSIS

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Objective: Mean platelet volume (MPV) are associated to atherosclerosis. The aim of the current study was to research the relation between subclavian arterial stenosis (SAS) and MPV

Methods: A total of 43 patients diagnosed with SAS by angiography between September 2015 and September 2020 were included in this study. A control group of 40 people with similar clinical and demographic characteristics with SAS patients was selected. MPV and other hemogram parameters were compared with patients with SAS and the control group.

Results: There was no difference between the two groups in terms of demographic and clinical characteristics. There was no difference between hematological and biochemical parameters other than MPV. When MPV levels were examined, MPV levels were significantly higher in patients with SAS compared to the control group (9.17 ± 1.23 vs 8.19 ± 1.34; $p < 0.001$, respectively).

Conclusion: In conclusion, we showed in current study that patients with SAS have higher MPV levels. Considering the important effect of platelets on the development of atherosclerosis, as well as its close relationship with cardiovascular risk factors, we speculate that high MPV levels are an important factor in the pathogenesis of SAS.

Keywords: Subclavian arterial stenosis; Mean platelet volume

ID: **24**

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

Presentation Type: **ORAL**

OUR EXPERIENCE AFTER 58 CAROTID ENDARTERECTOMY PROCEDURES IN 6 YEARS

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Objective:
The purpose of this study is to analyze our experience with carotid endarterectomy (CEA) as an operative procedure for carotid stenosis in 58 patients over the previous 6 years. Diagnosis, surgical technique, medical treatment and all outcomes were discussed..

Methods:
Between May 2013 and July 2019, 58 primary CEA for carotid stenosis of more than 70% were performed. Re-operations were not included in the study. Non-invasive Doppler ultrasound and clinical evaluation were performed 1 and 6 months postoperatively, as well as annually thereafter.

Results:
Whereas this majority of the patients were asymptomatic 56%, only 44% were symptomatic patients, such as stroke 19%, transient ischemic attack 25%. Doppler ultrasonography was used in 75.6 % of cases and Magnetic Resonance Angiography (MRA) was used in 24.4 % of cases ($P<0.001$). The mean cross-clamp time was 12.6±3.4 minutes, and the majority of patients (66.3%) were operated under general anesthesia, whereas local anesthesia was performed in 33.7% of patients. Total mortality showed %1.2 for each year. Neurological morbidity was 0.3% per year.

Conclusions:
Their findings suggest that CEA is a safe and effective surgical procedure for treating carotid stenosis, with low morbidity and mortality.

ID: **205**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

SUCCESSFUL ENDOVASCULAR TREATMENT IN UNILATERAL INTERNAL CAROTID ARTERY DISSECTION AS A RESULT OF FALLING FROM HEIGH; 3-YEAR FOLLOW-UP.

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Introduction

Traumatic dissection of the carotid artery is rare but can cause serious life-threatening complications. Hyperextension and rotation of the head during sports movements or blunt intraoral trauma can cause artery dissection.

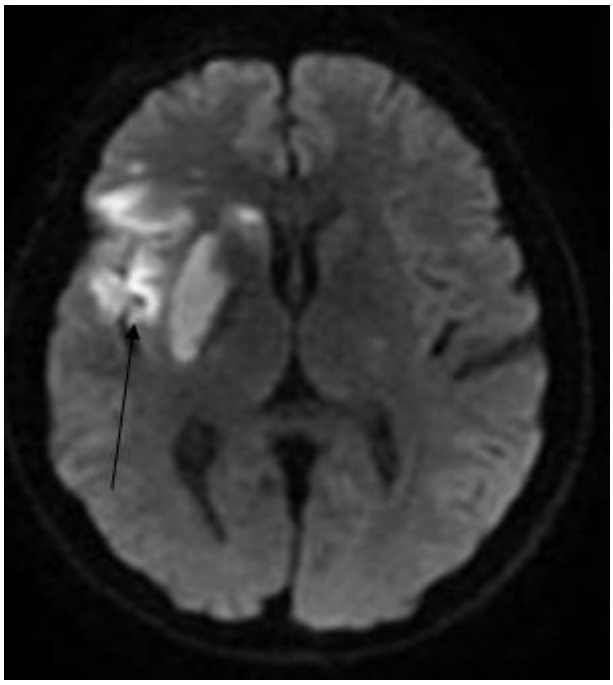
It is difficult to determine the real incidence of traumatic carotid artery dissection due to the lack of typical results and asymptomaticity. Early diagnosis and treatment of ICA dissection is important to reduce the risk of cerebral ischemia.

Case Report

A 50-year-old patient fell from a height of about 1,5 meters onto his right neck and face. The patient who was admitted to the hospital with nausea and headache 12 hours later, was conscious, cooperative, and the neurologic examination was normal. Computed tomography of the brain (CT) revealed no pathology. While under observation in the hospital, 24 hours after the fall, there was a 3/5 motor loss in the left upper limb and a 4/5 motor loss in the left lower limb. Hemodynamically stable, hemogram and biochemical parameters were normal.

When the physician viewed MRI of the patient's brain, there was a large hypodense area in the lentiform nucleus with localization in the right parietal lobe and extending towards the insular cortex(Figure 1).

Figure 1 Brain MRI.



After the patient received 300 mg of acetylsalicylic acid (ASA) and 600 mg of clopidogrel, the DSA was performed in the hybrid operating room. A dissection flap with 95% stenosis was observed in the right ICA(Figure 2).

Figure 2 Digital Substraction Angiography (DSA)

In 72 hours after the procedure, motor defects in the left upper and lower extremities improved. A patient who received dual antiplatelet therapy (ASA 100 mg/day and clopidogrel 75 mg/day) for six months, then clopidogrel was discontinued, and ASA continued indefinitely. Stent restenosis, relapse of neurological symptoms and re-intervention were not observed during the 3-year follow-up period.

Discussion

Headache, one of the clinical signs of carotid artery dissection, is the most common symptom in 60–95% of patients. The clinical situation can range from mild symptoms (head and neck pain) to more severe TIA and cerebral ischemia symptoms. The possibility of carotid artery dissection should be considered, especially in young adults with acute ischemia. Diagnosis of carotid artery dissection is based on CT/MR angiography, but DSA is still considered the gold standard.

In endovascular treatment, better results have been obtained compared to surgery due to the lower risk of early occlusion, stroke and cranial nerve injury.

ID: **221**

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

Presentation Type: **ORAL**

OUTCOMES OF CAROTID ENDARTERECTOMY WITH PRIMARY CLOSURE

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Carotid Endarterectomy (CEA) is one of the most effective means of stroke prevention. However, literature reveals that it is arguable whether patch angioplasty or primary closure is beneficial technique in lowering the incidences of postoperative restenosis and complications like stroke, transient ischemic attacks (TIA), Myocardial Infarction (MI), and fatality. Some studies showed that patch angioplasty reduce occurrence of acute thrombosis in the short term due to increase in lumen size that also reduce the risk of perioperative stroke. However, there are also hazards of patch closure including hemorrhage and infection (9,10,11). Our study findings revealed that out of the 198 surgeries 22 were noted to have complications within 30-days postoperative period including bleeding, infection, stroke, TIA andmyocardial infarction. The incidence of death in the study population was in 3.03% patients. The rate of short term complications after endarterectomy is lower than the findings of Oldham J et al. (12) which may be attributed to the advancement of knowledge, surgical techniques and latest technologies used in newly equipped operation theatres. We can suggest that carotidendarterectomy with primary closure is associated with a lower complication rate. Many studies have shown that CEA is effective in preventing stroke; nevertheless, there is still controversy exists about either patch angioplasty or primary closure is the best strategy for reducing postoperative re-stenosis and associated consequences like stroke, TIA, MI, and mortality (13,14).

The main limitations of the study were that it was a cross sectional study with small sample size and there was no follow-up for long duration to identify the accurate frequency of postoperative complications among patients undergoing carotid endarterectomy. Other important limitation of the study is that complication rate with other used techniques is not compared.

ID: **280**

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

Presentation Type: **ORAL**

CAROTID - JUGULAR FISTULA SECONDARY TO FALSE ANEURYSM FOLLOWING CAROTID ENDARTERECTOMY

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Objective

Acquired arteriovenous fistulas (AVFs) involving the carotid artery are frequently the result of high-velocity penetrating trauma and stab wounds, and iatrogenic causes such as catheterisation of the neck vessels. Rarely, they may develop spontaneously due to erosion of an aneurysm into an adjacent vein.

Material and Method

An 85 year old male attended for a routine follow up duplex ultrasound scan (DUS), four months following a left carotid endarterectomy (CEA) for symptomatic carotid artery disease. The DUS findings indicated a false aneurysm at the site of the endarterectomy. The patient was referred for CT angiography, which confirmed a false aneurysm at the site of the left CEA. The sac appeared well-contained, measuring 10mm x 8mm in the coronal-transverse plane.

The patient was consented for a further open carotid surgical procedure with the intention to repair the false aneurysm. When the internal jugular vein (IJV) was dissected from the common carotid artery (CCA), a false aneurysm was identified eroding anteriorly from the endarterectomy site into the wall of the adjacent IJV. There were no findings to suggest an infection. The carotid anastomosis suture line appeared to be intact, however a defect could not be excluded.

Result

The poor tissue integrity and small calibre of the CCA proximal to the false aneurysm rendered the lesion unrepairable. However, upon clamp release, brisk back-bleeding was observed from the ICA and ECA. Given the patient had not required shunt support whilst awake during the original CEA, carotid ligation was performed.

Conclusion

There is only one case report in the literature of an acquired carotid-jugular fistula (CJF) occurring as a delayed complication following CEA. We report a rare case of an acquired CJF secondary to a false aneurysm that occurred four months following carotid endarterectomy (CEA).

ID: **283**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **ORAL**

COMPARISON OF THE EFFECTIVENESS OF PEROPERATIVE ANESTHESIA OF DEEP AND SUPERVISIVE CERVICAL PLEXUS BLOCK WITH CONVENTIONAL APPROACH OR ULTRASONOGRAPHY FOR CAROTIS ENDARTERECTOMY

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Background: General anesthesia, regional anesthesia, combination of general and regional anesthesia or combination of regional anesthesia with peripheral nerve block are anesthesia methods that can be applied for CEA. Regional blocks can be applied either by conventional technique or or under ultrasound guidance. Our aim in this study was to compare regional anesthesia application (Superficial and deep block combination) for CEA in our institution by conventional technique with ultrasound guidance technique.

Methods: Patients who underwent elective carotid endarterectomy in our instuation with ASA II-III and age>18-years-old between 15.07.2018-15.07.2019, were included to our prospective controlled randomized open-ended study. Superficial and deep cervical plexus blocks were applied to the cases in Group K and Group U under conventional technique and by ultrasound guidance respectively. The application times for each block during the applications and the number of applications for each C2,C3,C4 and superficial block application were noted separately. The demographic data of the cases, ASA risk group, surgical side, additional diseases, smoking, time spent for each block application, the time between the completion of the block and the start of the incision, total surgical time, complications during the block and additional drugs used in the perioperative were noted. In addition, perioperative systolic and diastolic blood pressure measurements, SPO2 measurements, heart beat, and numerical pain assessment score (NADS) were recorded from when the patient enter to operation room to the end of the surgery .

Results: When the number of interventions applied for cervical block application between the two groups is evaluated; The median of the number of C2 cervical block interventions for Group K and Group U was 1 and 1 respectively. The median of the number of C4 cervical block interventions was 1 for Group K, 1 for Group U.

While C3 cervical block processing time, superficial cervical block processing time and total cervical block making time were 17seconds, 22seconds and 297.9±116,7 sec for Group K; 27sec, 25.5sec and 414.4±116.7sec for Group U respectively. There is a significant difference between the groups in terms of intravascular puncture; but there was no statistically significant difference between goups in terms of cough, facial paralysis, hoarseness and bradycardia. Skin closure NADS was a statistically significant difference between the groups.

Conclusion: We thought that the combined superficial and deep cervical plexus block performed under USG guidance is a safe anesthetic management for carotid entraterectomy according to the conventional method.

Oral Presentation Session

Perspectives in Cardiovascular Surgery

Date: 06.11.2021 Time: 19:00 - 20:00 Hall: 4

ID: **245**

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

Presentation Type: **ORAL**

OUR SURGICAL EXPERIENCES IN CARDIAC INJURIES

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Objective: Considering the clinical results of cardiac injuries, it's with high mortality. The aim of this study is to investigate the preoperative and postoperative clinics of the patients who were operated as a result of cardiac injury.

Materials and Methods: In this study, 80 patients who came to the emergency room with cardiac injury and were decided for an emergency operation between January 2014 and December 2020 in Bakırköy Dr.Sadi Konuk Training and Research Hospital Cardiovascular Surgery Clinic were retrospectively analyzed. The duration of the operation, demographic characteristics, whether additional intervention was performed, the type of injury, the injured area in the heart, postoperative neurological and cardiac functions, length of stay in the intensive care unit, duration of blood product replacement and hospital stay were evaluated.

Results: 66 (82.5%) of the cases had stab wounds, 10 (12.5%) had gunshot wounds, and 4 (5%) had cardiac injuries due to blunt trauma. 25 (31.25%) patients were operated in the emergency department with cardiopulmonary resuscitation and emergency thoracotomy. Twenty (25%) patients were operated on without waiting for additional investigations because the clinical picture worsened despite volume replacement. 30 (37.5%) patients had shock. Thirty (37.5%) patients were operated on, as a result of echocardiography and computed tomography, cardiac injury was detected. Although 5 (6.25%) patients were operated on, they died without any intervention. The injury was in the right ventricle in 40 (50%) patients, in the left ventricle in 15 (18.75%) patients, in the right atrium in 12 (15%) patients, and in the left atrium in 3 (3.75%) patients. None of the patients had superior vena cava (SVC) injury. One (1.25%) of the patients with blunt trauma had inferior vena cava (İVC) injury. Two (2.5%) patients had a left anterior descending coronary artery (LAD) full-thickness incision. In 64 (80%) patients, the injuries were repaired with primary suturing. Repair was performed under cardiopulmonary bypass (CPB) in 16 (20%) patients. 7 (8.75%) patients had left internal mammary artery (LIMA) injury. The mean time to surgery was found to be 2.96 ± 1.67 hours. The number of patients who had postoperative myocardial infarction (MI) was 3 (3.75%). Motor loss developed in the left upper extremity in 6 (7.5%) patients and in the right upper extremity in 4 (5%) patients. The number of patients who developed ischemic brain injury due to hypovolemic shock was 4 (5%). The mean stay in the intensive care unit was calculated as 3.17 ± 3.2 days. Hospital mortality was 27.5% with 22 patients.

Conclusion: Cardiac injuries are generally seen at young ages. We hope that the emergency response at the scene, appropriate resuscitation, rapid transport and adequate medical equipment of the emergency services will create more satisfactory results for cardiac injuries.

ID: **227**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **ORAL**

FIRST CLINICAL OUTCOME OF PATIENTS IN NEWLY ESTABLISHED HIGH VOLUME CARDIAC CENTER IN ISTANBUL

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Objective:

Istanbul is crowded and has the potential of a growing population, especially in recent years with immigration from eastern countries. Therefore, cities like Istanbul may require new health centers. Our institution has been established to provide an increasing need for healthcare requirements during the Covid-19 pandemic. The aim of this study is to present the first clinical outcomes of a start-up heart surgery program in Turkey.

Materials:

Between July 2020 and July 2021, 390 patients underwent open-heart surgery. We include all the patients who underwent open-heart surgery from the beginning of the establishment. We retrospectively scanned the patient's medical records. The patient's demographics, procedures, and mortality rates were identified.

Results:

A hundred and fourteen (29.2%) patients were female. The mean age of the patients was 57.3 ± 12.3 years. The mean BSA of the patients was 1.89 ± 0.19. There were 44 (11.3%) patients who underwent surgery in emergency circumstances, and 13 (29.5%) of the patients died. Reoperation was performed in 26 (6.7%) patients, and two (7.7%) of them have died. Twenty-two (5.6%) of the patients underwent off-pump surgery. Nineteen (4.9%) of the patients underwent surgery with infective endocarditis, and 3 (15.8%) of them died postoperatively. Most prevalent procedure was CABG (n=184,47.2%). The highest mortality rate was in the thoracic aortic surgery group. The mortality rate was 4.9% (n=17) within elective cardiac procedures. Fifteen (3.8%) of the patients needed ECMO support postoperatively.

Conclusion:

Emergency procedures, especially thoracic aorta interventions, had the highest mortality within groups as expected. Reoperations and infective endocarditis were done with a low mortality rate. Broad-spectrum of cardiac procedures was done with acceptable results even the center has recently established.

ID: **258**

Topic: **Cardiovascular Surgery » Diagnosis and Treatment of Valvular Hearth Disease**

Presentation Type: **ORAL**

RESULTS OF REDO HEART SURGERY IN A NEW CARDIAC CENTER

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Background and Aim: The first successful open heart surgery in Turkey started in 1960 and is now successfully performed in many centers. In our new cardiac center, a total of 441 open heart surgeries were performed within the first year of its establishment. All patients who underwent reoperation surgery during this period were analyzed retrospectively.

Methods: Istanbul Cam and Sakura City Hospital Cardiovascular Surgery Department is a new center which started cardiac surgeries in June 2020. Since this date, there are 44 patients who underwent reoperation cardiac surgery were analyzed retrospectively.

Results: The patients ranged in age from 26 to 71(mean 54) years old. There were 21 male and 23 female patients. 15 (34%) patients had multiple valve interventions and 21(47%) patients had single valve intervention at the first open heart surgery. Reoperations were performed urgently in 4 patients and 5 of the patients had a diagnosis of infective endocarditis before the operation.The rate of patients who underwent reoperation in total open heart surgeries was calculated as 9.9%. The mean cross clamp time of the patients was 112 minutes and the mean cardiopulmonary bypass time was 176 minutes. 4 patient died due to low cardiac output syndrome and multiorgan failure and 1 patient died due to sepsis. V-A ECMO was implanted in 1 patient. Mortality in the first 30 days is 11% with 5 patients. The mean intensive care follow-up period of the patients was 5 days and the discharge period was 15 days.

Conclusion: As our experience in open heart surgery increases, reoperation surgery increases in parallel. It has been observed that surgical planning and experience significantly determine mortality and morbidity in reoperations. It should be noted the importance of heart protection because of the duration of cross-clamp and cardiopulmonary bypass is long in reoperations.
Keywords: Redo cardiac surgery, cardiac surgery, evaluation of results

ID: **203**

Topic: **Cardiovascular Surgery » Risk Management in Cardiovascular Diseases**

Presentation Type: **ORAL**

CARDIAC MASS EXCISION IN A FEMALE PATIENT WITH NON-HODGKIN'S LYMPHOMA

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Abstract: A 59-year-old female patient presented with abdominal pain, and palpitation. İnvestigations showed a right atrium and abdominal masses. Excision of the cardiac mass was done successfully.

Introduction: patients with non-Hodgkin's lymphoma (NHL) may rarely have cardiac involvement (1). Echocardiogram (Echo), CT-scan, MRI or/and PET are some of the imaging techniques that can be used in detective cardiac involvement in NHL (3). The treatment is depending on polychemotherapy mainly and surgical excision of the mass if possible (4).

Case presentation: A 59-year-old female patient, presented with chief complaints of abdominal pain, vomiting, chest discomfort, and palpitation. İnvestigations showed a retroperitoneal abdominal mass (119x34 mm) and a right atrial mass of about 71x62 mm.
Under general anesthesia median sternotomy was done, about 500 pericardial hemorrhagic fluid was aspirated. There was a bulging mass, arising from the right atrium wall (figure 1a). Vena cava superior was cannulated selectively while Vena cava inferior cannulation was done via the right femoral vein. Cross clamp was applied and the cardioplegic solution was given anterogradely. After cardiac arrest had been achieved right atrium was opened via its appendage and a huge semi-solid whitish lobulated mass was evacuated from the right atrium with excision of a part of the right atrium wall which was invaded by the mass (figure 1b). Then the atrium was closed primary. The pathologic result of the mass showed diffused large B cell lymphoma.

Discussion: Metastatic or secondary cardiac tumors are the most frequently seen types of cardiac tumors. Arrhythmia, heart failure, progression of lymphoma are the most causes of death (4). polychemotherapy and when possible radiotherapy, immunotherapy and surgery are the treatment methods of NHL (5)

In our case, the patient was found to have secondary diffuse diffused large B cell lymphoma.

Surgical excision of the mass was done successfully and the patient was recovered from the cardiac symptoms. Vena cava inferior was cannulated via the right femoral vein to give enough place for us to remove the mass and to have the ability to clean vena cava inferior from the possible extension of the mass via vena cava inferior.

Conclusion: polychemotherapy is the main and standard management method in NHL, surgical excision of the mass can save the patients from cardiac symptoms and possible malignant arrhythmias, and be an adjuvant treatment method side by side with chemotherapy.

ID: **272**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

THE EFFECT OF DIETARY PROTEIN AND LIPID SOURCE ON MYOCARDIAL PROTECTION IN RATS UNDERGOING CARDIAC SURGERY

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Objective: Cardiovascular diseases, leading causes of death in the world, are closely related to our dietary habits. Plant based diet is a type of nutrition that has more and more beneficial effects. In this study, we investigated the effect of dietary protein and lipid sources on myocardial protection in cardiac surgery applications.

Methods: Rats were divided into two groups as plant based diet and animal based diet. Each group consisted of 8 rats (n=8). While soy protein and palm oil were used in the plant based diet group; Casein protein and milk fat were used in the animal-based diet group. Rats were fed for 12 weeks. End of the duration, in accordance with the open cardiac surgical procedure, the aorta was clamped in the rats and the heart was arrested by crystalloid cardioplegia. After reperfusion with blood cardioplegia at the tenth minute, the heart was resected and protected at -80°C. Left ventricle myocardial Malondialdehyde, Bax, Bcl-2, Protein Carbonyl, Glutathione, Hsp-70 levels were examined by ELISA.

Results: Plant-based diet provided stronger antiapoptotic activity with a higher Bcl-2 level ($p<0.05$). Malondialdehyde, Bax, Glutathione, Protein Carbonyl levels did not provide statistical significance despite the average/median values were in favor of plant based diet group on myocardial protection($p> 0.05$).

Conclusion: Plant based diet can provide better myocardial protection with stronger antiapoptotic activity in cardiac surgery applications. Average values that support the beneficial effects of plant-based diet in our study may be statistically significant with studies to be carried out with a larger sample size.

ID: **49**

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

Presentation Type: **ORAL**

NEW ONSET FRAGMENTED QRS ON ELECTROCARDIOGRAPHY AS A MARKER OF PERIOPERATIVE MYOCARDIAL DAMAGE IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFT SURGERY

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BACKGROUND: Coronary artery bypass grafting (CABG) is generally considered as the optimal revascularization method in patients with severe and complex coronary artery disease (CAD). However, perioperative myocardial damage is not uncommon and predicts unfavorable outcomes. Presence of fragmented QRS (fQRS) on electrocardiography (ECG) is a sign of myocardial damage and fibrosis, and predicts adverse cardiovascular events in patients with CAD. However, no study has investigated the clinical importance of postoperative new onset fQRS after CABG surgery. The present study aimed to investigate the clinical predictors of new onset fQRS on ECG after CABG surgery.

METHODS: 311 patients who without fQRS on ECG and underwent elecive CABG surgery were included into the study. Patients were divided into two groups regarding postoperative occurence or absence of fQRS. Groups were compared regarding in-hospital outcomes and independent predictors of fQRS were investigated.

RESULTS: Postoperative new onset fQRS on ECG was detected in 23.1% of the patients. No significant difference was observed between the patients with and without fQRS regarding bleeding, perioperative myocardial infarction, and mortality. However, the frequency of incomplete revascularization and acute kidney injury were significantly higher in patients who had new onset fQRS on ECG after CABG surgery compared to those without fQRS on ECG. Moreover, Euroscore (OR:1.374, $p<0.001$), presence of acute kidney injury (OR:1.471, $p<0.001$), and incomplete revascularization (OR:1.866, $p<0.001$) were found to be independent predictors of new onset fQRS after CABG surgery.

CONCLUSIONS: New onset fQRS on ECG after CABG surgery may be considered as a sign of incomplete revascularization and perioperative myocardial damage. Therefore, as a simple and easy detectable ECG finding, postoperative new onset fQRS may be useful in further risk assessment of patients undergoing CABG surgery.

Oral Presentation Session

PCI in Chronic Total Occlusions and Acute Coronary Syndromes: Prognostic Evaluation

Date: 06.11.2021 Time: 20:15 – 21:30 Hall: 4

ID: **86**

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

Presentation Type: **ORAL**

THE IMPACT OF HEART RATE ON CORONARY COLLATERAL CIRCULATION AND MORTALITY IN PATIENTS WITH CHRONIC TOTAL OCCLUSION

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88**Background and Aim:** The development of coronary collateral vessels in patients with obstructive coronary artery disease (CAD) reduces ischemic myocardial burden by maintaining blood perfusion to myocardial tissue. Besides, well-developed coronary collateral circulation (CCC) reduces mortality. Heart rate (HR) is a well-known and robust predictor of cardiovascular mortality and morbidity. The aim of this study was to assess the impact of heart rate on CCC in patients with chronic total occlusion (CTO).

Methods: Coronary angiography procedures performed between January 2018 and May 2021 were reviewed from the hospital records. A total of 219 patients stable CAD patients with CTO were included in the study and were grouped according to the Rentrop classification [poor-developed CCC (Grade 0 and 1) and well-developed CCC (Grade 2 and 3)]. Clinical characteristics, medication, laboratory results, coronary angiography, and ECG records of the patients were obtained from the hospital database. Patients or their relatives were called by phone and mortality data were obtained. Patients were classified into three groups as those whose HR ≤ was 70 bpm (Group 1), those whose HR was 71-79 bpm (Group 2), and those whose HR ≥ was 80 bpm (Group 3).

Results: The mean age of the patients was 67.6±10.5 and 81.3% were male. Seventy-two patients were in the Group 1, and seventy-four patients in the Group 2, and seventy-three patients in the Group 3. Baseline characteristics, gender, risk factors except for diabetes mellitus, prior medication, and laboratory results were similar in the groups. Prior heart failure (p=0.004), atrial fibrillation (p=0.017), and mortality rates (p=0.001) were higher in the Group 3. Ejection fraction (EF) and well-developed CCC were higher in the Group 1 (p<0.001, p=0.014, respectively). In Multivariable Cox-Regression analysis, hemoglobin (p=0.006), HR (p=0.001), EF (p=0.029), and Gensini score (p=0.020) were independent risk factors for mortality.

Conclusions: Low heart rate is associated with well-developed CCC and low mortality rates in patients with CTO.

ID: **183**

Topic: **Cardiology » Percutaneous coronary interventions**

Presentation Type: **ORAL**

THE RELATIONSHIP BETWEEN J-CTO SCORE AND SEATTLE ANGINA QUESTIONNAIRE SCORE IN PATIENTS WITH CHRONIC TOTAL OCCLUSION

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Aim/Objective; Approximately 20% of such patients are known to have chronic total occlusions (CTO). Recently, techniques for PCI of CTO have dramatically changed. The parallel wiring technique and the retrograde approach have been introduced. These techniques may further improve success rate yet, simultaneously, they potentially prolong procedural time and enhance the risk of complications. Various scoring systems have been developed to define the severity of the CTO lesion. One of them is the Japanese-CTO score. It includes five parameters such as the angle of the lesion, calcification status, entry shape, the length of lession, and previous unsuccessful attempt at passage through the lesion. The Seattle angina questionnaire (SAQ) is an 11-question questionnaire used to evaluate the severity of angina in patients. Therefore, SAQ scores can be aligned with clinical constructs (eg, scores on the SAQ angina frequency scale of 0-30 points indicate daily angina, 31-60 points indicate weekly angina, 61-99 points indicate monthly angina, and 100 points indicate no angina), and changes in scores can be described by aligning them with changes in question responses. In this study, we aimed to evaluate the relationship between J-CTO score and SAQ score.

Methods; In our study, J-CTO and SAQ scores of 105 patients who underwent CTO-PCI in our clinic were calculated. Eighty-four (80%) of the patients were male. Patients with CTO in one vein and without critical stenosis in other veins were included in the study. Those with CABG, who did not take their anginal treatment completely, who had other diseases that could cause chest pain, chronic lung disease, chronic GIS pathology, chronic kidney disease and heart failure were excluded from the study. Patients were divided into two groups as those with J-CTO scores ≤2 (n=51) and those with J-CTO ≥3 (n=54). Those with a SAQ score of <30 were considered severe angina, those with a SAQ score between 30-60 had moderate level angina, and those with >60 had mild angina. The differences between the two groups were evaluated by statistical methods. Variables affecting the anginal complaints of patients with CTO lesions were determined by regression analysis.

Results; The mean age of the patients in the study was 61.3±10.9 years. There was no difference between age, gender, lipid profile, kidney functions, and hemoglobin levels. It was determined that the SAQ averages were significantly different between the two groups (group 1 SAQ 51.3± 9.2; group 2 SAQ 46.2 ±7.7; p<0.001). In the correlation analysis, a negative correlation was found between the J-CTO score and the SAQ (r; -0.682, p<0.001). Table 1 shows the variables affecting the clinical status of patients with more anginal complaints and a SAQ ≤30.

Conclusion; There is a negative correlation between the anginal complaints of CTO patients and the J-CTO score of the lesion. Other variables that increased the severity of angina were the absence of retrograde circulation, use of ≥2 antianginal drugs, age >75 years, DM and HT. It is thought that the low SAQ score in CTO patients may be related to the severity of the CTO lesion.

ID: **217**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **ORAL**

DOES CIGARETTE AFFECT ON PERCUTANEOUS CORONARY INTERVENTION OUTCOMES IN TOTAL CORONARY ARTERY OCCLUSION

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Objective: Percutaneous coronary intervention (PCI) for chronic total occlusion (CTO) of the coronary arteries is one of the most effective treatments in interventional cardiology. The harmful components of smoking and the cardiovascular risks associated with smoking increase inflammation, thrombosis, and oxidation of low-density lipoprotein cholesterol. In this study, we investigated the effect of smoking habits on CTO-PCI.

Method: Between 2017 and 2021, 88 patients were included in the study. Patients who had undergone PCI for at least one CTO were enrolled into the study. All demographic information, ECG values and procedural parameters of the patients were recorded in the hospital's electronic information system. The patients were divided into two groups as smokers and non-smokers.

Results: Non-smokers were significantly older than smokers (69.2 vs 61.2 ; p< 0.001). The proportion of males was higher in the smoking group (88.7% vs 67.2% p=0.005), and the lesion lengths were significantly longer (42.2 mm vs. 27.5 mm, p= 0.001). However, success rates of PCI were similar between smokers and nonsmokers (p: 0.565). In addition, there was no significant difference between the groups in terms of complications (p= 0.874).

Conclusion: In our study, it was seen that PCI procedure was not different between smokers and non-smokers in terms of success and complications. However, coronary artery lesions are significantly longer in smokers.

ID: **224**

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

Presentation Type: **ORAL**

IS THERE A RELATIONSHIP BETWEEN THE CORONARY SLOW FLOW AND THE INDEX OF CARDIAC-ELECTROPHYSIOLOGICAL BALANCE?

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Objective: Coronary slow flow (CSF) is a phenomenon characterized by delayed contrast staining of coronary arteries. The index of cardiac electrophysiological balance (iCEB) is a new parameter used to predict ventricular arrhythmias, measured by electrocardiography (ECG). In this study, we investigated whether there is a relationship between coronary slow flow and iCEB.

Methods: A total of 100 patients were included in the study, 50 of whom were diagnosed with CSF and 50 patients with the normal flow on coronary angiography. Demographic and clinical features of all patients were reviewed retrospectively and these two groups were compared in terms of clinical and electrocardiographic features. The measurement from the beginning of the QRS complex to the end of the T wave is expressed as the QT interval and corrected with the Bazzet'formula:cQT =QTR-R interval. iCEB=QT/QRS, corrected iCEB =cQT/QRS were calculated.

Results: There is no significant difference was observed between the CSF and control groups in terms of biochemical parameters and echocardiographic features. In the CSF group, QT duration (379.3 ± 33.4 vs 364.9 ± 37.5ms, p=0.042), cQT interval (426.9 ± 37.8 vs 406.8 ± 28.6 ms, p=0.004), iCEB (4.2 ± 0.6 vs 3.9 ± 0.9, p=0.032) and ciCEB (4.8 ± 0.7 vs 4.3 ± 0.9,p=0.014) values were higher. Univariate regression analyzes were revealed QT (odds ratio [OR]:1.013, 95%CI: [1.000-1.025], p=0.046), cQT interval (OR:1.020, 95%CI: [1.005-1.035], p=0.007), iCEB (OR:1.880, 95%CI: [1.030-3.430], p=0.040), and ciCEB (OR: 1.961, 95%CI: [1.108-3.468], p=0.021) as possible independent risk factors for CSF.

Conclusion: QT, cQT duration, iCEB and ciCEB duration were significantly longer in CSF. These parameters were also found to be a possible independent factor for CSF. Larger studies may shed light on this issue.

ID: **149**

Topic: **Cardiology »Treatment of Hyperlipidemia**

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN THE TRIGLYCERIDE GLUCOSE INDEX AND COLLATERAL INDEX IN PATIENTS WITH CORONARY CHRONIC TOTAL OCCLUSION

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Abstract

Background: The triglyceride glucose (TyG) index is a simple and useful biomarker that can show insulin resistance. However, the association of TyG index with collateral index are undetermined in patients with chronic total occlusion (CTO). Thus, we investigated the relationship between the TyG index and collateral index in patients with chronic total occlusion.

Material and Methods: In total, 140 patients who underwent coronary angiography with the diagnosis of stable or unstable angina pectoris and had chronic total occlusion at least one coronary artery were included in our study. The TyG index was calculated as ln [fasting triglycerides (mg/dL) × fasting glucose (mg/dL)/2]

Coronary collateral circulation (CCC) was graded according to the Rentrop grading system of 0–3. Rentrop grades of 0 and 1 indicated low-grade CCC group, whereas grades 2 and 3 indicated high-grade CCC group. We divided our patients into two groups as low-grade CCC and high-grade CCC and examined these two groups in terms of TyG index. Group 1: Rentrop classification grade 0-1(mean age, 63,9±9,9),Group 2: Rentrop classification grade 2-3(mean age, 62,1±9,4).
Results: The baseline characteristics were similar in both groups. TyG index was higher in group 1 with poor collateral circulation [group 1; 0,21(0,07-0,39) vs. group 2; 0,16(0,08-0,31), p<0,001].

Conclusions: We found that high TyG index is associated with poor collateral circulation.

ID: **85**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **ORAL**

THE RELATIONSHIP BETWEEN SEATTLE ANGINA QUESTIONNAIRE SCORE AND RETROGRADE CORONARY FILLING IN CHRONIC CORONARY SYNDROME PATIENTS WITH CHRONIC TOTAL OCCLUSION

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Background/Aim; The clinical spectrum of coronary artery disease (CAD) is quite broad. CAD patients may present to the hospital in the form of chronic coronary syndrome (CCS) or acute coronary syndromes (ACS). Chronic total occlusion (CTO) is detected in approximately 5-15% of patients with CCS. CTO is the name given to complete occlusion of the coronary artery for more than three months. Retrograde circulation is seen in a significant portion of such lesions. In this study, we aimed to evaluate the relationship between the presence of retrograde circulation and anginal symptoms in CTO patients using the Seattle Angina Questionnaire (SAQ) score.

Methods; 192 patients with CTO were included in these study. Patients with previously known diagnoses of chronic renal failure, chronic lung or liver disease, heart failure and cerebrovascular events were not included in the study. SAQ was applied to evaluate the anginal complaints of these patients. The SAQ score increasingly is being used to measure cardiac disease-specific quality of life in patients with CAD and angina. The SAQ is scored by assigning each response an ordinal value, beginning with 1 for the response that implies the lowest level of functioning, and summing across items within each of the five scales. Scale scores are then transformed to a 0 to 100 range by subtracting the lowest possible scale score, dividing by the rang of the scale and multiplying by 100. The patients were divided into two groups as those with and without retrograde circulation. Retrograde circulation was graded according to the rentrop classification.

Results; In our study, the mean age was 63.7 years and 59.8 % of the patients were male. The CTO lesion was in the RCA in 88 of the patients (45.8 %). In our study, retrograde circulation was observed in 107 (55.7%) patients, while retrograde circulation was not observed in 85 (44.3%) patients. While the SAQ score was 76.7±9.1 in the retrograde circulation group, the score in the group without retrograde circulation was 68.2±13.1 ($p<0.001$). There was no significant difference between patients' J-CTO score, DM, HT, SYNTAX score. In the ROC analysis, the SAQ score predicting anginal complaints was determined as 62.2 (AUC; 0.638 (0.505-0.739); sensitivity; 66%; specificity 68%). Patients with retrograd circulation (rentrop grade 2 and 3) had less anginal complaints. These patients also had higher SAQ scores.In the correlation analysis, it was determined that as the rentrop stage increased, the SAQ score increased.

Conclusion; *CTO patients with good retrograde filling have fewer anginal complaints. This finding was also supported by the SAQ score in our study.*

ID: **277**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **ORAL**

SUCCESSFUL MANAGEMENT OF THE UNEXPANDED STENT IN ACUTE CORONARY SYNDROME

Şükrü ÇETİN

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Introduction: Coronary angioplasty has a high chance of success and is life-saving in acute coronary syndromes. However, complications may develop during the procedure. In this case report, a successfully managed coronary complication case will be described.

Case: A 53-year-old female patient presented to the emergency department with chest pain. The patient was taken in the catheter laboratory considering non-ST elevation myocardial infarction. After the critical stenosis in the RCA mid region was crossed with a double wire, predilatation with a 2.0X20 mm balloon was done and a 3.0X37 mm stent was implanted considering that the lesion was longer than the dilated area. After the stent balloon was removed, it was noticed that the proximal part of the stent did not opened. The lesion was tried to be crossed with a 3.0x20 mm non-compliant (NC) balloon. However, when it did not pass, the stent was passed with a 3.0x9 mm NC balloon and full expansion was achieved by postdilation.
Discussion: In patients with long lesion who are planned for long stent implantation, the lesion should be well prepared. Otherwise, it may cause unwanted complications.

Oral Presentation Session

Acute Coronary Syndromes

Date: 07.11.2021 Time: 08:00 - 09:00 Hall: 4

ID: **97**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **ORAL**

VALUE OF SYSTEMIC IMMUNE-INFLAMMATION INDEX TO DEFINE THE SEVERITY OF CORONARY ARTERY DISEASE IN PATIENTS WITH NON-ST-ELEVATION MYOCARDIAL INFARCTION

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Background and Aim: Coronary atherosclerosis is a systemic progressive chronic inflammatory disease. Complete blood count-derived inflammation parameters such as neutrophil/lymphocyte ratio (NLR) and platelet/lymphocyte ratio (PLR) have been studied so far to assess the severity of coronary artery disease (CAD). The systemic immune-inflammation index (SII; neutrophil*platelet/lymphocyte) emerged as a novel parameter that predicts adverse clinical outcomes in patients with acute coronary syndromes (ACS). The SYNTAX score is a coronary angiography-based anatomical scoring system that indicates the severity of CAD and predicts poor cardiovascular outcomes in patients with ACS. To the best of our knowledge, there is no previous research in the literature regarding the relation between SII and the severity of CAD in patients with ACS. Therefore, this study aimed at investigating the relationship between the severity of CAD, determined by the SYNTAX score, and SII in patients with non-ST-elevation myocardial infarction (Non-STEMI).

Methods: In total, 194 patients with non-STEMI in whom coronary angiography had been performed were retrospectively analyzed in this study (142 male, 52 female; mean age 62 ± 12 years). The complete blood counts at the hospital admissions were taken into account. According to SYNTAX scores based on coronary angiography (SYNTAX Score > 22 and ≤ 22), patients were divided into two groups and compared with each other.

Results: When the demographic and laboratory characteristics of the patients were compared in terms of SYNTAX score; in the group with SYNTAX score >22, male gender (84.8% versus 69.6% p = 0.043), white blood cell count (13.986 ± 4.643 versus 12.158 ± 3.621 p = 0.029), neutrophil count (11.289 ± 4.237 versus 9.398 ± 3.464 p = 0.009) and SII (1833.39 [1056.86-2401.53] versus 1285.92 [869.80-2143.60] p = 0.016) were statistically higher. There was no statistically significant difference in terms of other parameters between the groups. Multivariate regression analysis was performed for $p < 0.05$ univariate regression analysis. In multivariate logistic regression analysis, SII was only found to be an independent predictor of intermediate-high SYNTAX score (SYNTAX score > 22) (Odds Ratio = 1.005, 95% Confidence Interval [CI] = 1.001 – 1.008, p = 0.012). In the receiver operating characteristic curve analysis SII significantly predicted intermediate-high SYNTAX score (SYNTAX score > 22) (Area Under the Curve = 0.618, 95% CI = 0.546 – 0.687, p = 0.011).

Conclusion: This study showed that systemic immune-inflammation index was independently associated with severity of CAD, determined by the SYNTAX score, in patients with non-STEMI. Therefore, the SII, an inexpensive and easily measurable laboratory variable, may help define high-risk non-STEMI patients with increased SYNTAX scores.

ID: **96**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN ATHEROGENIC INDICES AND CORONARY THROMBUS BURDEN IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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OBJECTIVE: We aimed to investigate relationship between atherogenic indices and coronary thrombus burden in patients with ST-segment elevation myocardial infarction (STEMI) who managed by primary percutaneous coronary intervention (PCI).

METHODS: This was observational cross-sectional study of 145 consecutive patients admitted with confirmed STEMI treated with primary PCI our hospital between January 2020 and March 2020. Coronary thrombus burden of infarct-related artery was scored based on thrombolysis in myocardial infarction (TIMI) thrombus grades. Study population was divided into two groups; patients with thrombus burden grades 4 and 5 were defined as high thrombus burden (n= 99), and patients with thrombus burden < grade 4 (n= 46) was defined as low thrombus burden. Lipid profiles (levels of total cholesterol [TC], low-density lipoprotein cholesterol [LDL-C], high-density lipoprotein cholesterol [HDL-C], and triglycerides [TG]) were recorded. Then, atherogenic coefficient (AC; Non-HDL-C/HDL-C), atherogenic index of plasma (AIP; log10 [TG/HDL-C]), and Castelli's risk indices I and II (CRI-I; [TC]/HDL-C and CRI-II; LDL-C/HDL-C, respectively) were calculated.

RESULTS: The TC, HDL-C, LDL-C, TG, non-HDL-C, AIP, AC, CRI-I, and CRI-II values were similarly between groups. Both groups showed male predominance (82% and 65%, respectively). The proportion of male sex was higher in low thrombus burden group than high thrombus burden group. The proportion of no reflow and diabetes mellitus were significantly higher in patients with high thrombus burden than in patients with low thrombus burden ($p < 0.05$). Patients with high thrombus burden had longer pain to balloon time (5 [7–3] vs 3 [6–2]; $p = 0.011$) and were older (62.4±10.2 vs 58.1±11.5; $p = 0.029$).

CONCLUSION: Present study results demonstrated that there was no relationship between atherogenic indices (AIP, AC, CRI-I and CRI-II) and coronary thrombus burden in patients with STEMI.

Keywords: ST-elevation myocardial infarction; coronary thrombus burden, atherogenic indices

ID: **163**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **ORAL**

ACUTE PANCREATITIS COMPLICATED WITH ACUTE INFERIOR MYOCARDIAL INFARCTION

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BACKGROUND

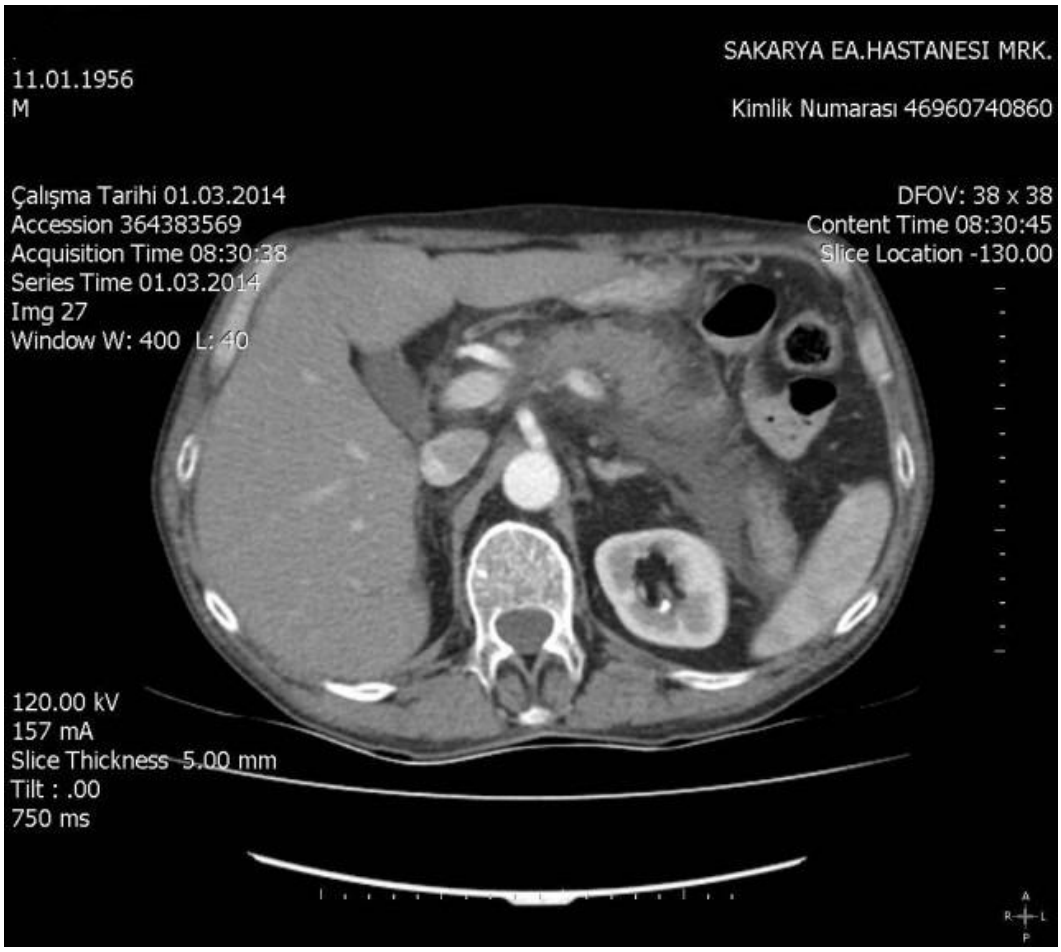
Acute st elevation myocardial infarction in the setting of acute pancreatitis is a rare entity to be diagnosed in the emergency department. Diagnosis requires high level of attention to change of symptoms over time. Here we present a case report about diagnosis and treatment of inferior wall myocardial infarction in a patient who is already diagnosed with acute pancreatitis.

METHODS AND RESULTS

A 58-year-old male patient was admitted to our emergency department with abdominal pain that radiated to his back and nausea. He had no significant medical history except heavy alcohol consumption in the last 48 hours. Physical examination revealed tenderness in the right epigastric region, without any abnormalities on cardiac and chest examinations. Blood pressure was 145/100, pulse rate was 68/min and body temperature was 36.7 °C. Abdominal ultrasonography did not show any pathological findings related other than pancreatic edema. Serum amylase was 612 U/L and serum lipase was 465 U/L. Abdominal tomography revealed peripancreatic fat stranding in the pancreatic corpus and free fluid accumulation in the surrounding area (figure 1). He was diagnosed as non-necrotizing acute pancreatitis by the general surgeon and standard medical therapy was initiated. Six hours after his initial presentation, the patient described new onset chest pain. ECG showed inferior wall myocardial infarction (figure 2). He was urgently transferred to the catheter laboratory and coronary angiography revealed a dense thrombus formation in the mid-segment right coronary artery with normal left anterior descending and circumflex artery (figure 3). We then proceeded with intracoronary thrombus aspiration. Subsequent contrast injection showed lesser thrombus burden adherent to the vessel wall and no visible culprit plaque. The procedure was completed with successful placement of 3.0x24mm bare metal stent, covering all the visible thrombi (figure 4). His oral regimen included clopidogrel 75 mg daily with a 600 mg loading dose, ASA 300 mg daily, and ramipril 5 mg daily. We did not use any additional anticoagulants except the 7500 U unfractioned heparin that was given during catheterization. The patient was observed on this oral regimen and intravenous fluid administration for five days and discharged without any complication.

CONCLUSION

The symptoms of acute pancreatitis and inferior wall myocardial infarction might mimic each other as an epigastric pain or discomfort. On the other hand, ECG changes suggesting myocardial ischemia is a frequent finding during acute pancreatitis. Co-presentation of these two clinical scenarios in a patient might easily lead the emergency physician to overlook one diagnosis over the other one. Risk assessment and treatment options changes dramatically in such condition that it could be lifesaving or vice versa.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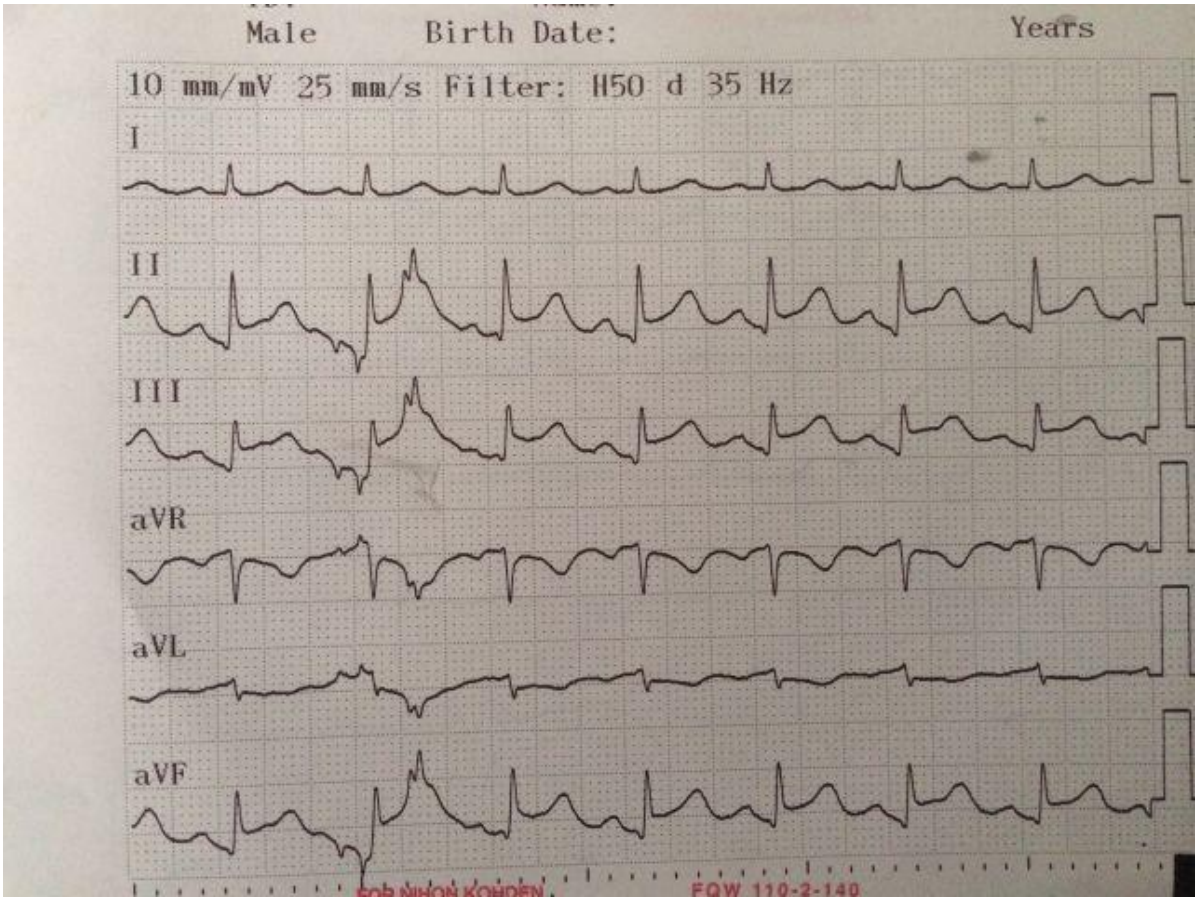
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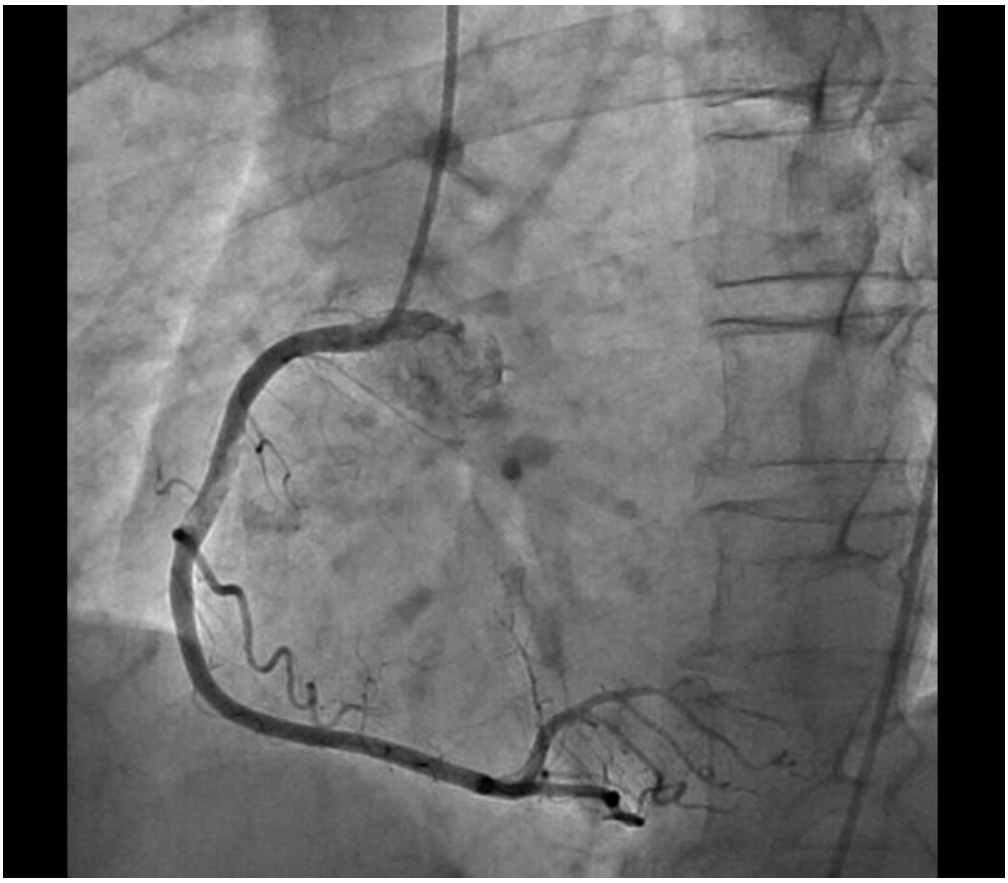

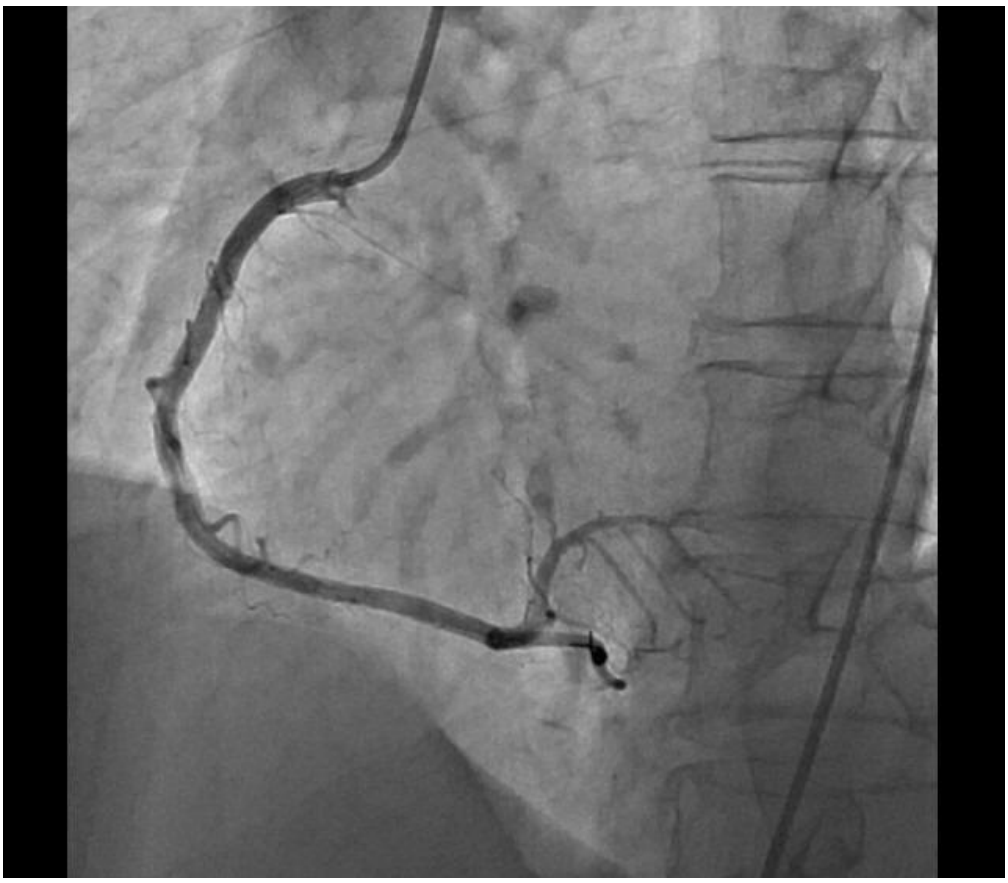

ID: **196**

Topic: **Cardiology » Acute heart failure**

Presentation Type: **ORAL**

PROGNOSTIC SIGNIFICANCE OF PENTRAXIN-3 FOR 1-YEAR MORTALITY IN PATIENTS WITH ACUTE STEMI

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BACKGROUND: In recent studies, it has been reported that Pentraxin 3 (PTX3) may have cardioprotective and atheroprotective roles in regulating inflammation and may have a predictive role for cardiovascular events, including mortality. This study aims to investigate the role of PTX3 in STEMI with 1-year follow-up period in this study.

MATERİAL AND METHODS: 51 patients who were diagnosed with STEMI above 50 years of age and underwent primary percutaneous coronary intervention in the left anterior descending coronary artery and / or left circumflex coronary artery were included in the study. PTX3 levels were measured at admission by using an ELISA method. Cardiac functions were evaluated by magnetic resonance imaging at the 2nd week and 6th month of post – MI period. The definition of adverse remodeling was made considering the 10% change (Δ) of LV end-diastolic volume (LVEDV) at 6th months compared to 2nd week of after MI, which are widely used in the literature.

RESULTS: PTX3 levels were found to be higher in patients with adverse remodeling compared to those without (929.3 pq/mL vs 562.8 pq/mL, p=0.050). PTX3 was found to be higher in patients with exitus compared to patients with alive (1290.7 pq/mL vs 560.5 pq/mL, p<0.001). In the multivariate cox regression model, in which demographic, laboratory and CMR findings were included; independent predictors of mortality were hypertension (HR: 1.24, p= 0.048) and PTX3 (HR: 1.18, p<0.001) after adjusting for other risk factors. The cut-off value of PTX3 in predicting mortality was found to be >988 pq/mL with 77% sensitivity and 79% specificity.

CONCLUSIONS: PTX3 is a new biomarker for STEMI patients potentially associated with heart failure and at risk for short-term mortality.

Keywords: pentraxin-3, acute myocardial infarction, short-term prognosis, mortality, adverse remodeling

ID: **32**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **ORAL**

THE ONSET OF SYMPTOMS IN MYOCARDIAL BRIDGING: DESTRUCTION OR ATHEROSCLEROSIS?

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OBJECTIVE: Myocardial bridge (MB) is a congenital anomaly defined as the coronary artery passing through the myocardium instead of epicardium. Despite the traditional belief that MB is benign, it has been ascertained to contribute to myocardial ischemia, infarction, even ventricular arrhythmias and sudden cardiac death. First line therapy for symptomatic patients is administration of beta-blockers or, if contraindicated non-dihydropyridine calcium-channel blockers. Surgical intervention is necessary if medical treatment is insufficient to reduce symptoms.

CASE REPORT: We present a case of a 72-year-old white man who presented with chest pain at rest lasting approximately one hour. He also stated that he had been suffering from exertional chest pain for 6 months. No acute ischemic findings were found on electrocardiogram, further evaluation showed markedly elevated troponin levels with a normal chest X-ray. Echocardiography revealed mild mitral regurgitation with LVEF of 60-65%. Angiography was performed subsequently and a MB leading to >90% compression during systole was encountered in the LAD artery. Cardiac computed tomography angiography showed that MB was superficial and 35 mm long. He underwent to minimally-invasive CABG on the beating heart, since surgical myotomy had to be performed on an extensive myocardium. Of note, the cardiovascular surgeon stated that the muscular layer of LAD was destroyed at the bridging segment which caused the arterial wall to be much more thinner as a vein. The fact which the patient had never suffered from angina until the last 6 months, prompts an inference that onset of symptoms in MB patients, may be attributed to the increase in compression through destruction of the muscular layer of the artery. On the other hand in some patients with MB, atherosclerosis at the vessel segment proximal to MB occurs due to increased shear stress and the vasoactive factors. Hence they become symptomatic with the contribution of stenosis to myocardial ischemia. Does the onset of symptoms depend on which one of these processes emerge earlier? Which one is more frequent in patients with MB, the former or the latter?

CONCLUSIONS: MB should be kept in mind as an important cause of angina and myocardial infarction. CABG is suggested rather than myotomy, particularly in patients with deep and extensive MBs, whose symptoms persist despite medical treatment. There are scant data regarding the pathophysiological process that contributes to onset of symptoms in patients with MB. Elucidation of this dim process may provide useful informations for the management of these patients.

Figure-1: Angiography images of the patient.
A: Coronary angiography of the patient during diastole.
B: Coronary angiography of the patient, demonstrating compression of the LAD artery during systole.
C: Cardiac computed tomography angiography of the patient, showing the LAD artery passing through the myocardium (end-diastolic phase).
D: Cardiac computed tomography angiography of the patient, showing the LAD artery passing through the myocardium (end-systolic phase).

ID: **241**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **ORAL**

EFFECT OF CORONARY THROMBUS ASPIRATION IN NON ST ELEVATION ACUTE CORONARY SYNDROME PATIENTS ON THREE-YEAR SURVIVAL- DOES IT ADD ANY BENEFIT?

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OBJECTIVE

Antegrade flow of the epicardial coronary artery is sometimes reduced during percutaneous coronary intervention involving an eroded, fissured, or ruptured atherosclerotic plaque in acute coronary syndromes. The reduction in coronary flow (no/slow reflow) may be caused by embolization of the distal vessels by the plaque or thrombus. Severe ischemia may cause necrosis of viable myocardium and reduction of contractile function. Thrombus aspiration may prevent the occurrence of no/slow reflow by enhanced thrombus removal during percutaneous coronary intervention. At the present time, there is no published data comparing the effect of thrombus aspiration conducted in patients with non-ST segment elevation myocardial infarction or unstable angina pectoris. The primary aim of this study was to assess the effect of thrombus aspiration during percutaneous coronary intervention on in-hospital and 3-year mortality in non-ST segment elevation myocardial infarction and unstable angina pectoris patients. The secondary aim was to assess this in relation to the regional and global contractile left ventricular function and investigate the impact of thrombus aspiration on post- percutaneous coronary intervention thrombolysis in myocardial infarction flow and myocardial blush grade.

METHODS

We assessed the effect of thrombus aspiration during percutaneous coronary intervention on in-hospital and 3-year mortality in consecutive non-ST segment elevation myocardial infarction (n=189) and unstable angina pectoris (n=148) patients (n=337) between 2011 and 2016.

RESULTS

In total, 153 patients (45.4%) underwent thrombus aspiration. The number of patients with postoperative thrombolysis in terms of myocardial infarction grade 3 blood flow ($p<0.001$) and myocardial blush grade 3 ($p<0.001$) were significantly higher in all thrombus aspiration groups. At 6,12 and 24 month post- percutaneous coronary intervention, the mean left ventricular ejection fraction was significantly higher in the all thrombus aspiration groups vs the stand alone percutaneous coronary intervention group ($p<0.001$).

CONCLUSIONS

Thrombus aspiration was associated with a significant improvement both in epicardial flow, myocardial perfusion and left ventricular ejection fraction. Thrombus aspiration during percutaneous coronary intervention in all acute coronary syndrome (except ST segment elevation) patients was associated with better survival compared with stand alone percutaneous coronary intervention group at 3-year follow-up ($p=0.019$).

ID: **63**

Topic: **Cardiology »Acute heart failure**

Presentation Type: **ORAL**

TAKOTSUBO SYNDROME COMPLICATED WITH ISCHEMIC STROKE

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A 53- year- old woman was admitted to the emergency department with the complaint of dyspnea for two days. She was an ex-smoker and she didn't have any other cardiovascular risk factor. On her physical examination, cardiac sounds were normal and there were bilateral rales in her lungs. Electrocardiogram revealed poor R wave progression on precordial leads (Figure 1a). Laboratory findings demonstrated mild highly sensitive troponin elevation. There was left ventricular anteroseptal hypokinesia, apical aneurysm, and 30*20 mm diameter of left ventricular apical thrombus (Figure 1b). The ejection fraction was 30%. On the posterior-anterior chest radiography, there was a bilateral radiopacity consistent with lung edema. Besides, chest tomography showed bilateral pleural effusion. Meanwhile, the patient's COVID-19 test was negative. Thereby, she was hospitalized in an intensive care unit with a diagnosis of acute decompensated heart failure. After diuretic treatment, she was getting better in terms of dyspnea and orthopnea. She was received low molecular weight heparin adjusted to her body weight. Coronary angiography was performed to rule out coronary artery disease and there isn't a significant lesion in coronary arteries. The patient was diagnosed with Takotsubo syndrome. During follow-up in hospitalization, she developed a loss of consciousness, nausea. Control echocardiogram still showed apical thrombus. After evaluating by a neurologist, although, cranial tomography didn't show acute cerebral lesion, cranial magnetic resonance diffusion imaging demonstrated large diffusion restriction consistent with cerebral infarct supplied by middle cerebral artery (Figure 1c). The patient was administrated thrombolytic therapy by neurologists within four hours of ischemic stroke. After thrombolytic therapy, she was developed right extremity hemiplegia. Control cranial tomography revealed hematoma which was considered as hemorrhagic conversion upon ischemia. (Figure 1d). The patient's health status deteriorated; she was unconscious however she had spontaneous breathing. During follow up cerebral hemorrhage was regressed. Therefore, she was treated again with low molecular weight heparin after a multidisciplinary approach. The Patient was alive and hospitalized when this case was reported.

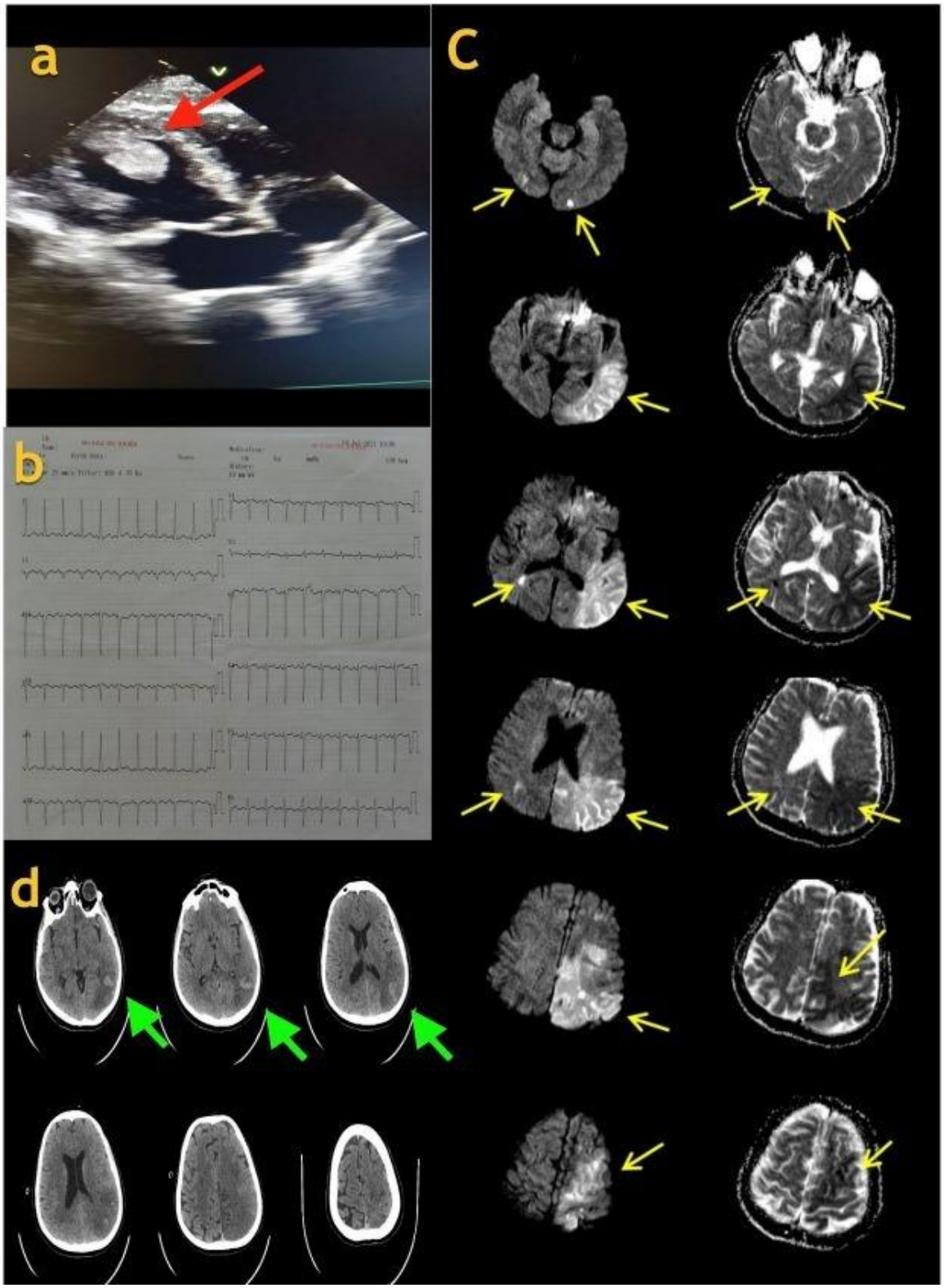

Figure: Apical thrombus in the left ventricle shown in red arrow (a). Poor R wave progression in anterior derivations(b). Diffusion restriction in the region supplied by middle cerebral artery on cranial magnetic resonance imaging consistent with wide ischemic infarct(c). Acute-subacute hematoma in parietooccipital region on cranial tomography

Oral Presentation Session

Diabetes and Coronary Artery Disease: A Deadly Association

Date: 07.11.2021 Time: 09:15 - 10:15 Hall: 4

ID: **18**

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

Presentation Type: **ORAL**

THE IMPACT OF PREDIABETES ON ADVERSE CLINICAL OUTCOMES IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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Prediabetes group (n=215)	Diabetes group (n=156)	p value	
Death	16 (7.5%)	13 (8.3%)	0.76
Myocardial infarction	29 (13.6%)	26 (16.7%)	0.41
Hospitalization	39 (18.1%)	30 (19.2%)	0.79
Contrast-induced nephropathy	35 (16.3%)	27 (17.3%)	0.79
Stent restenosis	15 (7.0%)	25 (16%)	0.006*
Stent thrombosis	6 (2.8%)	4 (2.6%)	0.89

OBJECTIVE: Diabetes is a well-known prognostic risk factor and associated with increased mortality in patients with ST-segment elevation myocardial infarction (STEMI). Patients with prediabetes, which is also defined as impaired fasting glucose or impaired glucose tolerance, have higher risk for developing type-2 diabetes and cardiovascular diseases. But, the prognostic significance of prediabetes in STEMI patients remains unclear. Therefore, we aimed to investigate the effect of being prediabetic on adverse clinical outcomes in patients with STEMI.

METHODS: A total of 918 patients diagnosed with STEMI between October 2018 – November 2019 were screened. Among them, patients who had HbA1c levels less than 5.7% which was defined as 'normal' according to current guidelines were excluded. This resulted in 371 patients for final retrospective analysis. Patients were divided into two groups according to the presence of prediabetes, which was defined as blood glucose levels higher than normal but not yet high enough to be diagnosed as diabetes. (HbA1c levels of 5.7%-6.4%) There were 215 patients in predibetes group, whereas 156 patients in diabetes group. Primary endpoints were defined as death, MI, hospitalization, contrast-induced nepropathy (CIN), stent restenosis and stent thrombosis. Patients were followed up 24 months on average.
RESULTS: Demographic, clinical characteristics and laboratory measurements were similar between the groups. Stent restenosis was statistically significantly higher in diabetes group. (Table-1) But, there was no statistically significant difference between the groups in terms of other primary end-points. (Table-1) Death, MI and CIN were numerically higher in diabetes group, but did not reach statistically significance. (Table-1)
CONCLUSIONS: Our results demonstrated that being diabetic is associated with stent restenosis. Therefore, strict glucose control should be advised for prediabetic STEMI patients and they should be encouraged for life-style modifications after discharge from the hospital.

ID: **214**

Topic: **Cardiology »Preventive cardiology**

Presentation Type: **ORAL**

INVESTIGATION OF THE RELATIONSHIP OF CORONARY ARTERY DIAMETERS WITH PREDIABETES AND DIABETES IN PATIENTS WITH FIRSTNDIAGNOSIS ACUTE CORONARY SYNDROME

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Introduction: Cardiovascular diseases are the leading cause of morbidity and mortality in individuals with glycemic disorders and insulin resistance. Acute coronary syndromes (ACS) is the most advanced form of the CAD spectrum. The risk of death among people with diabetes is about twice that of people of similar age but without diabetes . However, epidemiological evidence suggests that this morbidity-mortality relationship begins early as it progresses from normal glucose tolerance to diabetes. Diabetic patients have a more serious and widespread coronary atherosclerosis and their coronary artery diameters are affected . Smaller coronary arteries limit the possibility of successful and complete revascularization, but this has not been evaluated in prediabetics.In this study,the effects of HbA1c groups on the coronary artery diameters were investigated in patients undergoing coronary angiography with the diagnosis of first ACS.**Material and Method:** Our study was designed retrospectively. 266 patients who met the inclusion criteria were included in the study. According to HbA1c levels; patients was divided into three groups as normal, prediabetes and diabetes. Patients' coronary artery diameters were calculated by two interventional cardiologists via the Quantitative coronary angiography (QCA) technique. Middle of LMCA, 3 regions for LAD, 2 regions for Cx, and 2 regions for RCA were measured from the coronary angiographies recorded in the system.**Results:** A total of 266 patients were included in the study. There were 82 patients with a previous history of DM. Patients without a history of DM were divided into groups according to HbA1c values. As a result; there were 92 patients (34.5%) in the DM group, 92 patients (34.5%) in the prediabetes group, and 82 (31%) patients in the normal group. HbA1C and gender were found to effective on the coronary artery diameters in the model consisting of HbA1C, gender and BSA according to Multivariate ANOVA. Body surface area was found to have no effect on the coronary artery diameters and was removed from the model. HbA1c was found to be effective on Left Main Coronary, Proximal LAD, Mid LAD, Distal LAD, Proximal Cx, Distal Cx, Distal RCA. HbA1C mostly affects the diameter of LMCA and then secondly proximal LAD. HbA1c had no effect on proximal RCA. Gender was found to have no effect on coronary artery diameters alone. HbA1c and sex interaction had no effect on coronary artery diameters. It was found that HbA1c had most effect on coronary artery diameters. HbA1c was also found to have effect on proximal total coronary artery diameter and distal total coronary artery diameter. HbA1c has been found to affect distal total coranary artery diameter mostly among them. Gender was found to have no effect on total coronary artery diameters alone. HbA1c and gender interaction were not effective on total coronary artery diameters. HbA1c was most effective on total coronary artery diameters.**Conclusion:** Early diagnosis and treatment of prediabetes is significant to reduce future morbidity and mortality. Because prediabetes has high likelihood progressing to DM and is itself a risk factor for CAD. Early detection of prediabetes may provide more suitable coronary lesions for revascularization. Therefore, there is a need to simplify screening tests for glycemic disorders, so patients can be identified earlier. In high-risk populations, the HbA1c test can increase the detection of DM and prediabetes and help reduce changeable risk factors before discharge.

ID: **81**

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

Presentation Type: **ORAL**

ASSOCIATION OF NEUTROPHIL TO HDL-C RATIO AND CORONARY ARTERY DISEASE IN DIABETIC PATIENTS

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OBJECTİVE: Studies indicate that there is a strong relation between coronary artery disease (CAD) and type 2 diabetes. Lipid and inflammatory molecules play key roles in their relationship. We aimed to examine whether neutrophil count and high-density lipoprotein cholesterol (HDL-C) incorporated into a single biomarker neutrophil/HDL-C (N/H) had an association with CAD in diabetic patients.

METHODS: 122 consecutive diabetic patients (age ≥18 and <75 years) who applied to our cardiology outpatient clinic between November 2019 and March 2020 were enrolled in our study. Based on their history, patients in CAD (+) group (n=122,66.9% male) were defined as those having documented angiographic coronary artery disease of at least %50 stenosis in at least one major coronary artery. CAD (-) group (n=74, 45.9% male) was defined as patients without symptoms of ischemic heart disease and had never diagnosed with coronary artery disease before.

RESULTS: The demographic and clinical data of patients according to CAD were shown in Table 1. We determined that CAD (+) group was older and had higher N/H and M/L (monocyte/lymphocyte) than CAD (-) group (65.0 (42.0-74.0) vs. 64.0 (45-74) years, p<0.001; 0.123 (0.050-0.420) vs 0.103 (0.050-0.260) p=0.012; 0.242 ± 0.120 vs. 0.203 ± 0.083, p=0.013, respectively).

A cutoff value of >=0.113 for N/H and >=0.192 for M/L were estimated to evaluate CAD in diabetic patients (sensitivity of 61% and specificity of 60%, AUC: 0.608 with 95% CI (0.526-0.689), p=0.012; sensitivity of 68% and specificity of 60%, AUC:0.628 with 95% CI (0.545-0.712), p=0.003, respectively) (Figure 1). In the univariate logistic regression analysis age, gender (male), GFR, N/H >=0.113 and M/L >=0.192 were found to be predictors of CAD history. Moreover, we determined that GFR and M/L >=0.192 were independent predictors of CAD history.

CONCLUSIONS: N/H was statistically higher in diabetic patients with CAD than patients without history of CAD. But in the multivariate analysis GFR and M/L but not N/H were found to be independent predictors of CAD history in diabetic patients. In our study, N/H was not found to be an independent predictor of CAD in diabetic patients.

ID: **253**

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

Presentation Type: **ORAL**

HIGH LEVELS OF ATHEROGENIC INDEX OF PLASMA IS ASSOCIATED WITH ANGIOGRAPHIC COMPLEXITY OF CORONARY ARTERY DISEASE IN CHRONIC STABLE ANGINA

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BACKGROUND: The atherogenic index of plasma (AIP: log [TG / HDL-C]), an indicator of atherogenicity and calculated by the logarithm of the ratio of TG to HDL-C has been demonstrated to have higher correlations with cardiovascular disease and higher predictivities for cardiovascular events compared to simple lipid parameters. The SYNTAX Score (SS) is an angiographic tool for grading the complexity of coronary artery disease (CAD). We aimed to identify the association between AIP and complex CAD assessed by SS and to define best diagnostic cutoff value of the AIP to predict angiographically complex CAD in patients with chronic stable angina.

METHODS: 309 consecutive patients with symptoms of chronic stable angina who underwent diagnostic coronary angiography after positive stress testing were retrospectively included. The patients were divided into 4 groups as normal coronary arteries (NCA) and low (SS≤22), intermediate (23≤SS<32), and high (SS≥33) SYNTAX scores. SS≥22 and SS≥33 were considered as moderate to severe and severe CAD respectively. Association between AIP and SYNTAX scores were evaluated.

RESULTS: There were significant differences in age, fasting blood glucose, creatinine, uric acid, total cholesterol, triglyceride, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol levels, and AIP between the groups (P<0.001). Posthoc analysis (Bonferroni) revealed significant differences among AIP levels in between the groups (P < 0.001) except that the difference between intermediate and high SS groups was negligible (p=1.000). Spearman's correlation coefficient between AIP and SYNTAX score was 0.718 (p<0.001). Multivariate logistic regression analysis revealed that AIP was an independent risk factor for predicting presence of CAD, moderate to severe CAD and severe CAD with adjusted odds ratios of 2.147 (95% CI:1.807-2.551, P < 0.001), 2.257 (95% CI:1.714-2.971, P < 0.001) and 2.093 (95% CI :1.565-2.799, P < 0.001) respectively. ROC analysis for AIP revealed a cut-off value of 0.7152 to predict presence of CAD with 82.7% sensitivity and 84.2% specificity (AUC:0.875, 95% CI: 0.835-0.915 p<0.001), a cut-off value of 0.8169 for predicting moderate to severe CAD with 80.3% sensitivity and 78.6% specificity (AUC: 0.856, 95% CI: 0.806 – 0.906, p<0.001) and a cut-off value of 0.828 for predicting severe CAD with 76.5% sensitivity and 74.5% specificity (AUC:0.836, 95% CI: 0.775-0.898 p<0.001).

CONCLUSIONS: AIP is a significant and independent biomarker to predict the presence of atherosclerosis as well as the angiographic complexity of CAD in patients with chronic stable angina pectoris.

Oral Presentation Session

Novel Approaches in Cardiac Imaging

Date: 07.11.2021 Time: 10:30 - 11:30 Hall: 4

ID: **187**

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

Presentation Type: **ORAL**

ROLE OF CORONARY CT ANGIOGRAPHY IN PRIMARY CARDIOVASCULAR PROTECTION

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Background:

The aim of the present study was to investigate the role of coronary CT angiography (CCTA) on detecting mild plaques which are otherwise evaluated as normal on coronary angiography in the patients who undergo coronary angiography due to the severe stenosis detected by CCTA.

Methods:

One hundred seventeen consecutive patients with cardiovascular risk factors and atypical chest pain or other symptoms such as dyspnea, palpitation, fatique; who underwent CCTA which is followed by an invasive coronary angiogram due to a critical stenosis in at least one coronary artery between February 2018 and August 2021 were enrolled. Each lesion was graded from 0 to 5; as 0: no plaque, 1:minimal plaque(luminal stenosis <25%), 2:mild stenosis (luminal stenosis 25-50%), 3:moderate (luminal stenosis 50-75%), 4:severe(>75%), 5:total occlusion in both CCTA and invasive angiogram(CCTA by an experienced cardiovascular specialist and invasive angiography by an experienced interventional cardiologist) and compared afterwards . The differences in coronary artery disease scores calculated with CCTA and coronary angiography were calculated with the One Sample Test. Bland-Altman (B&A) plot was used to describe whether agreement between two quantitative measurements.

Results:

We included 117 patients . 68(61.82%) of the patients admitted with chest pain, whereas 31.82% of them admitted with dyspnea, 14.41% of them with palpitation and 7% of them with dizziness. The demographic data of the patients were presented in Table 1. Mean ejection fraction calculated from previous echocardiography data, which were recorded 1 month before or after the MSCT was 58.7+6.78.In the generated scatter-plot (Figure-1), it was observed that the some differences between the measurements were outside the calculated confidence intervals (Mean±SD:5,83±8,52, %95 CI upper and lower limits, (-10,86)-(+16,69)). In the linear regression where the differences between measurements were calculated as the dependent variable and the means of the measurements as the independent variable, it was determined that the standardized coefficients Beta value was 0.443, and there was a proportional bias ($p<0.001$). In this case, coronary artery disease scores calculated with CT were found to be higher than conventional coronary angiography.

Conclusions:

Our study has shown a significant difference of grading score when CCTA and invasive angiography groups are compared and this indicates the importance of CCTA by means of detecting plaques which cause minimal and mild luminal stenosis which is overlooked in invasive coronary angiography and defined as normal coronary artery. The importance of the study is that it demonstrated the sensitivity of CCTA on detecting even minimal plaques for the primary prevention and protection of patients for potential further cardiovascular events. Involving more patients in primary cardiovascular protection is of utmost importance in preventive medicine. In this case, further work will be needed to encourage the use of CCTA in cases which are suitable according to the latest guidelines.

ID: **150**

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

Presentation Type: **ORAL**

CORRELATION BETWEEN NT PRO BNP LEVELS AND SPECKLE TRACKING ECHOCARDIOGRAPHY PARAMETERS IN PATIENTS WITH HYPERTROPHIC CARDIOMYOPATHY

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Purpose— Abnormal left ventricular (LV) deformational mechanics have been demonstrated in patients with hypertrophic cardiomyopathy (HCM) by using 2-dimensional (2D) speckle tracking echocardiography (2D STE), data regarding association between 2D STE parameters and NT pro BNP levels is limited. The objective of the study was to evaluate the association between 2D STE parameters and NT pro BNP levels in patients with HCM.

Methods— Twenty patients (mean age 52,6±11,3 years; 12 (60%) men) with diagnosis of nonobstructive HCM (NOHCM) underwent 2D speckle-tracking echocardiographic measurement of longitudinal, radial, circumferential and area strains. NT pro BNP levels were also measured.

Results— Mean longitudinal, area, radial, and circumferential strains were -16.3 ± 4.3 %, -28.1 ± 5.2, 30.9± 7.0 %, -20.2 ±3.2 %, respectively. Mean NT pro BNP level was 237.9 ± 228.9 pg /ml. In NOHCM patients, NT pro BNP levels were negatively correlated with area (r:-0.578, p:0.001), radial (r:-0.500, p:0.004) and circumferential (r:-0.430, p:0.016) strains; nevertheless positively correlated with longitudinal strain (r: 660, p< 0.001).

Conclusions— HCM patients have higher NT pro BNP levels, and these levels were significantly associated with strain parameters.

ID: **148**

Topic: **Cardiology »Stroke prevention in Atrial fibrillation**

Presentation Type: **ORAL**

RELATIONSHIP BETWEEN LEFT VENTRICULAR DIASTOLIC FUNCTION AND STROKE SEVERITY IN PATIENTS WITH ACUTE ISCHEMIC STROKE

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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 LVDD is feasible to predict cardiovascular outcomes. Left ventricular diastolic dysfunction (DD) is associated with an increased mortality in general population and patients with myocardial infarction. However, it is uncertain LVDD are related with stroke severity. In this study, we aimed to investigate the relationship between LVDD and stroke severity in patients with acute ischemic stroke.

METHODS: A total of 136 patients (81 men, 55 women, 66 ± 13 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. Standard M-mode, two-dimensional and color Doppler imaging were performed in parasternal and apical views. Early mitral inflow velocity (E) and late mitral inflow velocity (A) were measured using the pulsed wave Doppler method, by placing the sample volume at the level of the mitral valve leaflet tips. The tissue Doppler-derived diastolic mitral annular velocity (e') was measured from the septal corner of the mitral annulus in the apical four-chamber view. LA volume was indexed to body surface area (LAVI).

RESULTS: There were no significant differences among clinical parameters of patients (Table 1). LVEF was significantly higher in Group 1 patients than Group 2 patients. E/A, E/e', e', LAVI were significantly higher in Group 2 patients than Group 1 patients (Table 2).

CONCLUSION: Our results suggested that, left ventricular diastolic function parameters are associated with stroke severity on admission in patients with acute ischemic stroke.

ID: **119**

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

Presentation Type: **ORAL**

CHANGES IN LEFT ATRIUM WITH CARDIAC IRON OVERLOAD IN BETA-THALASSEMIA MAJOR PATIENTS WITHOUT VENTRICULAR SYSTOLIC DYSFUNCTION

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Objective:

Myocardial iron deposition or cardiac siderosis, results in cardiac dysfunction and remains the most important cause of mortality and morbidity in thalassemia major (TM) patients. Our aim is to investigate left atrial function in iron overload TM patients who have no complaints, no pulmonary hypertension, and have normal sinus rhythm and left & right ventricular systolic function.

Methods:

Medical history, physical examination, 12-lead surface electrocardiogram (ECG), echocardiography (ECHO) (M-Mode, 2D, CW Doppler, PW Doppler, Color Doppler, Doppler tissue imaging), cardiac magnetic resonance (CMR) T2*, serum ferritin levels were carried out in all subjects. Patients who have no cardiac complain, no pulmonary hypertension, normal sinus rhythm, normal left & right ventricular systolic function and detected iron overload with CMR T2*, and healthy controls were included. Volumetric, Doppler, areal and deformational indices (two-dimensional speckle-tracking echocardiography) were used for evaluating the left atrial function with ECHO. Atrial conduction properties were assessed by electromechanical delay derived from Doppler tissue echocardiography examination. P wave dispersion calculated from the 12-lead surface ECG.

Results:

The results of the study are shown in Table 1. There were 14 TM patients (8F/6M, age 32.29±7.37) and 9 (5F/4M, age 31.00±6.96) controls. LA dimension and volumes were found statistically significantly higher; LA global, reservoir, conduit and pump function was found statistically significantly lower with deformational indices and volumetric indices; LA stiffness was found statistically significantly worser in the TM group than the control group. In the result of LA electrical function, only the septal mitral anulus electrical conduction time and tricuspid annulus electrical conduction time of the TM group was found to be statistically significantly lower than that of the control group and there is no differences with other parameters. Further, no statistically significant difference was observed between the P wave dispersion of the control and TM groups.

Conclusions:

The results showed that all LA functions were affected by the iron overload. However, electrical activity was the least affected function. Even in cases presenting normal left and right ventricular function in ECHO, a detailed ECHO investigation of LA might be useful to plan the frequency of follow-up and chelation therapy.

Keywords: Thalassemia major, chelation therapy, iron overload, left atrial function

ID: **108**

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

Presentation Type: **ORAL**

CASEOUS CALCIFICATION OF MITRAL ANNULUS; A RARE ENTITY CONFIRMED BY MULTIMODAL IMAGING

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Introduction

Caseous calcification of the mitral annulus (CCMA) is a rare variant of mitral annular calcification seen in 0.06-0.07% of echocardiographic studies. It typically affects the posterior mitral valve apparatus. It is generally asymptomatic and diagnosed incidentally during echocardiography or computed tomography(CT) imaging; however, valvular dysfunction is seen in some rare cases. Although it is a benign mass, it can be confused with masses such as thrombus, vegetation, cardiac tumor, and abscess. The clinician should confirm the diagnosis with multiple imaging modalities to avoid unnecessary surgery if the diagnosis is in doubt.

Case

A 75-year-old woman was presented to our outpatient clinics with palpitation and shortness of breath. Her medical history included hypertension, dyslipidemia, and osteoporosis. Physical examination was unremarkable. Her electrocardiogram was normal sinus rhythm. Transthoracic echocardiography(TTE) demonstrated a large multilobular mass on the posterior mitral valve annulus with peripheral calcifications and central echolucent areas with no acoustic shadowing artifact. Transesophageal echocardiography (TEE) confirmed a three lobular mass (10X9, 10X10, 6X4 mm) extending from the posterior mitral annulus to the left atrium. Mild regurgitation was observed in the mitral valve, but no stenosis was observed. Magnetic resonance imaging(MRI) was performed to define the characteristics of the mass better. MRI showed a hypointense lesion on both T1 and T2-weighted sequences on posterior mitral valve leaflet with no contrast enhancement after gadolinium administration. These findings on MRI supported that the mass had a calcific pattern. CT imaging also showed dense nodular calcification with small segments containing non-calcified material in the exact location. These findings were consistent with the CCMA. The patient was discussed in the cardiovascular surgery council and decided to follow up with a conservative treatment approach. The mass did not change significantly at the 7-month TTE follow-up.

Conclusion

CCMA is a rare clinical condition, and most cardiologists are unfamiliar with it. It can be confused with other cardiac masses (e.g., thrombus, vegetations, tumors, and abscesses), and surgical procedures may be applied to the patients unnecessarily. So, multiple imaging modalities, including TEE, cardiac CT, and cardiac MRI, can confirm the diagnosis and avoid unnecessary surgery in suspicious cases.

ID: **68**

Topic: **Cardiology »Diseases of aorta**

Presentation Type: **ORAL**

PSEUDOCOARCTATION OF THE AORTA: A RARE CONGENITAL AORTIC DISEASE.

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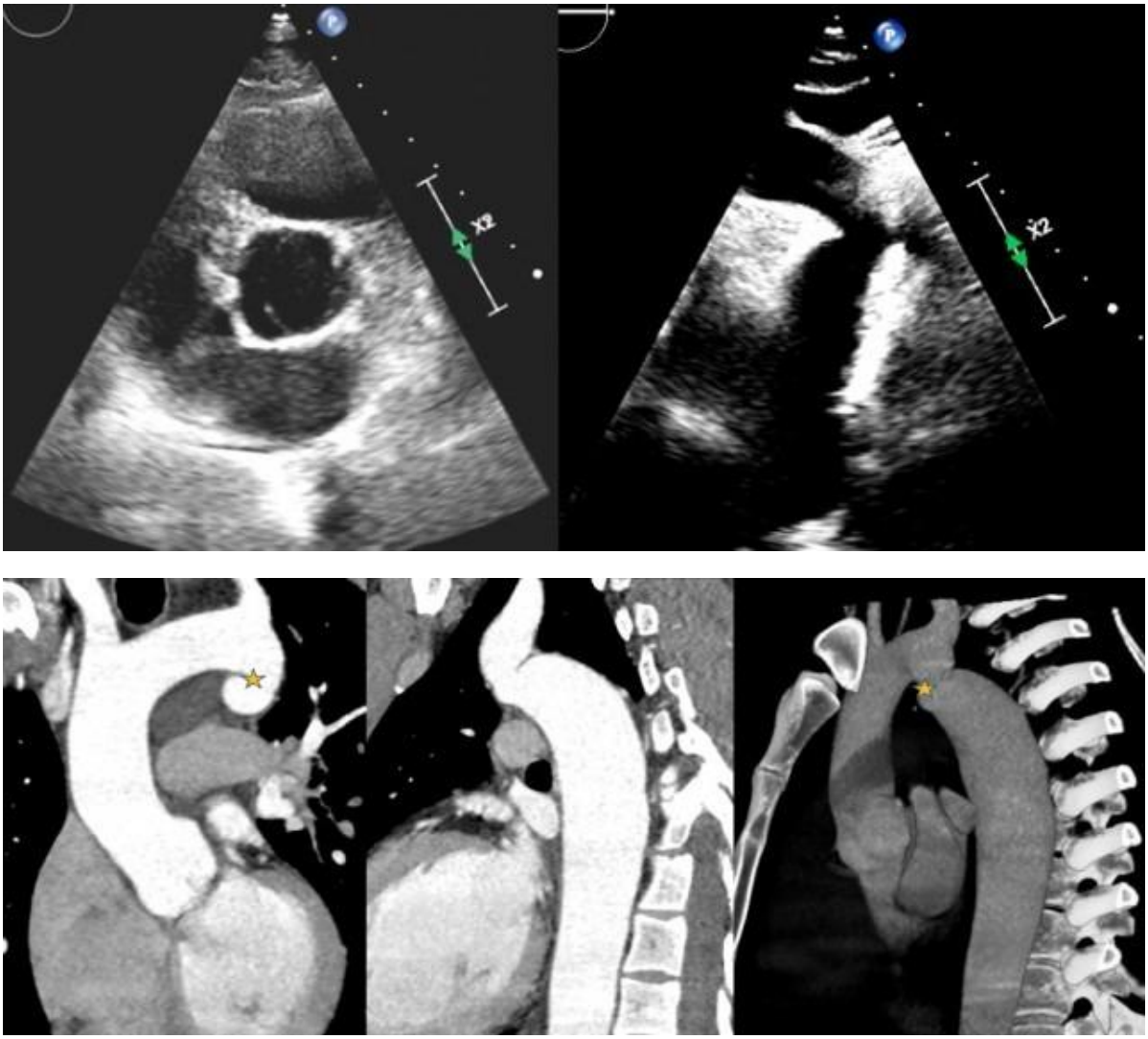

Abstract

Aortic pseudocoarctation is a rare congenital aortic anomaly that causes elongation, stenosis and kinking of the aorta at the isthmus level. Although aortic coarctation and pseudocoarctation share a similar clinical spectrum, pseudocoarctation rarely results in a significant

gradient in descending aorta and hemodynamic consequence. Therefore, it's critical to differentiate in coarctation. All imaging modalities but especially cardiac CT angiography and catheterization are very important in the differential diagnosis. Our case highlighted differences between aortic pseudocoarctation and coarctation, with other cardiac anomalies accompanying pseudocoarctation. And also, the importance of cardiac imaging in the differential diagnosis of pseudocoarctation was emphasized.

Case presentation

A 23-year-old male patient was admitted to the cardiology outpatient clinic to investigate the aetiology of hypertension. His medical and family history was unremarkable. In the patient's physical examination, the blood pressure taken from the left arm was 164/96 mmHg, the blood pressure taken from the right arm was 161/92 mmHg, and there was no difference in blood pressure between the lower and upper extremities. Peripheral pulses were bilaterally palpable, radio-femoral, the radio-radial delay was not observed. Electrocardiogram was in normal sinus rhythm. Pathological findings in transthoracic echocardiography were bicuspid aortic valve (type 2, NCC+RCC fusion) and in the suprasternal evaluation of descending aorta, peak systolic gradient was measured as 20 mm Hg in doppler evaluation (Figure 1A-B). Buckling of the aorta was seen on the patient's chest x-ray (Figure 1C). CT angiography was performed for the preliminary diagnosis of aortic coarctation, and it was observed that the distal aortic arch had king formation at the level of the isthmus, and the diameter of the narrowest part was measured as 13*11 mm (Figure 2-Video 1). In addition, it was obtained that collateral circulation, which is the typical finding of coarctation on CT angiography, did not develop in this patient. A peak 20 mm Hg systolic gradient was observed between the pre and post pseudocoarctation segment in the catheterization study performed on the patient for aortic pressure study. In the light of these clinical and imaging findings, the patient was evaluated as aortic pseudocoarctation.

Conclusion

Aortic pseudocoarctation is a rare congenital aortic disease. Due to its generally asymptomatic presentation and benign course, it is very important to distinguish it from coarctation of the aorta and proper diagnosis of pseudocoarctation will prevent unnecessary interventional and surgical procedures and associated risks. There is no standard management algorithm and limited literature is available for pseudocoarctation. More evidence-based case reports and research on treatment modalities and timing are needed.

Oral Presentation Session

Tough Decisions in Cardiac Surgery

Date: 07.11.2021 Time: 11:45 - 12:45 Hall: 4

ID: **184**

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

Presentation Type: **ORAL**

RETROGRADE AUTOLOGOUS PRIMING: WHICH PATIENT IS SAFER?

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Background:

Adult cardiac surgery with extracorporeal circulation is known to be associated with increased risk of blood transfusion leading to adverse outcomes. Procedures like retrograde autologous priming (RAP) may reduce these negative side effects. During RAP, hypotension before cardiopulmonary bypass (CPB) is quite common. When hypotension develops, vasoconstrictive agents such as ephedrine are used. In this study, it is aimed to reveal which patients need ephedrine use.

Methods:

A total of 178 patients who underwent isolated elective coronary bypass surgery with RAP between January 2020 and June 2021 were studied in the study. Patients who received ephedrine during the operation(Group 1, n= 92) and who did not need to be administered (Group 2, n=86) were divided into 2 groups. Groups were examined in terms of duration of demographic characteristics, CPB time, duration of operation, , intraoperative - postoperative blood transfusion and postoperative bleeding.

Results:

There was no significant difference between the groups in terms of operation time, CPB time, amount of intraoperative and postoperative blood transfusion, and amount of postoperative drainage. In the Roc Curve analysis, it was determined that there was no need for the use of ephedrine in patients with a BSA above 1.98 for retrograde autologous priming. ($p<0.05$, Sensitivity 95.4%, Specificity 91.3%, AUC= 0.954)

Conclusion:

Retrograde autologous priming is a safe and less invasive procedure which achieves clear benefits for adult cardiac surgery patients. Patients with a BSA value of 1.98 and above can be operated safely using RAP without experiencing hemodynamic instability before CPB.

ID: **206**

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

Presentation Type: **ORAL**

SUCCESSFUL CORONARY ARTERY BYPASS SURGERY IN A PATIENT WITH PANCYTOPENIA, MYELODYSPLASTIC SYNDROME DIAGNOSIS: CASE REPORT

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Introduction

Myelodysplastic Syndrome (MDS) is a heterogenous hematopoietic stem cell disease characterized by dysplastic and ineffective hematopoiesis. The main clinical expression is mainly due to deep anemia, like exertional dyspnea or fatigue, and neutropenia like recurrent infections, and thrombocytopenia, like bleeding.

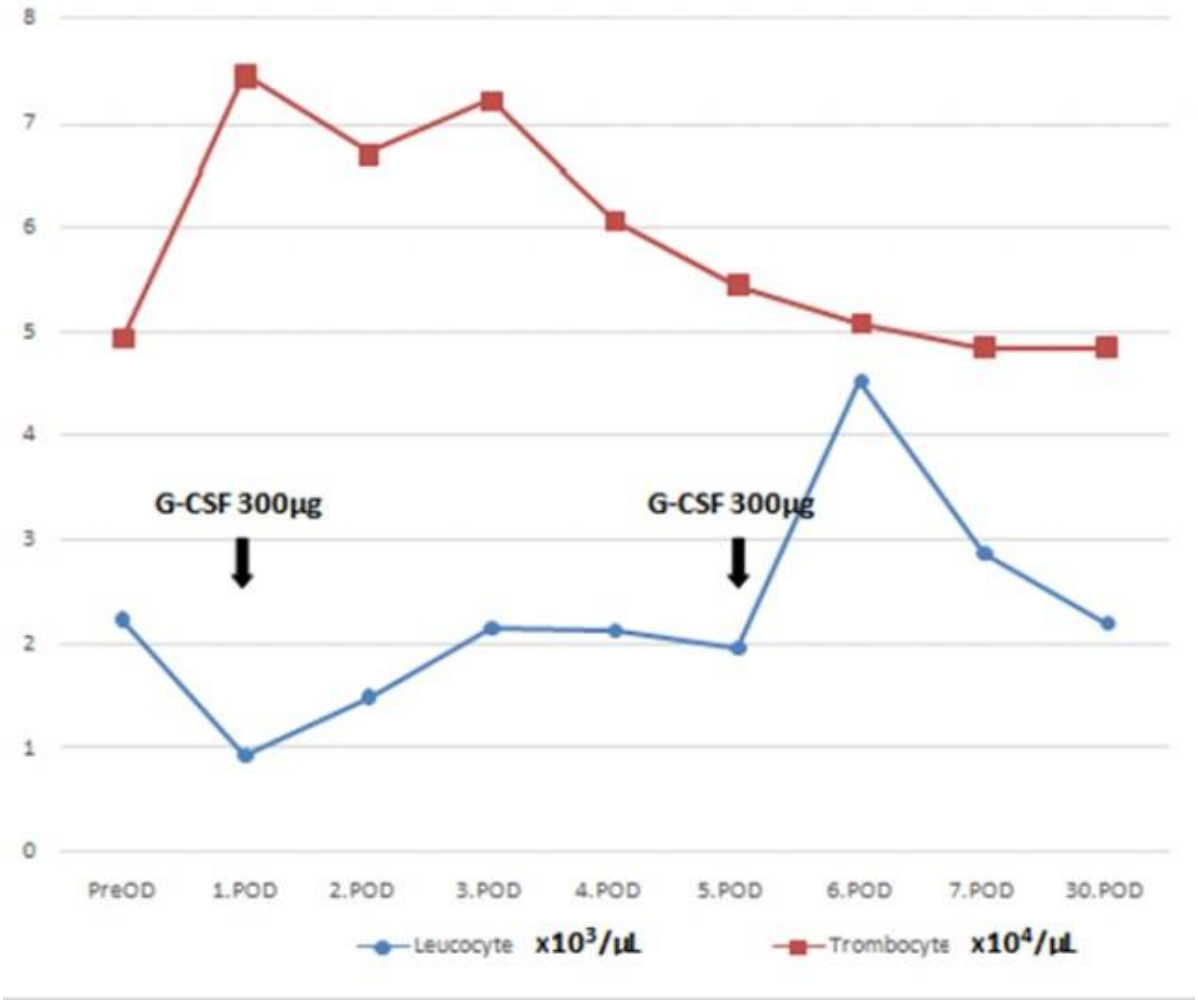
The International Study Group defined two requirements for the diagnosis of MDS. The first is cytopenia lasting over 6 months (neutropenia < 1500/mm3, anemia Hb <11 g/dL, thrombocytopenia <100.000/mm3), and the exclusion of clonal/non-clonal bone marrow diseases for cytopenia, second.
The International Prognostic Scoring System (IPSS) predict the progress of MDS. In such patients, whenever an ischemic cardiac coronary event occurs, it's the heart team who calls for the proper treatment, percutaneous intervention (PCI) or CABG. CABG is more favorable in such cases where due to thrombocytopenia, dual long term antiplatelet therapy is less desirable. With a multidisciplinary strategic approach, a limit for the thrombocyte count can be set, for which method to follow, surgery or PCI.

Case Report

A 63y old male patient with MDS, recently diagnosed with multivessel coronary artery disease. Coronary angiography showed proximal Left Anterior Descending Artery (LAD) 98%, 1sth diagonal(D) 90 %, Intermediate artery (IMA) 70%, Obtuse Marginal (OM) 80%, Right Coronary Artery (RCA) mid 99%, Right originated Posterolateral Artery 80% lesions. As with such extended coronary lesions, CABG was the decision made by the heart team.
The patient had a history of MDS diagnosed 3 years ago and was in the high-risk group. There was no myeloblastic activation on the peripheral blood smear, leukemic progression risk was low enough to permit irradiated blood transfusion and rehabilitation for 4 to 6 weeks. The potential life expectancy benefit of the CABG over 1 year was overweighting the risks of MDS.

The patient had an on pump 6 vessel CABG surgery. Overall cardiopulmonary bypass (CPB) time was 81 minutes and cross clamp time 69 minutes. The goal was to keep the early postoperative thrombocyte count over 50x103/µL, 1 unit of irradiated apheresis thrombocyte was given intravenously before surgery, and following the termination of the CPB, with 1 fresh frozen plasma and 1 unit of an erythrocyte. On the blood count postoperative 1. day, as the leukocyte count was 0.9x103/ µL, Granulocyte Colony-Stimulating Factor(G-CSF), filgrastim 30 million units was injected subcutaneously.

On the 5th day, a booster dose of 30 million units filgrastim was reinjected subcutaneously (Figure- 1). On the 6th-day haemogram leukocyte count was 4.52x103/µL.



On the postoperative 4th day the patient suffered from a sub-febrile fever of 37.5°C, blood, urine and throat samples were taken for culture, where no microorganism was detected later on. He was discharged successfully on postoperative 10. day without any complication

Conclusion

The most probable complications following CABG in MDS patients are post-operative bleeding and infection, with good perioperative evaluation and follow up these complications can be minimized

ID: **231**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

RETROSPECTIVE RESEARCH OF CLINICAL AND HAEMATOLOGICAL CHANGES OCCURED BY DEL NIDO CARDIOPLEGIA(DNC) IN PERIOPERATIVE PERIOD OF PATIENTS UNDERWENT CORONARY ARTERY BYPASS GRAFT SURGERY

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In open-heart surgery, myocardial protection is a fundamental matter for aortic cross-clamping and postischemic myocardial dysfunction. Due to this problem, varied cardioplegia solutions are developed, for instance DNC. These solutions provide appropriate surgical area by diastolic arrest and protecting from ischemia-reperfusion injury of the myocardium. As many cardioplegia solutions tried before, DNC, used in patients in a wide age range, has kept its significant role for biochemical parameters and myocardial protection. Recent studies show that DNC has low mortality levels, decreasing postoperative blood transfusion in the early term of cardiac surgery. Lots of researches also focus superiorities of DNC to the other solutions, by myocardial protection lasting longer than 90 minutes, with a single dose application and shortness of cardiac ischemia time. This study aims to examine DNC's effects on the perioperative follow-up period after cardiac surgery.

ID: **243**

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

Presentation Type: **ORAL**

EVALUATION OF POSTOPERATIVE SPIROMETRY FUNCTIONS IN PATIENTS UNDERGOING CORONARY BYPASS GRAFTING

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Objective:

Pulmonary complications are one of the main complications after open-heart surgery. Sternotomy is the primary risk factor to losing lung capacity itself. A few studies have been made to reveal the spirometry functions trend after open-heart surgery. The primary aim of this study is to identify the spirometry functions in patients undergoing isolated CABG in the postoperative three months follow-up.

Methods:

Between January 2016 and January 2019, we retrospectively scanned the patients who underwent isolated CABG via sternotomy. We found 98 patients who had been performed spirometry tests after one week from surgery. Sixty-eight of these patients had been performed spirometry tests at one month and three months from surgery. We identified the patients' demographics, associated diseases, and postoperative spirometry functions.

Results:

Nineteen (19.4%) patients were female. The mean age was 58.64±8.38 years. Fifty (51%) patients had diabetes mellitus. Forty-two (46.9) patients had chronic obstructive lung disease. The mean operation time was 3.92±0.62 hours. The mean cardiopulmonary bypass and cross-clamp time were 80.2±25.3 and 40.94±17.73 hours, respectively. Thirty (30.6%) patients had pleural effusion, and one patient had pneumothorax in the postoperative course. Twelve (12.2%) patients were diagnosed with pneumonia postoperatively. Details were presented in the table. We analyzed the patients' FVC values at preoperative, one week from surgery, One-month from surgery, and three months from surgery. The mean FVC value was 89.51±17.69, 51.9±13.11, 69.19±15.01, and 79.54±14.84, respectively. We analyzed patients' FEV1 values at preoperative, one week from surgery, One-month from surgery, and three months from surgery. The mean FEV1 value was 87.85±18.95, 50.49±12.9, 66.03±15.78, and 76.5±15.57, respectively. Also, we analyzed the FEV1/FVC at preoperative, one week from surgery, One-month from surgery, and three months from surgery. According to our one-way ANOVA analysis, the P-value was <0.001 with the 5.49 F degree. The figure shows the course of the mean ± SD FEV1, FVC, and FEV1/FVC values from preoperative to postoperative periods.

Conclusion:

Our study showed that patients who underwent CABG surgery lost about 45% of their pulmonary functions after the operation. Patients reached about 85% of their preoperative lung capacity at three months from surgery. More studies are needed to determine the length of postoperative pulmonary rehabilitation.

ID: **152**

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

Presentation Type: **ORAL**

POSTOPERATIVE LACTIC ACID LEVEL AND WOUND DEHICENCE ON CORONARY ARTERY GRAFT BYPASS SURGERY

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OBJECTIVE: Sternal wound dehiscence is a frequent complication after sternotomy for cardiac surgery. Dehiscence is a partial or total separation of previously approximated wound edges, due to a failure of proper wound healing. High lactic acid level occurring in association with clinical evidence of poor tissue perfusion. To assess the effect of the postoperative prolonged lactate levels (≥2 mmol/L for at least 48 hours) on postoperative wound healing in adult patients undergoing coronary artery bypass graft surgery with cardiopulmonary bypass.

METHODS: A hundred fifty five adult patients with coronary artery disease underwent elective coronary artery graft bypass with using cardiopulmonary bypass were included into the study. All patients' charts were reviewed retrospectively. Post-operative lactate level, patient's clinical characteristics, surgical details and sternal or saphenous wound dehiscence were recorded.

RESULTS: A total of 155 patients including 110 men, with a mean age of 66.2±8.15 years, were enrolled. A thirty-four patients had postoperative wound dehiscence (sternal or saphenous vein site) on postoperative periods. Patients with wound dehiscence had higher BMI and DM but no statistically significant was found. Patients with wound dehiscence had significantly higher rate of smoking and higher level of prolonged postoperative lactate level than without dehiscence group (p=0.043 and <0.001) (Table). Whereas albumin (p=0.581) and hemoglobin(p=0.795) levels were lower, postoperative vasopressin (p=0.612) and intra-aortic balloon pump (IABP) (p=0.090) usage rate were higher in wound dehiscence group but there were no significant difference was found.

CONCLUSIONS: Postoperative prolonged high lactate levels and smoking could be associated with increase rate of wound dehiscence in patients undergoing coronary artery graft bypass surgery with cardiopulmonary bypass.

ID: **78**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **ORAL**

THE EFFECTS OF AMINO ACIDS ENRICHED DEL NIDO CARDIOPLEGIA ON MYOCARDIAL LEUCOCYTE ACCUMULATION AND VENTRICULAR FUNCTIONS IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING SURGERY.

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Background: Our aim of this study was the potential effects of our modification of del Nido cardioplegia (mDNC) (amino acids enriched del Nido cardioplegia) on myocardial polymorphonuclear leucocyte (PMNL) accumulation. We also compared the effects of our mDND and classical del Nido cardiplegia (cDNC) on ventricular contractile functions in coronary artery bypass grafting (CABG) surgery.

Patients and methods: Our study included 100 isolated CABG patients with similar characteristics. The patients were divided into two groups. Amino acids supplemented del Nido cardioplegia (L-aspartate and L-glutamate at a dose of 13 milimol/L) in 50 patients (study group, G1). In the remaining 50 patients, we used a classical del Nido cardioplegic solution (cDNC) (control group, G2). Myocardial Tru-Cut biopsy from the right ventricle was taken before the institution of ECC and after weaning from ECC in all patients. Cardiac troponine-I (cTn-I), tumor necrosis factor-alpha (TNF-Alpha), Pro-Brain Natriuretic Peptide (Pro-BNP), and lactate levels were measured pre- and postoperatively.

Results: Five patients died post-surgery (5%) (two from SG and three from CG (P = .67), due to low cardiac output syndrome or multiorgan failure. At the postoperative period, cardiac output (CO) and stroke volume index (SVI) was higher in mDNC (mean ± SDS; 32.1 ± 7 versus 22.2 ± 6.9 mL/min/m² (P < .001). CI was significantly higher in mDNC
after surgery (3.10 ± 0.76 versus 2.40 ± 0.30L/min/m² (P = .002). Ten patients (20%) in mDNC and 16 patients (32%) in cDNC required inotropic support (P < .001). The postoperative inotropic requirement was less in mDNC (6.1 ± 1.8 mg/kg versus 9.2 ± 1.9 mg/kg, P < .004). Blood gas analyses from the coronary sinus showed that myocardial acidosis was more severe in the control group [pH (0.10 ± 0.09 versus 0.054 ± 0.001; P = .34)]. Blood lactate levels were significantly high in the control group (1.01 ± 0.007 mmol/L versus 1.92 ± 0.35 mmol/L) (P = .22). No difference was found when compared with cardioplegia volume in the mDNC and cDNC groups (mDNC= 990.00 ± 385 mL in DNC = 960 ± 240 mL, P = .070). An aortic crossclamp time in the mDNC and cDNC groups were 88.4 ± 8.9 min, and 93 ± 11 min, (P = .76), but cardiopulmonary bypass time was significantly low in mDNC (mDNC = 98.3 ± 22.5 min, DNC = 126 ± 19.5 min, P = .0020). TNF-Alpha and Pro-BNP levels in patients received mDNC were significantly low (P = .022).Myocardial biopsy results showed that myocardial PMNL accumulation was significantly high in the control group (P = .001). The left ventricular stroke work index (LVSWI), cardiac index (CI), and heart rate (HR) were significantly high in the study group (P=.032;P=.002; P=.01).

Conclusion: Our study findings show that glutamateaspartate supplemented del Nido cardioplegia significantly decrease myocardial PMNL accumulation with reduced release of biochemical markers, TNF-alpha, and Pro-Bnp.Amino acid supplememntation decrease peroperative myocardial infarction and increase ventricular SVI and CI.

Oral Presentation Session

Challenging Experiences in Peripheral Vascular Surgery

Date: 07.11.2021 Time: 13:00 - 14:00 Hall: 4

ID: **59**

Topic: **Cardiology »Peripheral arterial diseases**

Presentation Type: **ORAL**

TREATMENT OF PERIPHERAL ARTERY DISEASE IN THE JOINT LOCATİON WITH INTERWOVEN NITINOL MESH STENTS (SUPERA®)

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Objectives: Endovascular treatment of peripheral arterial disease (PAD) has become a widely used technique with good clinical results. However, obtaining durable outcomes after interventions with standard nitinol stents for joint locations as common femoral, popliteal or axillary arteries are challenging due to extensive limb movements and increased stress. SUPERA® (Abbot vascular, Santa Clara, CA, USA) stent has the unique ability to accommodate the anatomy and has a greater radial strength preventing restenosis and fracture. In this study, we evaluated the effectiveness of SUPERA® stent in the long-term follow-up for the treatment of diseased segments of the arteries in joint location.

Methods: We retrospectively analyzed hospital records and reviewed 20 patients treated with SUPERA® stents between January 2017-2021.

Results: A total number of 20 patients (90%, n=18 men) with a mean age 60.3±11.9 were enrolled for this study. Hypertension, hyperlipidemia and smoking were most frequently observed risk factors for PAD. Severe clauidacation was the main indication for interventions. All patients underwent CT angiography or digital substraction angiography to delineate the anatomy and planning before the procedures. Most of the interventions were performed for distal femoropopliteal or popliteal arteries (70% n=14) where common femoral and axillary arteries were other locations. Most of the diseased segments were totally occluded and one third of the lesions were containing extensive calcification. Technical success rate was 100% and almost all patients required predilatation. There was no procedure related death. Two patients were suffered from access site hematoma and one from perforation which was treated with long balloon inflation. Patients underwent duplex ultrasonography at their first clinical visit and CT scanning at the 6th month or first year visit. The mean follow-up duration was 22.4±12.5 months and 3 patients had in-stent restenosis where two of them underwent target lesion revascularization. No stent fracture identified in the follow-up period.

Conclusion: SUPERA® stent implantation is a feasible option with a low rate of restenosis and stent fracture for treating PAD in the joint location.

Keywords: SUPERA® stent, Peripheral arterial disease.

Demographic and clinical characteristics	**n=20**
Age, years	60.3±11.9
Men n (%)	18 (90%)
Hypertension n (%)	11 (55%)

Diabetes Mellitus n (%)	7 (35%)
Hyperlipidemia n (%)	12 (60%)
Previous CAD n (%)	13 (65%)
Smoking n (%)	12 (60%)
Chronic renal failure n (%)	4 (20%)
Angiographic and technical aspects	**n=20**
Lesion localization	8 (40%)
Femoropopliteal n (%)	6 (30%)
Popliteal artery n (%)	4 (20%)
Common femoral artery n (%)	2 (10%)
Axiller artery n (%)	
Vascular access site	10(50%)
Retrograd crossover n (%)	5 (25%)
Antegrad femoral n (%)	3 (15%)
Popliteal artery n (%)	2 (10%)
Radial/brachial n (%)	
Total occlusion n (%)	14 (70%)
Severe calcification n (%)	7 (35%)
Number of run-off vessels	2.2±0.8
Predilatation n (%)	18 (90%)
Postdilatation n(%)	10 (50%)
Stent diameter (mm)	5.9±0.7
Stent length (mm)	124.0±75.5
Number of stents used	1.4±0.7
Technical success n (%)	20 (%100)
Complications and long term follow-up	
Hematoma n (%)	2 (10%)
Perforation n (%)	1 (5%)
Restenosis n (%)	3 (15%)
Stent fracture n (%)	0 (0%)
Target lesion revascularization n (%)	2 (10%)
Recurrent revascularization n (%)	5 (25%)
Mean follow-up durtion (month)	22.4±12.50

ID: **195**

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

Presentation Type: **ORAL**

EMERGENCY SURGERY OF RUPTURED ABDOMINAL AORTIC ANEURYSMS

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OBJECTIVE: Early diagnosis and treatment of ruptured abdominal aortic aneurysms, especially in terms of surveillance is very important. In our study, we evaluated 24 patients, with a diagnosis of a ruptured aortic aneurysm and treated surgically under emergency conditions.

METHODS: In our study, we included 24 patients, admitted to the Department of Cardiovascular Surgery of Trakya University Faculty of Medicine and Cardiovascular Surgery Clinic of Niğde Training and Research Hospital between January 2015 – June 2021. Demographic characteristics of the patients, comorbid diseases, renal function tests at the time of admission, operation methods, distal anastomosis areas, length of stay in the intensive care unit and mortalities were examined.

RESULTS: The patients operated for abdominal aortic aneurysm were 22 male (92%) and 2 female (8%). The mean age of the patients was 74 (±9). Abdominal pain was the most common complaint (75%). The most common risk factors that were associated with the current clinic patient group were hypertension (70%), and smoking (37%). The mean serum creatinine values of the patients at the time of admission was 1.7 (±0.9) mg/dl. All patients were operated under emergency conditions. Median laparotomy incision was used in all of the patients who were operated (100%). During the operations, 18 polytetrafluoroethylene grafts (75%) and 6 dacron grafts (25%) were used. Aneurysmectomy and aorta-bifemoral bypass was performed in 13 patients (54%), aneurysmectomy and aorta-biiliac bypass was performed in 10 patients (42%), aneurysmectomy and tubular graft interposition to abdominal aorta was performed in 1 patient (4%). All patients were observed at post-operative period in intensive care unit. Postoperatively, all patients had lower extremity distal pulses palpable (100%). Average intensive care unit stay was 13 days (± 17). Mortality occurred in 11 patients (46%). Patients died due to cardiac reasons and postoperative multiorgan failure.

CONCLUSION: Operation for ruptured abdominal aortic aneurysm is still associated with a high mortality rate. Early detection and treatment of ruptured aneurysms are necessary to reduce the high mortality; the rupture should be diagnosed quickly and surgery should be performed without delay.

ID: **23**

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

Presentation Type: **ORAL**

OUTCOMES OF SURGICAL TREATMENT IN ELDERLY PATIENTS WITH AORTOILIAC OCCLUSIVE DISEASE

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Objective: Although aortoiliac (AI) diseases are common in the elderly, surgical or endovascular treatment management is still controversial. We aimed to report our experience with the surgical treatment of AI disease in the elderly population.

Methods: The study is a single-center retrospective analysis of a prospectively collected database of all elderly individuals who underwent AI disease surgery in a cardiovascular surgery service between March 2016 and October 2019. Those excluded from TASC-C and TASC-D, as well as those studied by endovascular methods. Prior to surgery, all patients were evaluated with a traditional angiogram or a tomography angiography. The study looked at preoperative demographics and graft bypass results were assessed postoperative values on aorto-iliac occlusive TASC C and TASC D lesions.

Results: We identified 49 patients with AI diseases undergone surgical treatment. In 18 of the TASC C (37%) and 31 of the TASC D (63%) lesions, bypass grafts were employed. The average operation time was 92.22 minutes, while the average aortic cross clamp time was 12.56 minutes. After an average of 4.18 days, the patients were discharged. We had no in-hospital mortality; however, kinking iliac arteries caused a significant complication that necessitated reoperation in 1 (2 %).

Conclusions: Symptomatic AI obstructive disease can be easily treated surgically in the elderly. Our experience has been safe with satisfactory early results. The endovascular option can be effectively performed in selected TASC-A and TASC-B cases

ID: **239**

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

Presentation Type: **ORAL**

RECONSTRUCTION OF PROSTHETIC VASCULAR GRAFT INFECTIONS IN THE FEMORAL REGION USING MUSCLE FLAPS

Cengiz OVALI, **Tarık TAŞTEKİN**

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OBJECTIVE: The aim of our study is to present the results of our patients whom we treated using muscle flaps in prosthetic vascular graft (PVG) infections in the femoral region that persist despite conventional treatment methods and negative pressure (VAC) treatment.
METHODS: Between January 2012 and January 2021, 14 patients treated with muscle flap (gracilis muscle flap in 11 patients, sartorius muscle flap in 3 patients) due to PVG infection in the femoral region in our clinic were included in the study. Contents of hospital files of the patients with PVG infection were thoroughly evaluated and recorded. Additionally, routine biochemical tests, Doppler ultrasonography, computed tomography; angiography wound site and blood culture results pertaining to the patients were also evaluated in detail.
RESULTS: In the present study, we treated 14 patients (9 males and 5 females) using muscle flap. Their average age was 59±8,7 (39-69) years. All the patients showed graft infections spreading to the subcutaneous tissues (Szilagyi grade III). While the prosthetic grafts used in 6 patients were Polytetrafluoroethylene (PTFE), Dacron were used in 8 patients. Moreover, 11 infections occurred in the early period while 3 infections occurred in the late period. The pathogens causing graft infections were identified to be staphylococcus aureus in 5 patients, staphylococcus epidermidis in 2 patient and polymicrobial in 7 patients. Furthermore, while graft occlusion was noted in one of the patients, a 2 cm opening was noticed distal to the skin incision in another patient. In two of our patients, the infection continued despite the treatment and the graft had to be removed. In one of our patients trans-obturator iliofemoral bypass was performed with PTFE graft due to the development of critical leg ischemia. There was no loss of limb and mortality in any of the patients we presented here and they were fully recovered.
CONCLUSION: The present results indicate that muscle fiber reconstruction in PVG infections is an effective and feasible alternative in order to covering the area exposed to infection and rescuing prosthetic graft material.

Keywords: Prosthetic graft, infection, gracilis, sartorius, vascular, flap

ID: **91**

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

Presentation Type: **ORAL**

EXTRA AORTIC RETROPERITONEAL BLEEDING AFTER AORTOBIFEMORAL BYPASS

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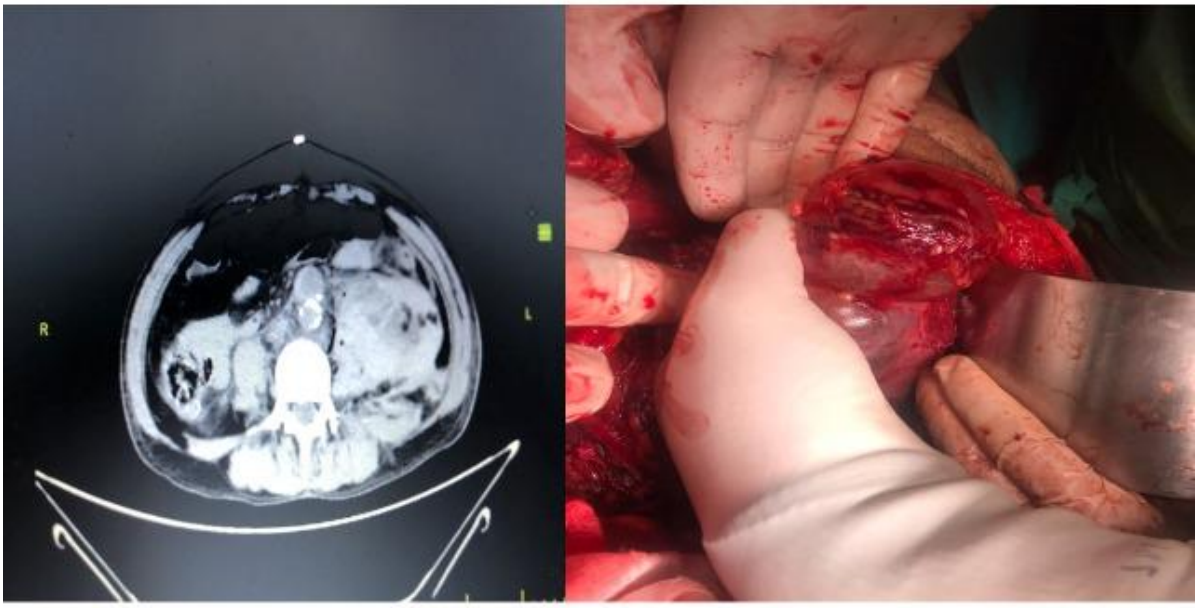
PURPOSE: We aimed to present how we cope with massive renal cyst bleeding and complications after aortobifemoral bypass performed under elective conditions

CASE REPORT: It was found that a 65-year-old male patient who applied with the complaint of claudication at short distances had type II diabetes, which was treated with oral antidiabetics, and had smoked more than one pack of cigarettes a day for 40 years. On physical examination, lower extremity pulses were not detected and both feet were cold, more prominently on the left. The patient, whose pain started in a very short distance, was considered to have critical leg ischemia on the left. In the lower extremity computed tomography of the patient, it was observed that the terminal aorta and its branches had severe lesions, and the patient was decided to have aortic bifemoral bypass with a bifurcated graft.

The operation was performed under general anesthesia with a median incision. The intestines were properly deviated to the right to reach the retroperitoneum. Aorto-bifemoral bypass was performed with an 8/16mm Dacron graft in standard procedure from the middle to both femoral arteries at the level of the renal vein. Sudden onset of weakness and difficulty in mobilization was observed at the end of the second day in the patient, who was followed up for 2 days postoperatively. In the blood picture taken for control purposes, there was no significant pathological finding, except for a 2 g/dL Hb decrease compared to 12 hours ago. Despite the necessary medical support in the following hours, the general condition of the patient deteriorated and the blood urea creatinine value increased 2.5 times the normal, and anuric acute renal failure developed. A massive hematoma filling the left retroperitoneal region was detected in the lower abdomen CT taken under emergency conditions (Figure 1). The patient was promptly operated for bleeding control. There was no bleeding from the anastomosis and surgical site, except for a widespread hematoma that filled the left retroperitoneum. The hematoma in the retroperitoneal region was opened for bleeding control and potential causes. It was determined that the bleeding focus was cyst rupture from the left renal lower pole (Figure 2). As a result of the intraoperative evaluation with the relevant branches, the left renal was not very functional due to its multi-cystic structure, and left nephrectomy was decided considering the current bleeding control or the possibility of postoperative bleeding. After nephrectomy, hematomas in the surgical area were cleared and the operation was terminated by closing the surgical areas in the standard procedure.

CONCLUSION: The patient, who did not have any problems other than liver dysfunction in the postoperative follow-ups, was discharged uneventfully on the 50th postoperative day.

DISCUSSION: Aortobifemoral bypass operations for aortic iliac lesions are major vascular surgery and have an acceptable bleeding risk ratio all over the world. Renal cyst rupture, which imitates the possible causes of bleeding after surgery, as in our case, is a rare condition. After such a major operation, close follow-up of the patient, and timely and correct strategy intervention for developing complications increase the possibility of good results for both the patient and the surgeon.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ID: **191**

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

Presentation Type: **ORAL**

ANALYSIS OF PERIPHERAL ARTERIAL INJURIES IN A SINGLE CENTER

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OBJECTIVE: Vascular injuries are associated with high morbidity and mortality. Vascular injuries constitute an important part of surgical emergencies. In the current study, peripheral vascular injuries, treatment modalities and the associated clinical outcomes were retrospectively investigated.

METHODS: Forty-three patients who were operated on for peripheral vascular injury in Niğde Training and Research Hospital between January 2018 and June 2021 were analyzed retrospectively. The patients were evaluated characteristics, type of injury, localization, accompanying injuries, type of surgical application and length of hospitalization were classified.

RESULTS: The mean age of the patients was 33 (8-65). The gender distribution of the patients were 34 (79.1%) male and 9 (20.9%) female. Vascular injuries were classified as gunshot injuries (n=14, 32.6%), stab wound injuries (n=20, 46.5%) blunt injuries (n=5, 11.6%) and iatrogenic injuries (n=4, 9.3%). There were thoracic injuries in 10 (23.3%) patients, abdominal injuries in 6 (13.9%) patients, upper extremity injuries in 16 (37.2%) patients, lower extremity injuries in 10 (23.3%) patients, and neck injuries in 1 (2.3%) patient. Interposition was performed using saphenous vein graft in 8 (18.6%) patients. Direct repair was performed in 35 (81.4%) patients. In addition to vascular injuries, 19 (44%) patients had bone, nerve and tendon injuries, 5 (11.6%) patients had pulmonary injuries, and 4 (9.3%) patients had abdominal organ injuries. 24 (56%) patients were admitted to the intensive care unit after surgery. The mean follow-up period of the patients admitted to the intensive care unit was 4.5 (±4) days. One patient required amputation in the early postoperative period. Mortality was observed in 4 (%9) patients.

CONCLUSION: The type and location of vascular injury have of great importance in mortality and morbidity rates. Surgery and rapid interventions are essential for reducing mortality and morbidity rates. Successful results can be obtained in these cases through the collaboration of various medical disciplines.

Oral Presentation Session

ECMO in the COVID -19 Pandemic

Date: 07.11.2021 Time: 14:15 - 15:15 Hall: 4

ID: **226**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **ORAL**

RESULTS OF EXTRACORPOREAL LIFE SUPPORT (ECLS) IN ADULT POSTCARDIOTOMY PATIENTS AND PATIENTS WITH COVID-19

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Objective:

ECLS can be the only treatment of choice in cases refractory to medical therapy for postcardiotomy patients and patients with Covid-19 pneumonia. Despite the poor results of this advanced treatment modality, patients who survived after ECMO necessitated consideration of ECMO in case of failure with conventional medical therapy. The aim of this study is to identify the ECMO results in a newly established cardiac center.

Methods:

We retrospectively scanned postcardiotomy patients and patients with Covid-19 who needed ECMO support between June 2020 and July 2021. There were 17 (53.1%) Covid-19 patients, and 15 (46.9%) patients required ECMO support after postcardiotomy. We evaluated patient characteristics, demographics, and ECMO results.

Results:

Fourteen patients (43.8%) were female. The median age was 51 years (18-80). The most common indication to initiate ECMO was respiratory failure (59.4%), including all 17 Covid-19 patients. Among postcardiotomy patients, the most common indications were failure to wean from Cardiopulmonary Bypass (CPB) and Low Cardiac Output (LCO). We managed to wean three (9.4%) of the patients from ECMO (table 1). One patient died ten days after successful weaning due to neurological disorder. One of the patients was discharged, and one of the patients is still in the hospital. The discharged patient was 39 years old male who needed ECMO support because of Covid-19 pneumonia. The course of the Ph and lactate values were similar between Covid-19 patients and postcardiotomy patients (figure 1).

Conclusion:

The main concern to initiate ECMO in Covid-19 patients is to aggravation of the cytokine storm. We compared the last arterial blood gas analysis before ECMO support with the first blood gas analyses after ECMO initiation, and there were no statistically significant differences between them. These results showed that ECMO support should be kept in mind in COVID-19 patients in spite of poor results. Earlier initiation of ECMO before other organ dysfunctions develop other than as a last resort treatment may help to improve results. Postcardiotomy ECMO results remain high in spite of improvements in management of this treatment modality.

ID: **164**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **ORAL**

OUR EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO) EXPERIENCES DURING THE COVID-19 PANDEMIC PERIOD AT BURSA CITY HOSPITAL.

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Entrance:

Since its first detection in China in December 2019, Covid-19 has become a global disease that has been transmitted rapidly and has affected the whole world in a short time. The epidemic caused by this virus, which causes Severe Acute Respiratory Distress Syndrome (ARDS)-2 (SARS-CoV-2), is also common in our country and pushes the limits of hospital capacities. As a result of ARDS due to COVID-19, the need for mechanical ventilation and mortality rates increase. In this retrospective study, we aimed to evaluate the effectiveness of ECMO in patients who developed ARDS due to Covid 19.

Methods:

Patients who underwent ECMO between March 2020 and August 2021 in the Anesthesia and Reanimation Intensive Care (ICU) unit of Bursa City Hospital were evaluated retrospectively. Patients with a history of chronic lung disease were excluded from the study. In case of permanent hypoxia and hypercapnia despite all the treatment strategy recommended by national and international guidelines Covid-19 infection developing adult patients were evaluated for ECMO support. Positive end-expiratory pressure (PEEP) under mechanical ventilator support>12-16 cm H_2O, 4-6 mL / kg tidal volume, FiO_2>80%, $PaCO_2$ >60 mmHg (more than 6 hours), PaO_2 / FiO_2 between 100-150 mmHg, pH <7.25 (arterial blood gas analysis), patients with inotropic agents in the prone position were included in the study.

Results:

Veno-venous ECMO was applied to 9 patients. 7 (77.7%) of the cases were male, 2 (22.2%) were female, age range was 38-66. ECMO was inserted in all patients for the treatment of pulmonary insufficiency due to ARDS. Mean pH: 7.19, $PaCO_2$: 85.62, PaO_2: 48.2 in the blood gases of the patients before the start of ECMO. In blood gases after ECMO, pH: 7.43, $PaCO_2$: 37.2, PaO_2: 103.7 were found. Only 1 (11.1%) of the patients were able to wean from ECMO and was discharged.

Conclusion: ECMO is a treatment modality that requires a multidisciplinary team of experienced medical professionals with training and expertise in initiating, maintaining and discontinuing ECMO in critically ill patients. The use of ECMO is associated with high mortality in ARDS patients due to COVID-19 and refractory hypoxia. The benefit of ECMO in patients who develop ARDS due to COVID-19 has so far been limited. More studies are needed to support its use in Covid-19 patients.

Key words: COVID-19, Acute respiratory distress syndrome (ARDS), VV-ECMO

ID: **117**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **ORAL**

OUR EXTRACORPOREAL MEMBRANE OXYGENATION APPLICATIONS AND COMPLICATIONS

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Objective: Extracorporeal membrane oxygenation(ECMO) is a life-saving practice in cardiac surgery and pulmonary failure, when other conventional treatments fail to respond adequately. Complications of vital importance are encountered in ECMO applications.The most common complication is bleeding. Access routes to the patient's circulation are also very limited. Complications may also occur in other procedures applied to the patient.In this presentation, ECMO applications and a case of upper extremity circulatory disorder that occurred during these applications were presented.

Methods and Case:11 ECMO applications performed in our clinic between January 2018 and January 2021 were examined.All of the patients were on mechanical ventilation and under sedation.Arteriovenous ECMO was performed in 1 patient due to heart failure after cardiac surgery, and venovenous ECMO was performed in 10 patients due to respiratory failure due to pulmonary infection.The age, gender, hospital stay and mean ECMO application times of the patients and the complications encountered were evaluated.

Results:4 of the patients were male (% 36,3) and 7 were female (% 63,7).The mean age was 54.25 (43-64 years), and the duration of adherence to ECMO was 6.1 days (8 hours-10 days) and mortality was 72.7% (8 patients).Gastrointestinal and respiratory tract bleeding was observed in 4 (36.3%) patients due to ECMO application.In one patient, compartment syndrome developed as a result of bleeding in the right upper extremity due to an arterial catheter.The patient who received venovenous ECMO treatment was discharged with full recovery, but loss of function in her right hand developed.

Conclusions: ECMO practice requires a team of cardiology, cardiac surgery, anesthesiology, intensive care and perfusionists.It is very important to follow up the complications that will occur during the application and the effect of ECMO on the patient. Permanent effects of complications can be reduced with early diagnosis and intervention.

ID: **207**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **ORAL**

A CATASTROPHIC VERAPAMIL DRUG INTOXICATION IN AN 18 YEAR-OLD WOMAN TREATED BY EXTRACORPOREAL CARDIAC ASSIST DEVICE (ECAD): BASIC LITERATURE SUMMARY.

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Introduction

Verapamil HCl is a calcium ion influx inhibitor (slow-channel blocker or calcium ion antagonist, phenylalkylamines subgroup of calcium-channel blockers (CCB) , aka non-dihydropyridine group) that exerts its pharmacologic effects by modulating the influx of ionic calcium across the cell membrane of the arterial smooth muscle as well as in conductile and contractile myocardial cells. It is mostly used to treat angina, cardiac arrhytmia and to a less extent hypertansion. Verapamil HCL dilates the main coronary arteries and arterioles, both in normal and ischemic regions, and is a potent inhibitor of coronary artery spasm. Verapamil HCL regularly reduces the total systemic resistance (afterload) against which the heart works both at rest and at a given level of exercise by dilating peripheral arterioles. Electrical activity through the AV node depends, to a significant degree, upon calcium influx through the slow channel. By decreasing the calcium influx , verapamil HCL prolongs the effective refractory period within the AV node and slows AV conduction in a rate-related manner.

Case Report

We report a current medical approach on the literature for verapamil intoxication based on an 18 year old, 48 kg young woman who ingested 1.8 g (120 mg x 15) of verapamil HCL sustained-release (SR) tablets who was on follow up for supraventricular dysrhythmia. On arrival the patient was in hypotensive shock (50/20 mmHg), bradycardic (heart rate 30/min), rhythm was atrioventricular (AV) complete block on monitor, unconcious, responsive only to painful stimulants, with severe peripheral edema. Blood gas analysis showed deep metabolic acidosis(Table 1). The severe shock table deteriorated though high doses of noradrenaline, adrenaline infusions and temporary transvenous cardiac pacemaker stimulation. The transthoracic echocardiogram (TTS) showed global hypokinesia and biventricular dilatation. A peripheral venoarterial extracorporeal cardiac assist circulation device(ECAD) was set. After 48 hours the ECAD circulation was discontinued, decannulation was done, rhythm was sinus and repeat TTS showed normalization in the biventricular wall motion.

Table 1; The arterial blood gas analysis and arterial pressure course in the first 24 hour.

Hours	0	3	6	9	12	15	18	21	24
pH	7.028	7.213	7.433	7.433	7.474	7.444	7.453	7.458	7.471
pCO_2 (mmmol/L)	43.9	34.1	26.8	27.7	26.7	31.1	30.3	32.9	32.3
pO_2 (mmmol/L)	50	101	88.7	118.5	147.9	121.1	108.8	141.9	155.6
BE (ecf) (mmmol/L)	-19.5	-14.4	-5.6	-4.9	-4.4	-3.2	-3.3	-1.1	-0.6
sO2%	74.8	95.8	95.4	96.7	97.0	97.3	96.9	96.8	97.0
Na^+ (mmmol/L)	149.6	150.6	149.3	147.2	141.4	145.3	149	147.8	145.6
K^+ (mmmol/L)	3.11	4.05	4.99	4.99	4.85	4.40	4.49	3.97	3.58
Ca^{++}(mmmol/L)	0.71	0.73	1.18	1.19	1.17	1.07	0.86	0.96	0.93
Glucose (mg/dL)	302	152	135	162	256	94	121	109	108
Lactate (mmmol/L)	7.26	4.05	3.16	3.15	2.99	2.43	2.27	2.65	2.10
Arterial Blood Pressure (mmHg)	**50/20**	**91/39**	**90/40**	**95/44**	**120/68**	**98/50**	**110/48**	**120/69**	**122/71**
Total Urinary output (mL)	**-**	**370**	**520**	**2670**	**3570**	**3970**	**4270**	**4600**	**4950**

Conclusion

Verapamil poisoning has serious life threatening consequences. Therefore requires careful evaluation of the patient with multidiciplinary approach as the time of intervention is of utmost importance. Not a single medical approach has been shown to be benefitial. A multimodal therapy is essential to ensure effectiveness and rapid recovery. ECAD is considered the last line of defence, therefore in order to achive maximum benefit, if the patient's hemodynamics is unresponsive to conventional medications and cardiac or vasodilatatory shock is persistant, it should be initiated before organ failure or cardiac arrest develops.

ID: **249**

Topic: **Cardiovascular Surgery » ECMO**

Presentation Type: **ORAL**

EXTRA-CORPOREAL MECHANICAL CYTOKINE ABSORPTION FOR SEVERE COVID-19 INDUCED CYTOKINE-STORM

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BACKGROUND: COVID-19, the infection associated with the pandemic SARS-Cov-2 virus is associated with substantial morbidity and mortality. A significant cause of death is overwhelming respiratory failure and cytokine-storm syndrome (CSS). There are no reliably effective antiviral or anti-inflammatory medicines yet in the armamentarium for COVID-19 treatment. Supportive therapies, such as extra-corporeal membrane oxygenation (ECMO) have been proven successful in some cases of refractory respiratory failure and CSS., However, mortality remains high, and treatment options are poorly understood. Mechanical cytokine absorptive therapies (CAT) have previously been demonstrated to be useful in cases of influenza viral- and bacterial-associated septic shock, and complex endocarditis. We hypothesize that CAT might be a useful, relatively low-cost and easy to use tool in CSS due to COVID-19 infection.

METHODS: We present 2 cases of COVID-19 associated CSS treated with CAD. CSS, as defined by elevated Ferritin and Interleukin-6 levels and an overall deteriorating clinical picture. As part of compassionate use regulatory approval, both patients underwent treatment with Cytosorb (CytoSorbents Europe GmbH, Berlin, GR) absorption and their outcomes were monitored. CAT required active extra-corporeal pumping of anticoagulated blood through the Cytosorb circuit

RESULTS: One patient (44 year/old, male, 172 kg with history of hypertension, asthma, and pre-diabetes) presented with 1 week of multiple “flu-like” symptoms and fevers, and tested positive for COVID-19. He rapidly deteriorated and required ECMO prior to CAT and improved to successful decannulation and extubation. A second patient, who also tested positive for COVID-19, (54 year/old, male, previously healthy) presented with 10 days of symptoms, fevers, and hypoxemia. He also rapidly deteriorated with multi-organ failure. Despite indications for ECMO, he quickly improved his respiratory failure and sepsis with initiation of CAT, and avoided the need for advanced therapies. CAT was associated with temporal improvement of cytokine levels and respiratory failure. Both were successfully discharged home, neurologically intact, with no residual end-organ damage nor requiring supplemental oxygen support.

CONCLUSIONS: Mechanical cytokine absorptive therapies might be a useful tool in the management of severe COVID-19 associated respiratory failure associated with cytokine storm. Further clinical experience is needed with this innovative therapy, as it might also attenuate the need for advanced, invasive, resource- intensive therapies, such as ECMO.

ID: **267**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

A NOMOGRAM BASED ON MYOCARDIAL DAMAGE AND NOVEL INFLAMMATORY INDEXES FOR PREDICTING POST-DISCHARGE SURVIVAL OF COVID-19 PATIENTS

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Background and Aim: In the course of SARS-CoV-2 infection, early prognostic evaluation is important since clinical symptoms may worsen rapidly and may be fatal. Predicting which patients may have a mortal course is critical. Inflammation plays an important role in the pathogenesis of COVID-19 and can cause myocardial damage which is common in severe COVID-19 patients. Therefore, novel inflammatory indexes and myocardial damage may be predictive of prognosis in patients with COVID-19. The aim of the study was to evaluate the role of cardiac troponin I (cTnI), modified Glasgow prognostic score (mGPS), systemic immune inflammation index (SII), prognostic nutritional index (PNI) and CRP to albumin ratio (CAR) in the outcome estimation of COVID-19 and to develop a risk model predicting the survival probability of COVID-19 survivors during early post-discharge.

Method: This was a single-center, observational, retrospective cohort study. Laboratory confirmed 265 COVID-19 patients were included and grouped according to in-hospital mortality. ROC curve analysis was performed and Youden J index was used to obtain optimal cut-off values for inflammatory indexes in discriminating survivals and non-survivals. Cox regression analysis was performed to assess the possible predictors of in-hospital mortality. A nomogram was constructed based on the Cox regression model, to calculate 7- and 14-day survival.

Results: The area under the ROC curve (AUC) of the variables were ranged between 0.79 and 0.92 with the three highest AUC values for albumin, PNI and cTnI (0.919, 0.918, and 0.911, respectively). Optimal threshold value for cTnI was 9.7 pg/ml. Univariate analysis showed that sex, albumin, CRP, CAR, PNI, SII, cTnI and mGPS were significantly related to in-hospital mortality. The Cox regression analysis indicated that mGPS (p=0.001), CRP (P=0.026) and cTnı (p=0.001) were significant prognostic factors.

Conclusion: cTnI should not be considered merely as an indicator of myocardial damage. It also reflects the inflammatory phase and along with other inflammatory markers, it should be included in risk models as a prognostic factor for COVID-19.
Key Words: myocardial, injury, inflammation, mortality, COVID-19

Oral Presentation Session

Covid-19 Pandemic: Risk Assessment Strategies

Date: 07.11.2021 Time: 15:30 – 16:30 Hall: 4

ID: **267**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

A NOMOGRAM BASED ON MYOCARDIAL DAMAGE AND NOVEL INFLAMMATORY INDEXES FOR PREDICTING POST-DISCHARGE SURVIVAL OF COVID-19 PATIENTS

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Results: The area under the ROC curve (AUC) of the variables were ranged between 0.79 and 0.92 with the three highest AUC values for albumin, PNI and cTnI (0.919, 0.918, and 0.911, respectively). Optimal threshold value for cTnI was 9.7 pg/ml. Univariate analysis showed that sex, albumin, CRP, CAR, PNI, SII, cTnI and mGPS were significantly related to in-hospital mortality. The Cox regression analysis indicated that mGPS (p=0.001), CRP (P=0.026) and cTnı (p=0.001) were significant prognostic factors.
Conclusion: cTnI should not be considered merely as an indicator of myocardial damage. It also reflects the inflammatory phase and along with other inflammatory markers, it should be included in risk models as a prognostic factor for COVID-19.
Key Words: myocardial, injury, inflammation, mortality, COVID-19

ID: **109**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

EVALUATION OF THE MODIFIED HASBLED SCORE FOR PREDICTION OF MORTALTY IN HOSPITALIZED COVID-19 PATIENTS.

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Objective: The HASBLED score is highly predictive for bleeding events in atrial fibrillation patients. We used the HASBLED score to identify patients with frailty, vulnerability, and comorbid diseases, not as a bleeding score. So, we used albumin level instead of labile INR in the score because it shows both the nutritional status and inflammation. We aim to evaluate modified HASBLED score for predicting mortality and poor outcomes in hospitalized COVID-19 patients.
Methods: 2041 patients were included in the study retrospectively and the patients were divided into two groups according to the M-HASBLED score as <3 and ≥3.
Results: 582 patients were included in the HASBLED RS ≥3 group, and 1459 patients in the HASBLED RS<3 group. HT, DM, Coronary artery disease (CAD), HF, CVD, chronic renal failure (CRF) were higher in the HASBLED RS≥3 group. In-hospital stay (7 (6-11), 9.5 (7-15) IQR), need for ICU (21.9%, 54%), NIMV (14%, 29.2%), and intubation (13%, 36.6%) were higher in the HASBLED RS ≥3 group compared to other group. Death was observed in 208 (14.3%) patients in the HASBLED RS <3 group, and in 244 (41.9%) patients in the HASBLED RS ≥3 group, and it was statistically higher in the HASBLED RS≥3 group (p <0.001). M-HASBLED score was found as an independent factor associated with in-hospital mortality (OR: 1.20, 95% confidence interval CI: 1.03-1.37, p=0.010).
Conclusions: M-HASBLED RS showed poor in-hospital outcomes accurately and is an independent factor associated with mortality in hospitalized COVID-19 patients.

ID: **115**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

TRANSTHORACIC ECHOCARDIOGRAPHIC ASSESSMENT OF AORTIC STIFFNESS IN YOUNG COVID-19 PATIENTS

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Objective: Declared as a pandemic by the World Health Organization on March 11, 2020, COVID-19 is an inflammatory disease caused by a novel type coronavirus named SARS-CoV-2 due to its close similarity to the severe acute respiratory syndrome coronavirus (SARS-CoV). Deteriorated aortic elasticity is part of the atherosclerotic process. Inflammation is an underlying factor in both COVID-19 and atherosclerosis. Using aortic elastic properties, we aimed to assess the subclinical indicators of susceptibility to inflammatory atherosclerosis in patients with COVID-19.

Materials and Methods: Out of 194 participants included in this study, 100 were diagnosed with COVID-19 in the last 6 months (60 women and 40 men with a mean age of 34.13 ± 6.45 years) and 94 were healthy controls (55 women and 39 men with a mean age of 30.39 ± 7.21 years). We analyzed transthoracic echocardiographic and aortic stiffness parameters in all participants.

Results: Values of systolic blood pressure (SBP) (110 [85-140] vs. 110 [80-140], p=0.037) and pulse pressure (PP) (37 [25-55] vs. 40 [25-55], p<0.01) were significantly different between the groups. As for laboratory parameters, levels of glucose (97.89 ± 20.23 vs. 92.00 ± 9.95, p=0.003) and creatinine (0.80 ± 0.13 vs. 0.75 ± 0.09, p=0.003) were significantly higher in the COVID-19 group. On the other hand, echocardiographic parameters showed that both groups differed significantly in diastolic aortic diameter (2.42 ± 0.28 vs. 2.31 ± 0.35, p =0.017), aortic strain (9.66 [1.20-31.82] vs. 12.82 [2.41-40.11], p =0.025), aortic distensibility (0.502 [0.049-2.545] vs. 0.780 [0.120-2.674], p <0.01), and aortic stiffness (16.67 [4.19-139.43] vs. 11.71 [3.43-65.21], p=0.006). Pearson correlation analysis revealed that the correlations of aortic stiffness and pulse pressure were positive with the COVID clinical findings (r=0.29, p=0.006 vs. r=0.40, p<0.001, respectively), but negative with aortic distensibility (r= -0.36, p<0.001).

Conclusion: This study has demonstrated that arterial stiffness as measured with M-Mod echocardiography may be higher in young COVID-19 patients compared to the control group. Measurement of aortic stiffness is a simple, practical yet inexpensive method in COVID-19 patients, and therefore may be used as an early marker for COVID-19 induced subclinical atherosclerosis.

ID: **159**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

THE ASSOCIATION BETWEEN DYSLIPIDEMIA AND COVID 19 INFECTION RISK

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ABSTRACT

Objective: The recent coronavirus disease 2019 (COVID-19) outbreak has become a worldwide public health problem. Hypertension (HT), diabetes mellitus (DM), obesity, chronic heart and lung diseases increase the risk of development of COVID-19 infection and severe COVID-19 disease.

In this study; we aimed to investigate whether hyperlipidemia alone increases the risk of development of COVID-19 infection.

Material and Methods: 134 patients who were hospitalized with the diagnosis of COVID-19 and had no chronic disease other than HT and 122 healthy controls were included in this study. Lipid parameters in the last 6 months before admission and at the time of admission were obtained.

Results: There were no differences between two groups with regard to age, gender, and laboratory characteristics. Triglyceride (TG) and Low-density lipoprotein cholesterol (LDL-c) values were significantly higher and High-density lipoprotein cholesterol (HDL-c) levels were significantly lower in the COVID-19 patients compared to the control subjects. ($p < 0.01$)

Conclusion: Although research on the association of dyslipidemia with COVID-19 is still insufficient, our findings show that serum cholesterol levels are significantly associated with the risk of COVID-19 infection.

Keywords: Covid-19 Virus, dyslipidemia, risk factors.

ID: **154**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

CLINICAL EFFECT OF RENIN-ANGIOTENSIN SYSTEM INHIBITORS IN YOUNG HYPERTENSIVE PATIENTS WITH COVID 19 INFECTION: A SINGLE-CENTER EXPERIENCE

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OBJECTİVE: Hypertension and other forms of cardiovascular disease are frequently encountered in patients with COVİD-19. These patients are often treated with angiotensin converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs). COVID-19 pathogen SARS-CoV-2 binds to receptors of angiotensin converting enzyme-2 to enter the alveolar cells, raising question whether these drugs are beneficial or harmful in respect of the prognosis of the disease. Various reports have indicated that elderly people, especially those with hypertension and cardiovascular disease, have a higher risk of developing COVID-19 more seriously than those without any cardiovascular disease. In the current study, we investigated the clinical effect of ACEIs/ARBs in hypertensive young patients with COVID-19 infection.

METHODS: 250 hypertensive patients (<45 years old) treated for COVID-19 were recruited for the study. None of these patients had any chronic disease other than hypertension. The study population was grouped into ACEIs/ARB users and non-ACEIs/ARBs users according to their antihypertensive drugs. The patients were followed up in terms of clinical prognosis, biochemical and radiological findings during their hospital stay. Side effects of drugs, major cardiovascular events (myocardial infarction, all-cause death and stroke), referral to the intensive care unit, severity of symptoms during treatment, length of hospital stay, and effort capacity in the treadmill stress test were recorded for each patient.

RESULTS: During the hospital stay of the patients with COVİD-19, there was no significant difference was found for clinical adverse event, clinical course, in length of hospital stay and effort capasity between the cases with and without usage of ACEIs/ARBs.

CONCLUSIONS: It appears that the patients with COVID-19 may continue their anti-hypertensive medication including ACEIs or ARBs. In addition, ACEIs/ARBs may be safely added to the treatment of hypertension that cannot be controlled with other antihypertensives during COVID-19 illness.

ID: **292**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

RISK FACTORS FOR MYOCARDIAL INJURY AND PROGNOSTIC SIGNIFICANCE OF TROPONIN ELEVATION IN PATIENTS WITH CORONAVIRUS DISEASE 2019

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BACKGROUND: Increases in cardiac troponin indicative of myocardial injury are common in patients with COVID-19 and are associated with with higher morbidity and mortality. This study aimed to evaluate risk factors for myocardial injury in hospitalized patients with COVID-19 and its prognostic value.

METHODS: A retrospective cohort study included a total of 472 hospitalized adult patients with COVID-19**.** Data were obtained from the electronic medical records of the Istanbul Medeniyet University Goztepe Prof.Dr Suleyman Yalcin City Hospital. We all consecutive patients who were hospitalized from April 10 th, 2020, to March 28th, 2021, with a diagnosis of COVID-19 and a reverse-transcription polymerase chain reaction confirmed SARS-CoV-2 infection. All patients had at least one high sensitivity troponin (hs-TnT) measurement within 24 hours after admission. If there was more than one hs-TnT measurement into the first 24-hours, the highest level was chosen.

RESULTS: Among patients tested for troponin, 95 (20.12%) were found to have an elevated level. The elevated troponin group was more likely to be older, have a history of diabetes, hypertension, chronic renal disease and congestive heart failure compared to the non elevated troponin groups (all p<0.05). The elevated troponin group had a significantly higher value of procalcitonin, hs-CRP and D-dimer, neutrofil counts and lower lymphocyte counts, serum albumin and creatinine levels (all p<0.05). Predictors for elevated troponin levels were age (odds ratio [OR], 1.02; 95% confidence interval [CI], 1.00–1.04), disease severity (OR, 2.51; 95% CI 1.13–5.58), low albumin levels (OR, 0.94; 95% CI 0.92–0.99) and increased creatinine level (OR, 1.37; 95% CI 1.10–1.70). The troponin elevated group had significantly higher in-hospital mortality than patients with normal troponin level group (41.7% versus 9.5%, p <0.001) and more need intesive care (61.5% vs. 14.6% p <0.001) and mechanical ventilation (47.9% vs. 11.4% p <0.001). The length of hospital stay was significantly longer in patient with elevated troponin group than non-elevated troponin group (median days 10 (6-16) vs. 6 (4-11) p = <0.001). With a multivariate logistic regression model, age (odds ratio [OR], 95% confidence interval [CI]: 1.032 [1.006-1.059], p=0.014) and gender (male) (OR, 3.94 %95 CI 1.701-9.133, p=0.001), elevated troponin (OR ,3.56 %95 CI 1.539 -8.212, p=0.003), lower hemoglobin (OR, 0,842 %95 CI 0.711-0.998, p=0.047), lower albumin (OR, 0.904 %95 CI 0.840-0.973, p=0.007), higher D-Dimer (OR ,1.035 %95 CI 1.003-1.069, p=0.034) were independent predictors of in-hospital mortality. The receiver-operating characteristic curve analysis suggested that troponin levels prediction performance for severity of disease (area under the curve (AUC): 0.610 (95% CI: 0.529-0.690) P =0.007), as well as for hospital mortality (AUC): 0.793(95% CI: 0.740-0.845). A cut off value of 20 ng/L of Troponin level led to the best prediction to in hospital mortality.

CONCLUSIONS: In hospitalized patients with COVID-19, elevated troponin upon admission levels are associated with severity of disease and poor prognosis. Troponin levels may be used as an additional tool for risk stratification and may shed important light on the clinical management of COVID-19.

Oral Presentation Session

Covid-19 and Cardiovascular System: Prognostic Implications

Date: 07.11.2021 Time: 16:45 – 18:00 Hall: 4

ID: **167**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

EFFECTS OF VITAMIN D REPLACEMENT ON MORTALITY IN HEART FAILURE PATIENTS HOSPITALIZED FOR COVID-19

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Objective: The entry route of SARS-CoV-2, which causes COVID, into the human body is via angiotensin-converting enzyme 2 (ACE-2) receptors. Vitamin D acts as a regulator of the renin-angiotensin system and down-regulates ACE-2. Also, vitamin D modulates multiple mechanisms of the immune system, which includes reducing virus entry and replication, and activates defense cells[1]. Studies have shown that vitamin D deficiency has a negative impact on morbidity and mortality in those with chronic diseases such as heart diseases, diabetes mellitus and cancer[2]. It has reported that vitamin D deficiency increases the risk of hospitalization and mortality in heart failure patients, but whether supplementation improves outcome is still unclear[3]. In this study, we investigated the effect of vitamin D replacement on mortality in heart failure patients hospitalized for COVID-19.

Methods: Our study is a retrospective study in which patients with a previous diagnosis of heart failure and hospitalized due to COVID-19. 5138 patients were scanned retrospectively. There were 265 patients diagnosed with heart failure. It was determined that there were 110 patients who received vitamin D replacement and 155 patients who were not replaced during their hospitalization. The clinical features, blood parameters,and clinical outcomes of the patients were compared.

Results: In our study, the mean age of the patient group who received vitamin D replacement was 71.3±11 years, and 63.6% of the patients were male. The mean age of the non-replaced group was 71.1±11 years and 67.7% of the patients were male. While the total mortality of the patients who took vitamin D was 37.3%, the total mortality was 23.9% in the group that did not receive vitamin D. (p: 0.019,). Baseline characteristics and outcomes are given in the table.

Conclusions: In our study, vitamin D level was lower in the replacement patient group, but it was not statistically significant. However, mortality was statistically significantly higher in the replacement group. Poor clinical features such as higher prevalence of comorbid diseases and longer length of stay in intensive care units in patients in the replacement group may have contributed to this situation. Since it is known that recovery in immune parameters after vitamin D replacement requires a long time, we think that the treatment of this condition should be treated independently of COVID-19. More studies are needed to demonstrate the contribution of long-term replacement before COVID-19 disease is detected.

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Patients With Vitamin D Deficiency and Its Effects on Clinical Outcomes: A Literature Review. Cureus 2020; 12(10): e10840. 2020/11/12. doi: 10.7759/cureus.10840.

ID: **60**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

ACUTE MYOCARDITIS PRESENTING LIKE ST ELEVATION MYOCARDIAL INFARCTION AFTER COVID-19 VACCINATION

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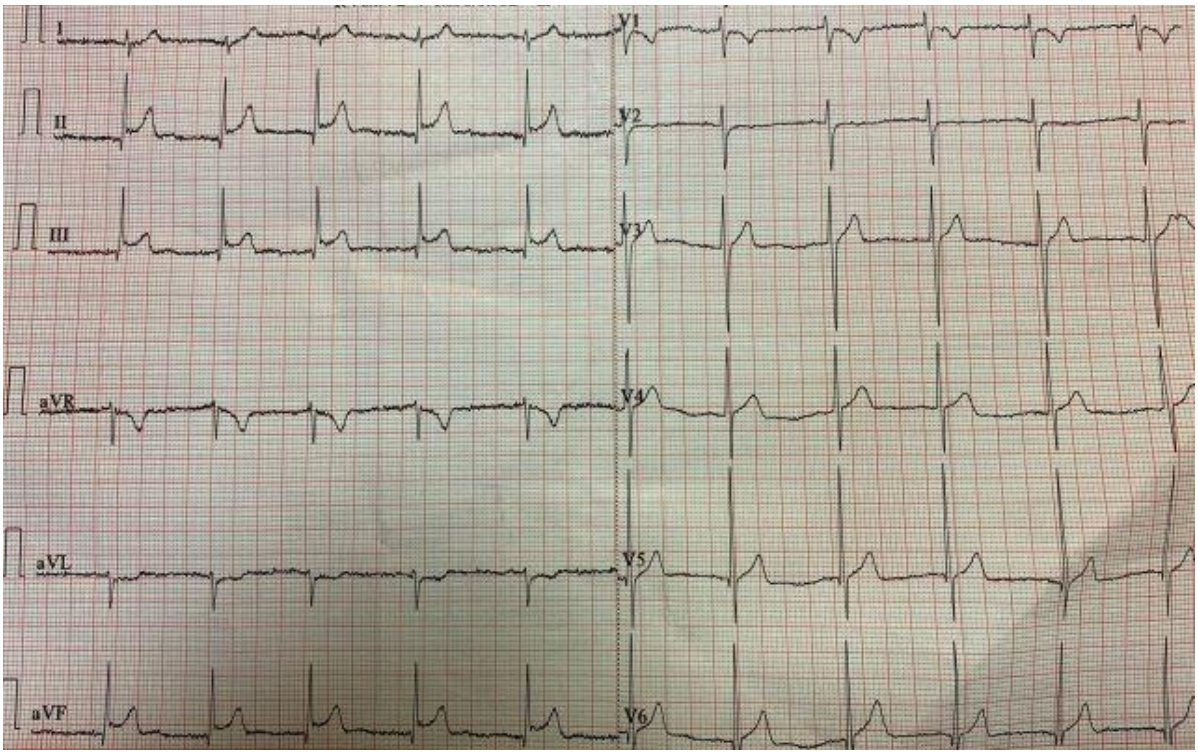

OBJECTIVE: Myocarditis is an inflammatory disease of the myocardium with a wide range of clinical presentation such as cardiogenic shock. Viral infection is the most common cause of myocarditis. Other causes include drugs, toxins, autoimmune disorders and even vaccinations (most notably the smallpox vaccine). Pfizer-BioNTech vaccine, which is an mRNA-based vaccine that has been approved by FDA for use in patients above the age of 16, showed excellent efficacy and safety profile. However, the adverse effects such as myocarditis are still under investigation. The mechanism is unknown, but it is thought to be related to immunological response following vaccination due to molecular similarities between the vaccine and cardiac cell proteins or secondary to vaccination nonspecific inflammatory response. In this case, we would like to describe acute myocarditis as an important adverse effect of Pfizer-BioNTech vaccine especially in young male after receiving the second dose of the vaccine.

METHODS: A 20-year-old male with no prior medical history presented to the emergency department (ED) with chest pain. The patient had received his second dose of the Pfizer-BioNTech vaccination three days prior to the onset of chest pain. On arrival to the ED, vital signs included a temperature of 36.8 C, heart rate 92 beats per minute, blood pressure of 112/62 mmHg and pulse oximetry 99% on room air. The patient's revealed normal sinus rhythm with ST elevation in d2-d3-aVF and reciprocal ST depression in aVL (figure 1). We immediately

planned coronary angiography and normal coronary arteries were detected on coronary angiography. His initial troponin was 3853 pg/mL and increased to a maximum of 6865 pg/mL. He had a normal complete blood count and metabolic panel (including thyroid function testing, triglycerides and ferritin), but C-reactive protein was elevated at 1.96 mg/dL. The patient tested negative for SARS CoV-2 by PCR. Echocardiogram showed normal left ventricular systolic and diastolic function with an ejection fraction (EF=57%). There were no regional wall motion abnormalities or pericardial effusion.

RESULTS: He received paracetamol IV for chest pain during hospitalization, he became completely asymptomatic. He was discharged home after 3 days of hospitalization.

CONCLUSIONS: Adolescents and young adults who experience chest pain after COVID 19 vaccination should have a low threshold for considering and evaluating myopericarditis. In addition, more cases are needed to better understand the mechanism of myocardial infiltration and the true incidence of potential vaccine-associated myopericarditis, as well as more long-term follow up to better characterize prognosis and sequelae.

ID: **80**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

ACUTE PERCARDITIS AND PERICARDIAL EFFUSION ONE MONTH AFTER COVID-19

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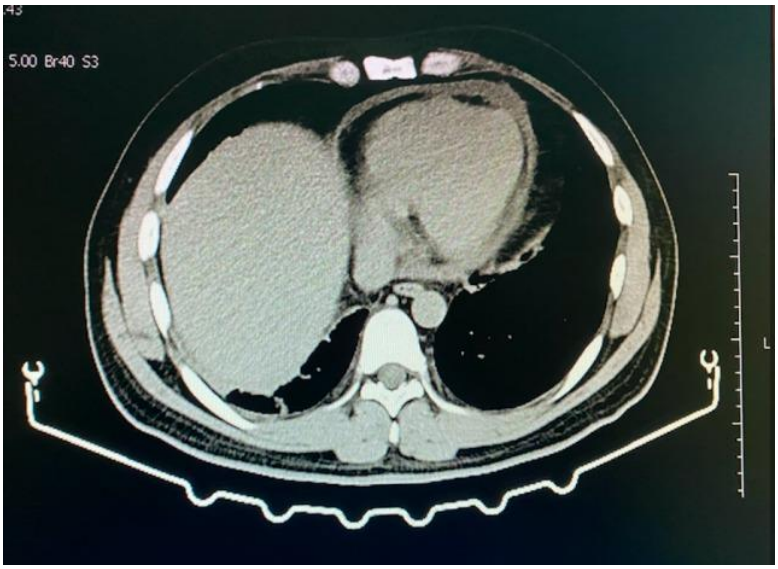
Objective: Our aim was to investigate delayed cardiac complications related to Coronavirus disease-19 (Covid-19).
Method: We present a case of acute pericarditis and pericardial effusion in an otherwise healthy young man one month after Covid-19.
Result: A 30-year-old male patient, SARS-CoV2-PCR positive four weeks prior, presented to our emergency department with complaints of chest pain and palpitation. Previous symptoms included fever, chills, and cough, now all resolved for 21+ days. He was dyspneic, tachycardic with 94% arterial oxygen saturation, had a heart rate of 130 beats/min, body temperature of 36.5°C and blood pressure of 130/90 mm Hg. Chest auscultation finding was pericardial friction rub, a scratching sound best heard in systole. A 12-lead ECG showed normal sinus rhythm with ST-segment elevation on all leads except aVR and V1, which show ST depression. Transthoracic echocardiographic examination showed mild-to-moderate pericardial effusion. Noticeable labs included leukocytosis, raised C-reactive protein level of 217,7 mg/L (0-5 mg/L), increased D-dimer value of 18,8 µg/ml (0-0,5 µg/ml) and raised pro BNP level of 219 pg/ml (0-125 pg/ml) . hs-cTnT were within normal limits. Thoracic computed tomography reported 9 mm pericardial effusion and increased density of the atelectatic portion of middle and lower right lung (Figure 1). He was admitted to the ward with a diagnosis of delayed acute pericarditis due to Covid-19. Blood, urine and sputum cultures were performed and there was no growth in all of the cultures taken. Tiroid function tests were within normal limits. Subcutaneous enoxaparin, intravenous meropenem and oral colchicine treatment were started. He had no fever during all his hospital stay and there was no elevation in high sensitive troponin levels. Because of rapid increase of pericardial effusion to 18 mm, elevation of C-reactive protein levels to 271,5 mg/L and increase of dyspnea and tachycardia, he was admitted to the intensive care unit (ICU). Intravenous vancomycin and methylprednisolone were added to the treatment. After the addition of vancomycin and methylprednisolone, pericardial effusion and C-reactive protein levels began to decrease. The patient was admitted to the ward after two days in ICU. After three weeks of enoxaparin, meropenem, vancomycin, colchicine and methylprednisolone treatment, pericardial effusion disappeared, CRP and D-dimer levels decreased to 2,9 mg/L and 3,25 µg/ml, respectively.
His ECG were normalized and he was discharged with enoxaparin, colchicine and methylprednisolone treatment.
Conclusion: Covid-19 has a potential of causing cardiovascular complications such as pericarditis, pericardial effusion, cardiac tamponade, myocarditis.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ID: **107**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **POSTER**

POST COVID-19 CARDIAC SYNDROME CASES ACCOMPANIED WITH THROMBUS IN THE LEFT VENTRICLE

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Abstract: Cardiovascular involvement in Covid-19 is common due to ACE-2 expression in cardiac tissue. Type-2 MI, myocarditis, stress or cytokine-mediated cardiomyopathy, electrical abnormalities and thrombosis due to vascular inflammation are among the possible mechanisms. In this article, it is aimed to present 2 cases of post covid-19 cardiac syndrome with left ventricular thrombus without obstructive coronary artery disease (CAD), who admitted with acute coronary syndrome during the recovery period of Covid-19.

Case 1: A 52-year-old male with previously known diabetes was hospitalized for 10 days with the diagnosis of covid-19 pneumonia 3 weeks ago. The patient was admitted to the emergency department with the complaints of dyspnea after 2 days of hospital discharge. ECG revealed some ischemic changes such as deep symmetrical T wave negativities in precordial leads and loss of R wave progression (Figure 1-A). Cardiac troponin-I was elevated. The patient was accepted to coronary intensive care unit with the diagnosis of NSTEMI. Physical examination was normal. Transthoracic echocardiography (TTE) revealed LVEF 38%, severe hypokinesia in the apex and a 21x25 mm big thrombus in LV apex (Figure 1-B). 30-40% lesion in proximal LAD was observed in coronary angiography (Figure 1-C). Endomyocardial biopsy could not be performed because the patient refusal. Since CMR is not available in our hospital advanced imaging could not be performed in terms of myocarditis diagnosis. The patient was discharged on his own request while his treatment was continuing.

Case 2: A 33-year-old male with no previous medical history admitted to emergency department with the complaints of dyspnea. It was learned that he received outpatient treatment (Favipravir, LMWH) because of Covid-19 pneumonia one month ago. Physical examination was normal. ECG showed loss of R progression and ST-T wave changes in precordial leads (Figure 1-D). The patient with high cardiac biomarkers was accepted to the coronary intensive care unit with the diagnosis of NSTEMI. TTE revealed LVEF: 48%, wall motion abnormality and an 11x20 mm big thrombus in the LV apex (Figure 1-E). Coronary angiography was normal. The thrombus in the LV was also shown in the contrast-enhanced tomography (Figure 1-F). The patient who was initiated oral anticoagulant and heart failure treatment discharged with these medications. No thrombus was observed in the patient's control one month later.

Conclusion: Patients in recovering period of COVID-19 remain at risk for COVID-19 associated cardiac injury and coagulopathy. These cases highlight the need for investigations regarding both the duration of thrombotic processes and thromboprophylactic therapy after recovery from the illness and the population that should receive thromboprophylaxis. More studies are needed to identify those at risk for COVID-19-associated cardiovascular complications.

ID: **51**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

COVID-19 MORTALITY EFFECT IN THOSE USING STATIN THERAPY

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OBJECTIVE: COVID-19 is a viral disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and can be fatal. Statins can be useful in maintaining natural immune responses in viral respiratory infections (including SARS-CoV) by inhibiting the MYD88 pathway. In our study, we aimed to investigate the effect of using statin therapy before Covid-19 disease on covid-19-related mortality.

METHODS: December may-Dec 2020 due to Covid-19, 556 randomly selected patients were retrospectively analyzed in this study. Patients with malignancy, COPD, CKD and heart failure were excluded from the study. Demographics were derived from hospital records of in-hospital mortality. We investigated the Association of Atorvastatin and Rosuvastatin therapy with covid-19-associated mortality.

RESULTS: A total of 556 patients who may have caused an increase in mortality in our study receipt. The average age of the patients was 53±17 (K/E: 266/290). Chronic hypertension as a disease (n:184, 33.1%), diabetes mellitus (n: 112, 20.1), chronic ischemic heart disease (n: 24, 4.3%) and cerebrovascular the disease (n:25, 4.5%) were present. Number of patients using Statin therapy it was (n: 44, 7.9%).Mortality in (n:44) patients using Statin therapy (n:13, 29.5%) was statistically significantly higher than in N:512 patients who did not use it (n:62, 12.1%) (p = 0.001) Table 1.

CONCLUSIONS: Researchers at Wuhan University's Renmin Hospital conducted the study, which involved 13,981 Covid-19 patients at 21 hospitals in Hubei province, of which 1,219 received statins Dec. After a 28-day follow-up, the researchers found that the statin group mortality rate was lower than the non-statin group mortality rate of 9.4 percent. These results predicted that using statin therapy before Covid-19 in our own study group could not prevent mortality after cytokine storm due to excessive immune response. In our own study group, we did not determine an isolated protective effect of statin therapy against Covid-19, which was predicted to lead to higher mortality in this group of patients because there were chronic cardiovascular diseases in patients using statin therapy

ID: **41**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

THE RELATION BETWEEN MYOCARDIAL INJURY AND MORTALITY OF COVID-19 UNITED KINGDOM VARIANT AND NON-MUTATED COVID-19 INFECTIONS

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Objective: In Coronavirus Disease-2019 (COVID-19), cardiovascular involvement is common in hospitalized patients, and it was reported that it might also cause myocardial injury. It was announced in the last months of 2020 that a novel variant of COVID-19 infection was detected in the United Kingdom (UK). It was reported that the UK variant of COVID-19 (20I/501Y.V1) had higher infectivity rates; and for this reason, it was suggested that it might cause higher mortality rates. However, there are no adequate literature data indicating how much the COVID-19 20I/501Y.V1 variant causes myocardial injury and mortality when compared to the non-mutated COVID-19 infection. In our study, the purpose was to compare the frequency and rate of myocardial injury and mortality rates, which could develop secondarily to the non-mutated COVID-19 infection and the COVID-19 20I/501Y.V1 variant.

Methods: After the exclusion criteria were applied, 58 patients who were diagnosed with COVID-19 20I/501Y.V1 were included in the study. A total of 114 patients who had non-mutated COVID-19 infection were included in the study in a 1:2 ratio with COVID-19 20I/501Y.V1 patients. Patients were divided into two groups as those with and without the COVID-19 20I/501Y.V1 mutation. Myocardial injury was defined as with (≥ 34 ng/dl) and without (< 34 ng/dl) myocardial injury based on hs-TnI levels measured. Mortality data were recorded based on the hospital data management system.

Results: The mean age was 59.6±17.9 years in the group with the COVID-19 20I/501Y.V1 mutation, it was 59.8±17.9 years in the non-mutated COVID-19 group (p=0.920). No statistically significant differences were detected between the groups with and without the COVID-19 20I/501Y.V1 mutation in terms of hypertension, diabetes mellitus, chronic obstructive pulmonary disease, chronic kidney disease, coronary artery disease, heart failure, and atrial fibrillation (All p values were > 0.05). It was observed that 40 (23.3%) of the patients included in the study had myocardial injury, and 35 (20.3%) had mortality. Although mortality developed in 12 (20.7%) patients in the group with COVID-19 20I/501Y.V1 mutation, it developed in 23 (20.2%) patients in the non-mutated group (p=0.937). Myocardial injury developed in 19 (35.2%) patients in the group with COVID-19 20I/501Y.V1 mutation, myocardial injury developed in 21 (18.4%) patients in the non-mutated group (p=0.038).

Conclusions: It was found that the presence of the COVID-19 20I/501Y.V1 mutation in patients who are hospitalized because of COVID-19 infection caused mortality at similar rates to those without the mutation in terms of mortality. It was observed that myocardial injury occurred at higher rates in the group with COVID-19 20I/501Y.V1 mutation compared to the non-mutated group. It is recommended that patients who have the COVID-19 20I/501Y.V1 mutation be kept under close follow-up because of the higher risk of myocardial involvement.

Keywords: COVID-19 infection, COVID-19 20I/501Y.V1 mutation, Mortality, Myocardial injury

ID: **284**

Topic: **Cardiology » Covid-19 and Cardiology**

Presentation Type: **ORAL**

ECHOCARDIOGRAPHIC ANALYSIS OF 15 PATIENTS RECOVERING FROM COVID-19 PNEUMONIA AT 6 MONTHS FOLLOW UP PERIOD

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Background:

Because data on the chronic cardiac manifestations of coronavirus disease 2019 (COVID-19) is limited, consequences of disease in patients recovering from Covid-19 pneumonia were not well studied in this newly spotlighted disease of the world. We performed a systematic echocardiographic evaluation of 15 consecutive patients hospitalized with COVID-19 pneumonia at 6 months follow up period after being discharged from hospital.

Methods:

Fifteen patients tested positive for COVID-19 infection underwent complete echocardiographic evaluation after being discharged from hospital at 6 months and were compared with reference values. Left ventricular (LV) end-diastolic dimension was measured in the apical four-chamber view, and LV systolic function was reported as ejection fraction (EF). The severity of tricuspid regurgitation (TR) was quantified by an integrated approach using characteristics of colour flow and continuous wave Doppler recordings. The maximal systolic TR velocity from any available view provided an estimation of systolic acute pulmonary artery pressure (sPAP).

Results:

Patients' median age was 56.8 (43- 77) years old, 64% of them were men. Patients didn't have any chronic disease history and any risk factors. Acute phase reactants, d- dimer, pro-BNP, troponin levels were all higher from normal values. Their control high resolution - CT scan showed bilateral peripherally located multiple areas of fibrosis, and ground- glass opacities involving both lung fields . LV systolic function is preserved in all our patients. The most common cardiac pathology was a small TR that allowed the estimation of sPAP values between 30- 35 mmHg but not fitting echocardiographic definition of PAH but a susceptible level that is clinical significance is not known. The golden standard test to diagnose PAH is using right heart catheterization where PAH is defined with mean pulmonary artery pressure ≥25 mmHg, pulmonary artery wedge pressure <15 mmHg and pulmonary vascular resistance >3 units. However, transthoracic echocardiography results had enough parameters to suggest that the patient likely had PAH.

Conclusions:

We herein hypothesize that SARS-CoV-2 is another virus that is capable of triggering the increased susceptibility of infected individuals to developing PAH in the future. PAH is one lethal consequence that should be considered and needs to be monitored with serial transthoracic echocardiography.

Poster Session

ID: **34**

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

Presentation Type: **POSTER**

VENTRICULAR SEPTAL DEFECT ASSOCIATED WITH HYDROCEPHALUS

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Objective

The incidence of congenital hydrocephalus(CH) happens 0.5–0.8/1000 in all births[1]. Meningomyelocele(spina bifida) is more frequently associated with congenital malformation to hydrocephalus[2].In literature there are a few congenital heart diseases(CHD).We aimed to introduce CH associated with ventricular septal defect(VSD) and its early results in a 10-month-old infant.

Method

A 10-month-old infant(one of the twin sisters) was diagnosed with meningomyelocele following the birth and CH and VSD after detecting cardiac murmur.In the first month,she was operated for meningomyelocele.Post-operative follow-up was routine,echocardiogram was performed for VSD.A ventriculoperitoneal shunt was planned after the VSD repair.She was suffering from insufficient swallowing reflex.Therefore,she was being fed by means of nasogastric catheter.Cardiac condition was found to be prior than hydrocephalus.Preoperative preparation was routine.There was no abnormality in blood tests.Subsequently,VSD repair was performed.At the time of induction for anesthesia,we ensured normocarbia,normoxia,normothermia,the vital parameters remained within the baseline.

Cardiopulmonary bypass(CPB) was established in mild hypothermia.VSD closure was done using dacron patch.Post-operative bleeding was in acceptable range.

Results

There was no need to use additional thrombosis suspension or coagulant medication.24 hours later,she was extubated,arterial tension was in normal limits.Postoperative management was in standard manner.After the sedation cessation,neurologic evaluation was normal.A possible intracranial hemorrhage was evaluated by cranial ultrasound,it wasn't detected.She was discharged on the 10th day,no complications occurred.4 months after the cardiac repair,ventriculoperitoneal shunt was performed.The early follow-up showed no additional problems.

Conclusion

In literature,hydrocephalus is frequently associated with central neural system[2].One case was associated with Fallot tetralogy[3].In a series of 11 patients having CH reported some CHD as follow: atrioventricular septal defect,coarctation of aorta,PDA,VSD,ASD,corrected TGA,mitral and tricuspid valve regurgitations[4].Bicuspid aortic valve and pulmonary stenosis may associate to CH[5].Double aortic arc was presented only in one case as associated CHD[6] and hypoplastic left heart,ectopia cordis were detected in Garne's series[1].Crawford's series introduced that some of patients underwent VPS operations first[4].However,in some case due to the cardiac condition of patient,cardiac repair was performed priorly[4].CH may lead intracranial fluid accumulation[7].CHD needs to be repaired under the high dose heparin usage because of CPB.Moreover thrombosit disfunction, thrombocytopenia,insufficient neutralization of heparin,rebound phenomenon of heparin,perioperative irregulated arterial tension,increased APTT and INR levels because of acute liver dysfunction may aggravate the risk of intracranial hemorrage.

Even though it isn't frequent,CHD and CH associations should be checked.High dose heparin usage is safe enough by means of careful perioperative follow-up.

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ID: **35**

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

Presentation Type: **POSTER**

ARTERIO-VENOUS EXTRACORPOREAL MEMBRANE OXYGENATOR ESTABLISHMENT VIA PERSISTENT LEFT VENA CAVA SUPERIOR

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Objective

Extracorporeal membrane oxygenator(ECMO) can be established via v. jugularis interna,carotid artery in neonates and infants because of inadequate calibration of the other peripheral vessels.We aimed to introduce the ECMO establishment via persistent left v. cava superior(VCS) in an infant suffering congestive heart failure (CHF) and Ellis Van-Creveld Syndrome,in case of inadequate size of right VCS.

Method

A four-month-old, 3.2 kg in weight female patient was admitted to our hospital because of CHF.She was hospitalized in the pediatric intensive care unit and intubated.Inotropic medical treatments were given.Echocardiogram evaluated CHF, single atrium,atrioventricular septal defect and bilateral VCS.Right and left VCS were 1.2 mm and 3.2 mm in diameter respectively.She had Ellis Van-Creveld Syndrome; polydactyly in hands,abnormal toes of feet were detected(Figure 1C,1D).Left VCS was draining to the coronary sinus.Despite inotropic agents,cardiac decompensation occurred in 5 days,we decided to establish arterio-venous(AV) ECMO.Informed consent was obtained from the patient's relatives.

Under general anesthesia,a cut-down was performed to the left side of the neck,left main carotid artery(LMCA),PLVCS were cannulated with 8 F and 10 F cannulas (Medtronic).ECMO establishment was completed.To have a better venous return,the cannula was advanced forward to the coronary sinus(Figure 1A,1B).No coronary sinus rupture occurred,the venous return was adequate.Under ECMO support,we could diminish doses of inotropic agents in 10 days;however,thrombocytopenia occurred due to the destroying effect of ECMO circulation.Because of complications of massive transfusion,bleeding,bacterial sepsis,we lost our patient.

Discussion

ECMO is being widely used in the case of CHD and severe respiratory failure(1). PLVCS is frequently associated with congenital heart disease(2).PLVCS is found to be problematic in the case of cardiac surgery while the cannulation process of cardiopulmonary bypass or insertion of pacemaker leads.Frequently,PLVCS is smaller in diameter rather than right VCS in congenital heart disease associations.In literature,right VCS agenesia in a sporadic manner(2).

Conclusion

Even though our patient was 4-month-old,she was 3.2 kg in weight.Moreover,she had a hypoplastic right VCS.Before ECMO cannulation,bilateral VCS existence,their diameters should be evaluated by Doppler ultrasound.

We believe that in the case of low weight infant who requires ECMO support if PLVCS is larger than the right side,it is safe to perform the venous cannulation. However,the position of the venous cannula should be checked by echocardiogram and X-Ray particularly for possible rupture of coronary sinus and position of cannulas.

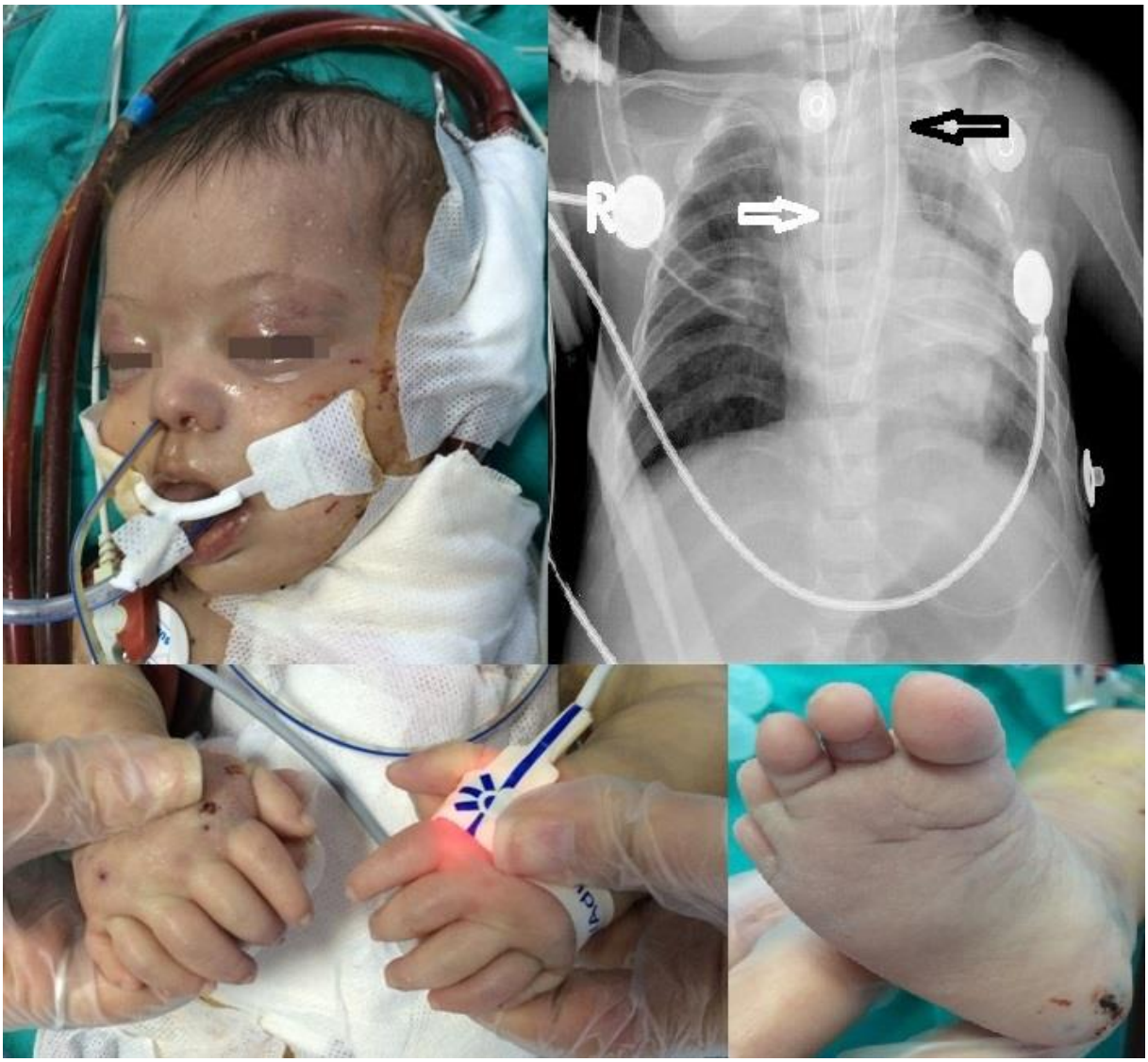

Figure 1

1A ECMO establishment via left main carotid artery and PLVCS.

1B X-Ray view of arterial and venous cannulas following the ECMO establishment.

1C Polydactyly of Ellis Van-Creveld Syndrome in hands.

1D Structural abnormalities in feet about Ellis Van-Creveld Syndrome.

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ID: **36**

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

Presentation Type: **POSTER**

DOUBLY COMMITTED VENTICULAR SEPTAL DEFECT ASSOCIATED WITH BICUSPID PULMONARY VALVE AND RIGHT SIDED AORTIC ARCH

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Objective

Early diagnose of ventricular septal defect(VSD),prevents the patient, aortic insufficiency(AI) and congestive heart failure(CHF).We introduce a 14-year-old male patient who had doubly committed VSD,bicuspid pulmonary valve(PV),right aortic arch(RAA),ascending aorta dilatation,severe AI and cardiomegaly.Following the surgical closure of VSD and aortic valve replacement(AVR),milrinone was given during 2 weeks to improve the myocardial contractility.In early follow-up pericardial effusion occured,tube drainage was performed.

Method

14 year-old patient was admitted with dispnea,chest pain and palpitation.Physical examination was normal.X-ray showed cardiomegaly(Figure 1A).Echocardiogram revealed doubly committed VSD,severe AI,ascending aorta dilatation,RAA,cardiomegaly,ejection fraction (EF) of 54%.There was no evidence of severe PV stenosis or insufficiency.

Computed tomography(CT) showed RAA,ascending aorta in diameter of 4 cm,cardiomegaly(Figure 1B,1C,1D,1E).Mean pulmonary artery pressure was 38 mmHg in angiogram.We decided to perform VSD closure and AVR.

Cardiopulmonary bypass(CPB) was established under moderate hypothermia.To obtain a better exploration,pulmonary arteriotomy was performed.Bicuspid PV was remarked.There was no severe stenosis or insufficiency,therefore we didn't interfere PV.VSD closure using polytetrafluoroethylene patch was performed.AVR was made using mechanical valve no:23(St.Jude Medical,Inc. Minn.)CPB weaning was uneventful.

During postoperative follow-up,milrinone(phosphodiesterase inhibitor) therapy was given for improving myocardial contractility and pulmonary artery hypertension(PAH) for 2 weeks.Echocardiogram showed pericardial effusion on postoperative 11th day.After the pericardial tube drainage,the patient was discharged with EF of 45% on postoperative 15th day.

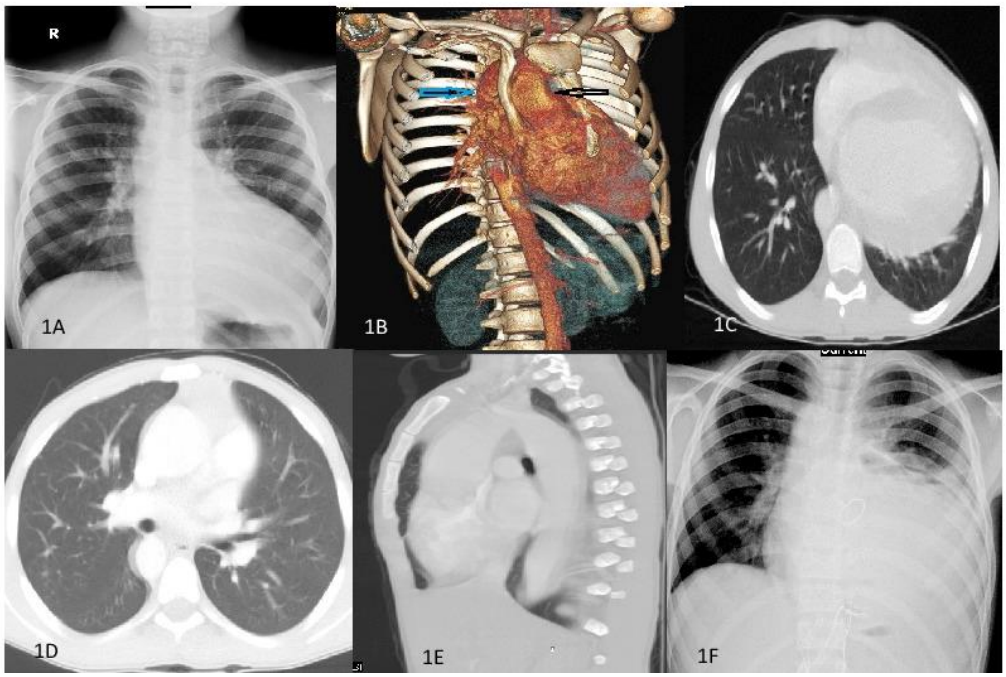

Figure 1

1A: Preoperative X-ray showes cardiomegaly.

1B: Three dimensional CT picture shows RAA(blue arrow) and ascending aorta dilatation(black arrow).

1C: CT picture shows cardiomegaly.

1D and 1E: CT pictures demonstrate ascending aorta dilatation.

1F: Postoperative X-ray following pericardial tube drainage.

Results

Doubly committed VSD is rare and account for 6% of all VSD's[1].

RAA can be seen as isolated abnormality or concommitted with other congenital malformations:PS with IVS,VSD,TOF,truncus arteriosus,TGA,DORV,Taussig-Bing anomaly,AVSD,dextrocardia[2] or double chamber right ventricle[3].There are 4 different types of RAA[2],our case was the type 1 RAA.

Isolated bicuspid PV is a rare abnormality with 0.1% of incidence.It can be associated with pulmonary artery aneurysm[3].Our patient had no pulmonary artery aneurysm,moreover due to the bicuspid PV,PAH increase was prevented.

The probable cause of ascending aorta dilatation of 4 cm and AI was the Venturi effect created by the shunting through the VSD.

Due to the late admission to hospital,CHF was developed.

Except pericardial effusion,early follow-up was uneventful.Postoperative echocardiogram showed no serious gradient on PV.

Conclusion

VSD should be repaired to aviod the PAH and AI.

Due to the late admission and CHF,the patient required inotropic agents.Close follow-up by echocardiogram should be performed for ascending aorta dilatation,gradient on PV,CHF.We believe,doubly committed VSD,bicuspid pulmonary valve(PV),right sided aortic arch(RAA) association isn't published yet.

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ID: **72**

Topic: **Cardiovascular Surgery » Heart Valve Repair**

Presentation Type: **POSTER**

MITRAL VALVE REPAIR ON A YOUNG PATIENT WITH BARLOW SYNDROME

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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 mitralvalve 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 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 P2 and P3, according to Mohr's loop technique. After that we perform ring annuloplasty. We use the previously placed annular sutures and the Medtronic Profile 3D ring (Medtronic, Minneapolis, MN). The implanted ring size was 32mm. For the posteromedial commisural prolapse we used the edge to edge technique. A Simple closure of the commisure 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.

Conclusion

Mitral valve repair can be successfully performed in Barlow's 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.

Figure 1. Intraoperative transesophageal echocardiography 3D image after repair (AL: Anterior leaflet; PL: Posterior leaflet)

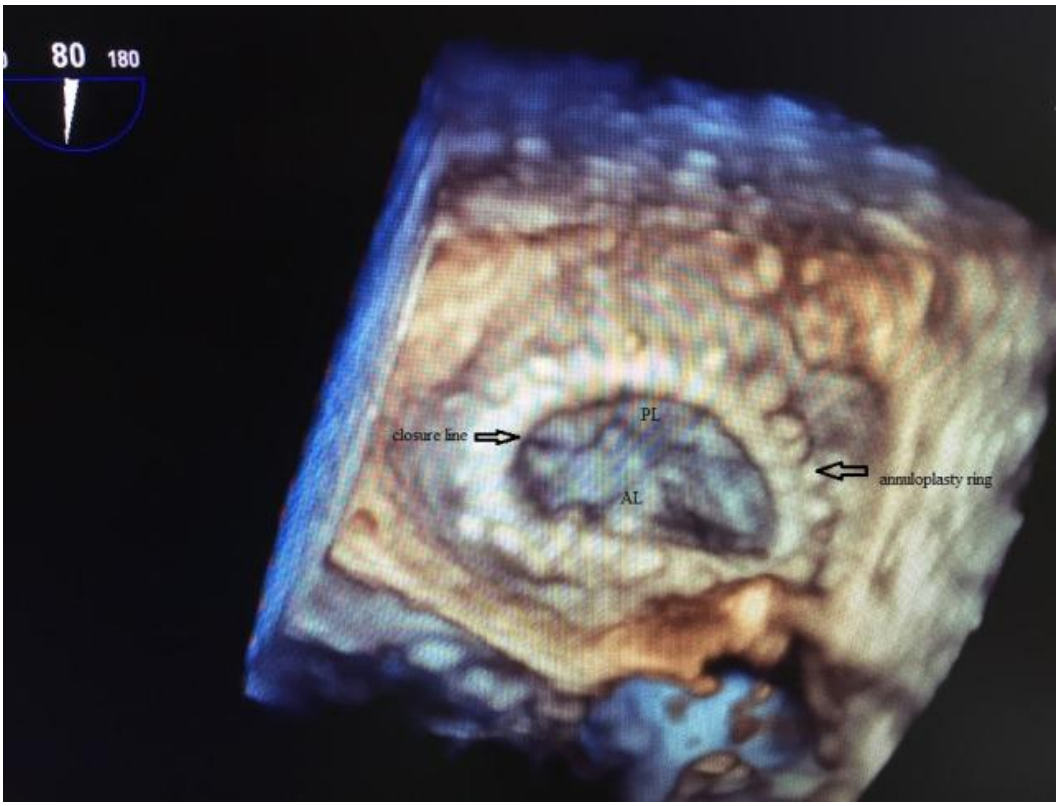
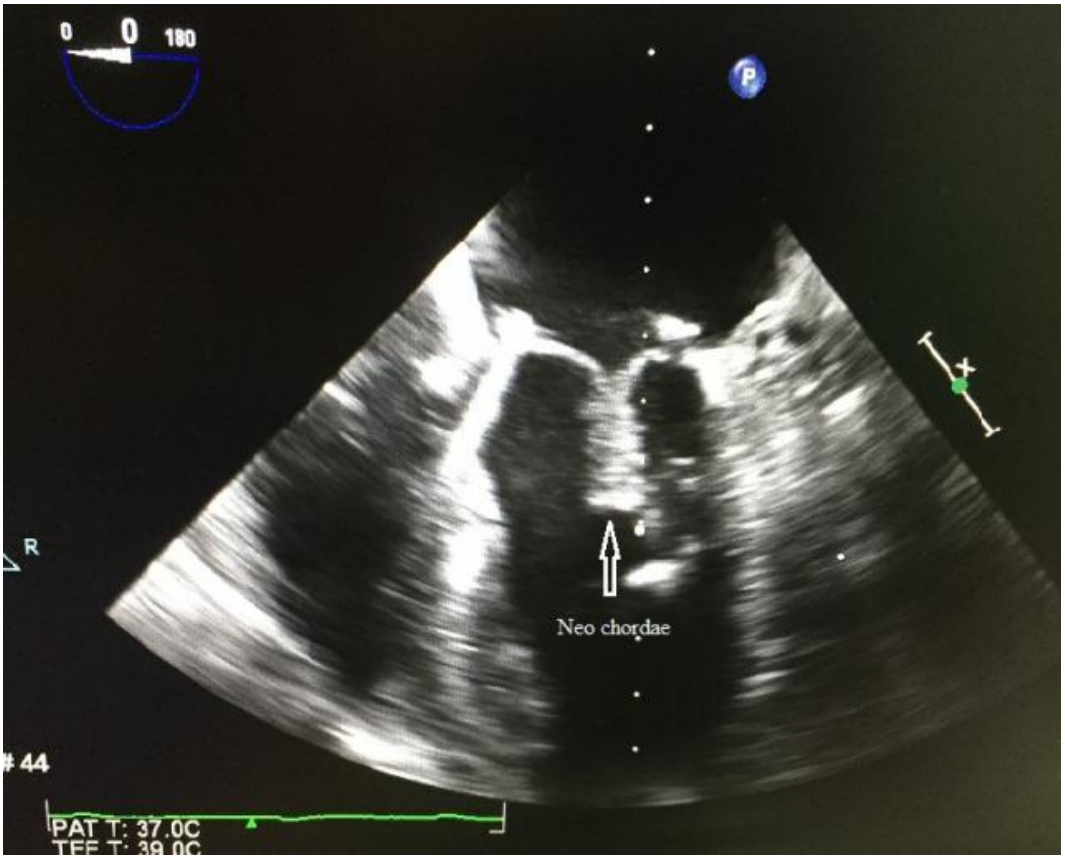


Figure 2. Intraoperative transesophageal echocardiography 2D image after repair



ID: **73**

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

Presentation Type: **POSTER**

SURGICAL TREATMENT OF A GIANT ABDOMINAL AORTIC ANEURYSM

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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

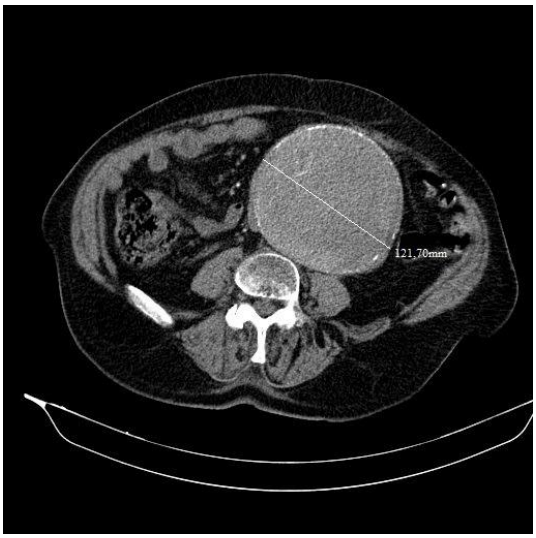
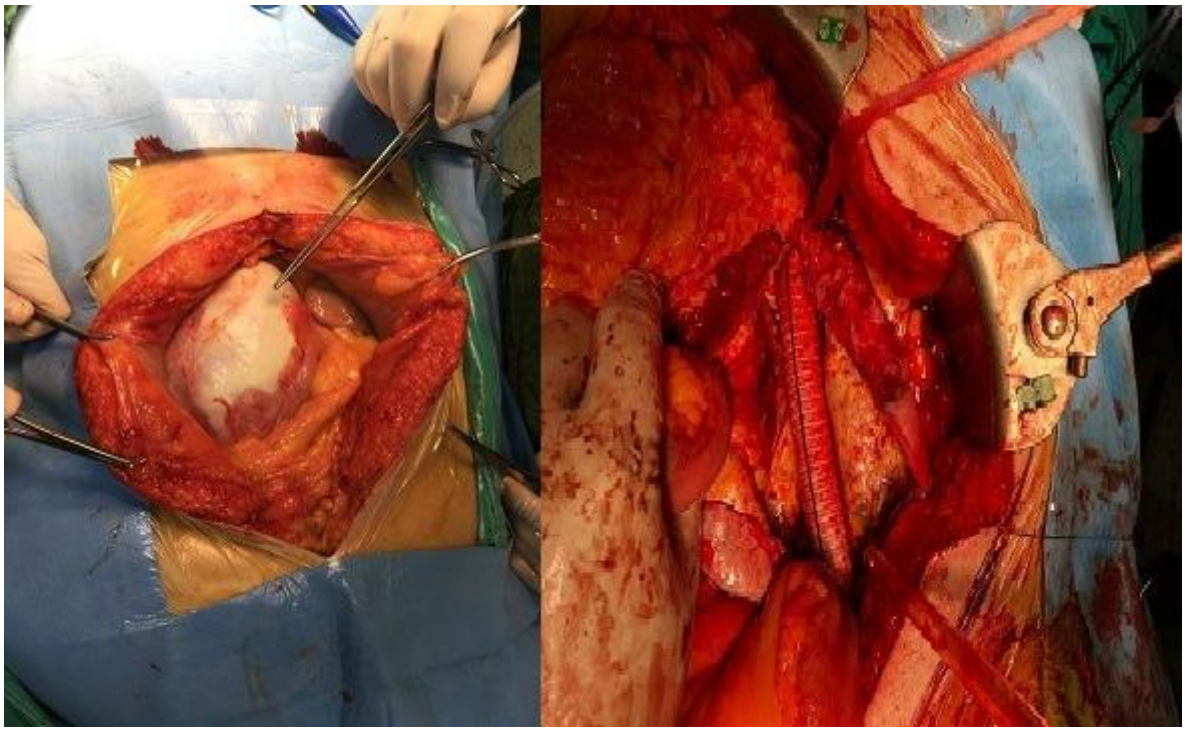


Figure 2



ID: **75**

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

Presentation Type: **POSTER**

SURGICAL TREATMENT OF A RUPTURED RIGHT CORONARY SINUS OF VALSALVA ANEURYSM INTO THE RIGHT ATRIUM

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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 an 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

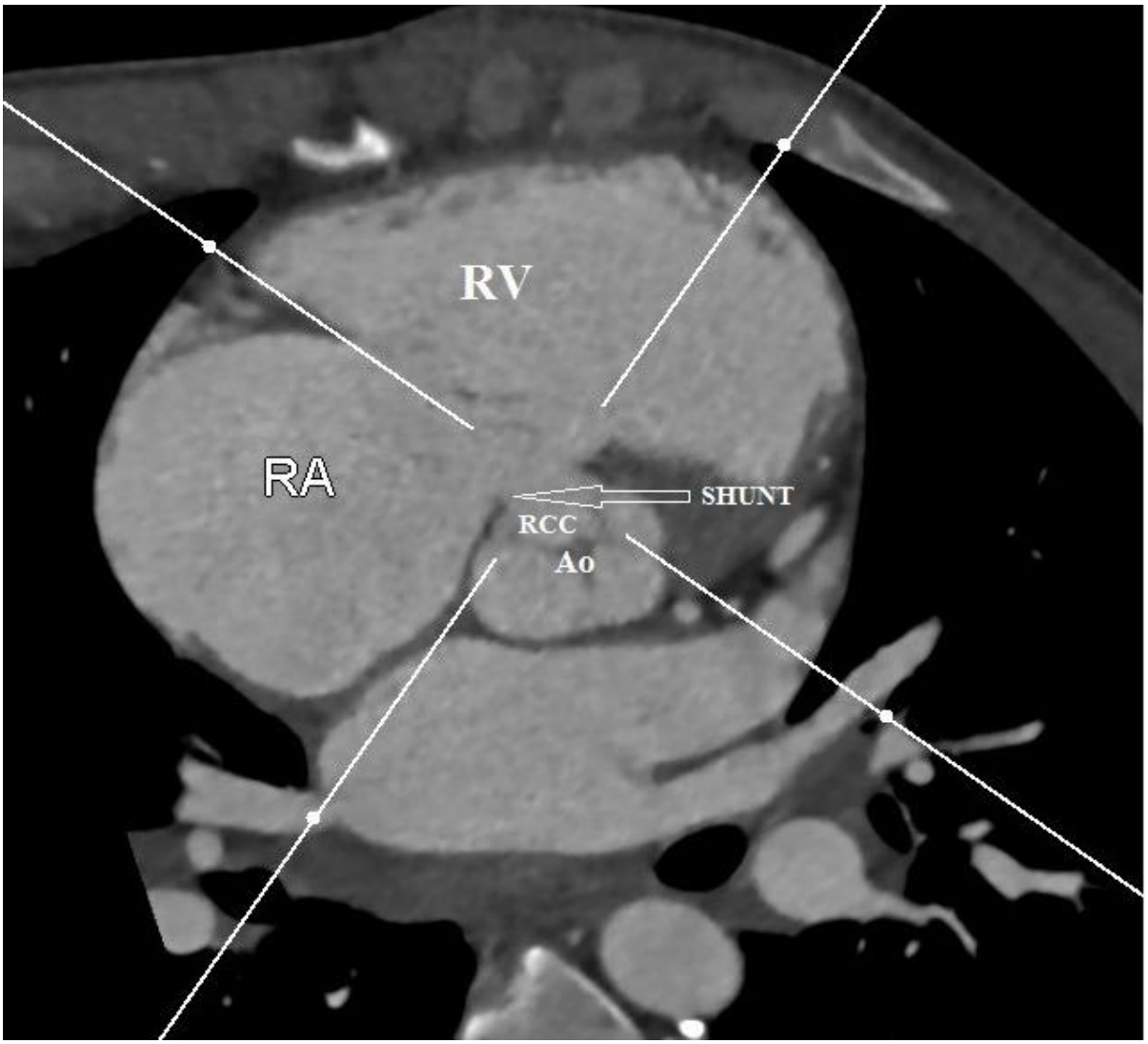
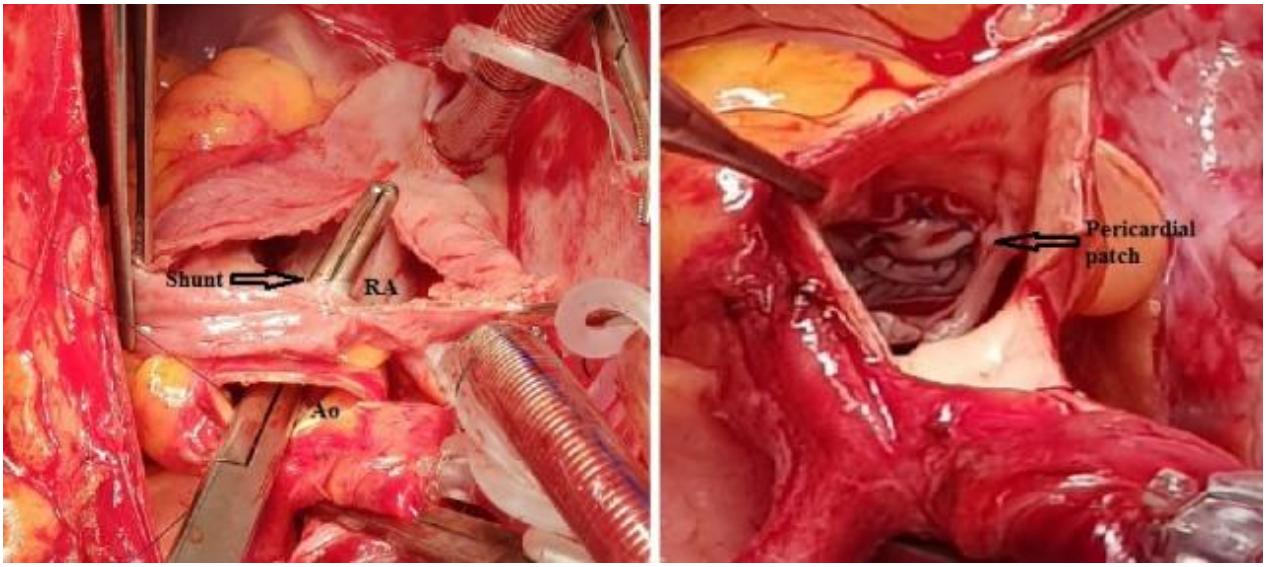


Figure 2a,2b



ID: **103**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **POSTER**

EFFECTS OF ORAL PROPOLIS ON MYOCARDIAL ISCHEMIA-REPERFUSION DAMAGE IN THE ISOLATED RAT HEART

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OBJECTIVE: The aim is to investigate the effects of oral propolis on myocardial ischemia-reperfusion injury and antioxidant mechanisms during cardiolegic arrest.

METHODS: A total of 32 Wistar albino rats (230-300 gr) were randomly assigned into propolis, vitamin E, control and sham groups. For 21 days, 200 mg/kg propolis was applied to the propolis group, 100 mg/kg vitamin E to the vitamin E group and physiological saline to the control group by gavage. Following the gavage period, the rats were sacrificed, and the isolated beating heart model was established in the Langendorff system. Heart rate, aortic pressure and left ventricular end-systolic pressure were continuously monitorized. Stabilization (30 min), ischemia (45 min) and reperfusion (30 min) phases were applied in propolis, vitamin E and control groups. Continuous perfusion without ischemia and reperfusion phases was performed in the sham. Ischemia was obtained by the cessation of perfusion solution. Cardioplegic arrest was induced in propolis and vitamin E groups by St. Thomas Hospital No. 2 solution with an induction dose of 20 mL/kg at the beginning of the ischemia phase, and a maintenance dose of 10 mL/kg at 25th minute. Fluid samples from organ bath were collected during last 5 minutes of both stabilization and reperfusion phases in all groups to measure the levels of biochemical (lactic dehydrogenase, creatine kinase, creatine kinase-myocardial band and troponin I) and oxidative system markers (total oxidant level, total antioxidant level, natural thiol, total thiol and disulfide).

RESULTS: Left ventricular end-systolic pressure was significantly high in the propolis group (propolis: 83.44±17.49 mmHg, vitamin E: 59.96±31.61 mmHg, control: 37.67±25.74, sham: 37.2±22.42 mmHg, p:0.018). Biochemical markers were similar. When compared to the propolis group, total antioxidant level (1.92±0.41 µmol/L vs. 0.57±1.1 µmol/L, p: 0.001), total thiol (182.36±30.57 µmol/L vs. 158.5±31.07 µmol/L, p: <0.001) and disulfide (74.48±19.5 µmol/L vs. 70.25±17.06 µmol/L, p: <0.001) were higher in the vitamin E group, while oxidative stress index (0.02±0.01 vs. 0.53±0.56, p: 0.001) and disulfide to natural thiol ratio (3.29±2.32 vs. 10.17±13.19, p: 0.033) were lower. Total antioxidant level (r: -0.43, p: 0.018), natural thiol to total thiol ratio (r: -0.47, p: 0.009), and disulfide to total thiol ratio (r: 0.47, p: 0.009) were correlated with troponin I.

CONCLUSIONS: Propolis do not prevent ischemic cellular damage of the myocardium but it may protect global ventricular function. Its antioxidant capability is inferior to vitamin E in the heart, and do not correlated with improved ventricular function.

ID: **105**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **POSTER**

COVID-19 PNEUMONIA IN A HEART TRANSPLANT PATIENT

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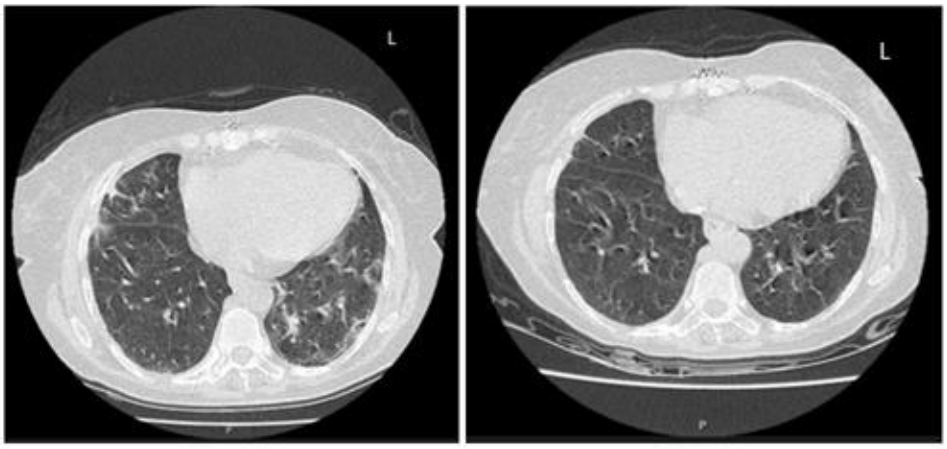
Objective: The resulting studies show that the spectrum of the disease caused by the new type of coronavirus (2019-nCoV, SARS-CoV-2) is variable from the common cold to Severe Acute Respiratory Syndrome (SARS). Advanced age, immunosuppression (transplantation, immunosuppressive drug users), cardiovascular disease, hypertension are among the serious risk factors in COVID-19 pneumonia. In this article, we report the heart transplant recipient we detected with COVID 19 pneumonia.

Methods:

Table: Clinical characteristics of heart transplant patient with COVID-19 pneumonia

Clinical information	Explanation
Personal information	Female, 66 years old
Complaint	Weakness, nausea and fatigue
Comorbidities	Hipertension
Medical history	MI in 2000, CABG in 2003, heart transplantation in 2009
Immunosuppression	Mikofenolat mofetil 2x500 mg, Takrolimus 1x2,5 mg
Physical examination	Fever: 36,7, SatO2: 98, RR: 16
Laboratory	WBC:5x10³/uL, Ferritin: 630,8 ng/ml, CRP 1,1 mg/L, LDH:166 U/L, D-Dimer 0,2 ug/ml
RT-PCR	Nasopharyngeal swab positive
Torax CT	Ground-glass opacities in the lower lobe of the left lung
EKO	LVEF: %60
Treatment	Favipravir 2x1600 mg first day,after each day 2x600 mg oral, Enoxaparin 1x40 mg subcutan, for five days
Prognosis	**Clinical well-being is expressed as no desaturation, no fever and no respiratory distress.**



Dec 8 Jan 28

Figure: Chest computed tomographic manifestations of severe COVID-19 in a heart transplant recipient.

The patient, who had no clinical progression for five days, was considered suitable for home follow-up and was discharged.

Results and Conclusions: This case showed us that; Heart transplant recipients may have similar clinical presentation and progression to non-transplant patients. In addition, in this case, the use of immunosuppression drugs are not a aggravating factor for the clinical course. In China, COVİD 19 pneumonia was detected in two different heart transplant recipients. These cases may represent of COVID-19 in heart transplant recipients and suggest that presentations and prognosis appear to be similar to those observed in non-transplant patients. But they also associated radiological resolution with clinical well-being. And the regression of radiological lesions in the lung was expressed as one of the healing criteria. As a result, more measurable criteria are needed for indicators of positive response to treatment of COVID 19 pneumonia and more epidemiological studies could be useful for the association of COVID 19 with organ transplant patients.

ID: **110**

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

Presentation Type: **POSTER**

EBSTEIN'S ANOMALY ASSOCIATED WITH BIVENTRICULAR NONCOMPACTION

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Abstract

Noncompaction cardiomyopathy (LVNC) is a relatively common genetic cardiomyopathy.
It occurs as a result of a pause in the transition of the myocardium from spongy to compact structure in the embryogenic period. There is significant thickening in the two layers that make up the ventricular walls. There is a thick epicardial layer and a thick endocardial layer with prominent trabeculations.

Noncompaction can be seen alone or together with other congenital heart diseases.

Noncompaction is a rare congenital heart disease (CHD) often found with Ebstein's anomaly.

In Ebstein's anomaly, there is an apical displacement of the tricuspid valve and partial fusion of the septal and posterior leaflets with the ventricular septum. Part of the right ventricle is atrialized. Cardiac β-myosin heavy chain 7 (MYH7) gene mutations encoding, sarcomeric β-myosin heavy chain protein cause this situation. It has also been reported that a novo α -tropomyosin gene mutation may also cause this condition. Conditions such as heart failure, cardioembolic events, ventricular tachycardia, and sudden cardiac death can be observed in noncompaction and Ebstein's anomaly.

Keywords: Noncompaction, Ebstein's anomaly, congenital heart disease, Gene Mutations.

1 | CASE REPORT

21-year-old female patient with two normal deliveries applied to our multidisciplinary clinic follow-up with the complaint of palpitations. The last delivery was one year ago and she is not breastfeeding actually. The electrocardiogram of our patient had a right bundle branch block pattern and 1st degree atrioventricular block. A few supraventricular beats were observed in the 24-hour rhythm Holter recording.

In the physical examination of our patient, respiratory sounds were normal. A high-pitched systolic murmur was heard in the lower right sternal region. All biochemical parameters of the patient are within normal limits. It was decided to perform detailed echocardiography for further diagnosis and treatment. In echocardiography, the tricuspid valves were not in normal position; the septal tricuspid leaflet displaced to the apex of the right ventricle caused atrialization of part of the ventricle. Doppler echocardiography showed moderate to severe tricuspid regurgitation. Biventricular noncompaction was observed in echocardiography. In echocardiography and cardiac magnetic resonance imaging spongy to compact layer, the ratio was greater than 2.

Noncompaction was confirmed by contrast echocardiography and cardiac magnetic resonance imaging (Figures 1 and 2).
Patent foramen ovale (PFO) or atrial septal defect (ASD) was also not observed in echocardiography and cardiac magnetic resonance imaging. Systolic and diastolic functions of the left and right ventricles were normal. Mitral valve inflow ratio (E/A) was 1.28 (figure 5a).Mitral valve diastolic measurements were such as: e' lateral =0,13m/s mitral valve lateral E/e=5, 38 (figure 5b).Tapse (tricuspid annular plane systolic excursion was 26,4 mm(figure 6a). Left atrial volume index was calculated as 19.6 ml/m2 (figure 6b).Left ventricular (LV) diameters were 3.0 cm systolic and 4.7 cm diastolic. The diastolic diameter of the right ventricle at the level of the tricuspid valve was 4.7 cm, and the systolic diameter was 3.9 cm (figure 7a) Pulmonary artery systolic pressure was 32 mmHG (figure 7b).

ID: **111**

Topic: **Cardiology »Percutaneous coronary interventions**

Presentation Type: **POSTER**

PACEMAKER LEAD EXTRACTION AFTER POCKET INFECTION WITH ABDOMINAL VENA CAVA AND COMMON ILIAC VEIN THROMBOSIS

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Abstract

Background: Cardiac device-related infective endocarditis (CDRIE) is a type of infective endocarditis that is increasing in recent years with the use of pacemakers, but it is difficult to diagnose. CDRIE must be treated by prolonged antibiotic therapy and device removal.

Chronic friction between the pacing lead and the endothelium can initiate the inflammatory process, leading to thrombosis and fibrosis. In this case, we presented how we removed the thrombosed right ventricle and coronary sinus leads of the crt-d device.

Setting: A 65-year-old male patient with a history of hypertension and type II diabetes mellitus (DM) attended outpatients' clinic with orthopnea. Cardiac resynchronization therapy with defibrillator (CRT – D) implantation was planned after levosimendan infusion. Two years after crt-d implantation, the patient applied to our outpatient clinic with temperature increase and swelling in the pacemaker pocket area with a history of fever over 38 Celcius degrees.

Patient's pacemaker and atrial lead were removed via percutaneous technique. Right ventricular and coronary sinus leads couldn't be removed due to adhesion. We decided to take the case to the angiography laboratory again after giving 50 milligrams of tissue plasminogen activator (tPA) for 24 hours. After

t-PA infusion we could easily extract the leads.

Results and Conclusions: After t-PA infusion, we could easily extract the right ventricular lead, with a 30 mm snare then the coronary sinus lead was extracted with coronary sinus ablation catheter, right amplatz 1 guıding catheter.

ID: **123**

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

Presentation Type: **POSTER**

PREDICTION OF MAXIMUM DEFLECTION INDEX IN IDIOPATHIC VENTRICULAR ARRHYTHMIAS

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Objective: Idiopathic ventricular premature contractions (PVC) usually originate from certain anatomical localizations.Pre-ablation electrocardiogram and EGM analysis help physicians interested in electrophysiology to increase ablation success rate and minimize complications. Epicardial ventricular arrhythmias originate from ventricular epicardium close to the coronary vasculature. Recognition of ventricular arrhythmias of epicardial origin is important. Accurate early diagnosis of epicardial arrhythmias can help avoid improper ablation techniques, prolonged and unsuccessful ablation attempts. The maximum deflection index (MDI) is a quantitative measure of the rate of depolarization of the myocardium. To investigate the predictiveness of the MDI value of idiopathic PVCs in differentiating epicardial origin arrhythmias.

Methods: The records and files of 81 consecutive patients who underwent ablation for idiopathic PVC between 2017 and 2019 in the Electrophysiology laboratory of the Department of Cardiology at Çukurova University were retrospectively reviewed. ECGs of all eligible patients were examined at the time of initial diagnosis before treatment. Pseudodelta, MDI, Intrinsicoid deflection time were calculated in EGM recordings. We calculated the MDI by dividing the time from the onset of the QRS complex in V5-V6 to the earliest point of maximum deflection by the QRS duration. The relationship between successful ablation localization and ECG and EGM recordings was investigated.

Results: A total of 81 patients were included in the study. According to successful ablation localizations, patients were 39.5% of the outflow tract PVC, 23.5% epicardial PVC, 37.0% aortic cusp PVC. The MDI value of the epicardial group was found to be statistically significantly higher than the other two groups. If the MDI value is >0.462, PVC was found to be of epicardial origin with 85% probability, 78.9% sensitivity, 83.9% specificity (AUC: 0.77; 95% CI: 0.51 -0.90; p< 0.004). Pseudodelta was present in 11 (57.9%) of 19 patients in the epicardial PVC group, in 2 (6.7%) out of 30 patients in the aortic cusps PVC group and in 6 (18.8%) of 32 patients in the outflow tract PVC group.

Conclusion: The main finding of our study was that the MDI value of the epicardial group was statistically significantly higher than the other two groups. The fact that the MDI value is a predictor of epicardial PVC may increase the success of the procedure, as well as shorten the procedure time and reduce the radiation dose received. We think that MDI analysis will provide valuable information in the detection of epicardial PVC localization.

ID: **126**

Topic: **Cardiology »Acute Coronary Syndromes**

Presentation Type: **POSTER**

PERCUTANEOUS CORONARY INTERVENTION IN A PATIENT WITH MYOCARDIAL INFARCTION WITH A SINGLE CORONARY ARTERY ANOMALY

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Introduction: Coronary artery anomalies are rare and mostly detected incidentally during coronary angiography or autopsy. Although most of the cases with coronary artery anomalies are asymptomatic, they can cause myocardial ischemia, angina, syncope, myocardial infarction and sudden cardiac death. We aimed to present a single case of coronary artery anomaly, who applied to our clinic with the diagnosis of myocardial infarction due to its rarity in our case.

Case: A 46-year-old male patient, who had no previous cardiac complaints, admitted to the emergency department with chest pain that increased with exertion and persisted for about an hour. On ECG there was an ST elevation in DII, DIII, aVF, and V5, V6 derivations and ST depression in V1, V2 (Figure 1a). The patient was accepted to the coronary intensive care unit with the diagnosis of acute inferoposterior myocardial infarction. Coronary angiography revealed that all coronary arteries emerged as a single trunk from the right sinus valsalva and spread to the heart region. A 99% thrombosed lesion was observed in the mid region of the right coronary artery (RCA) (Figure 1b). Thereupon, it was decided intervention into RCA. A right Judkins guiding catheter was placed into the RCA ostium. A 0.014' “floppy” guidewire was advanced to the distal RCA. 4.0x29 mm and 4.0x16 mm DES were implanted. TIMI-III flow was provided. The patient was discharged 48 hours after the procedure without any complications.

Conclusion: Although it is rare in the community, it is important to diagnose coronary artery anomalies in a timely manner, which can lead to severe consequences such as myocardial infarction and sudden death. In addition, it should be considered in guiding the correct diagnosis and treatment in terms of percutaneous coronary intervention or surgical complications. Coronary artery anomalies may be accompanied by atherosclerosis. Medical treatment, percutaneous coronary intervention or surgical correction are among the treatment options. In cases of atherosclerotic stenosis or myocardial infarction, percutaneous coronary intervention can be performed successfully with appropriate catheter selection and appropriate techniques.

ID: **129**

Topic: **Cardiology »Cardiac Resynchronization Therapy**

Presentation Type: **POSTER**

A DIFFERENT APPROACH TO PACEMAKER INDUCED CARDIOMYOPATHY THERAPY

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INTRODUCTION

Pacemaker induced cardiomyopathy (PICM) is an important cause of heart failure in patients exposed to frequent right ventricular (RV) pacing. While echocardiography is diagnostic, the optimal surveillance strategy remains unknown. Lower baseline LVEF, wider native QRS duration (>115 ms) and male gender are risk factors for PICM. Patients with frequent RV pacing (%≥20) and paced QRS duration ≥150 milliseconds should be screened by echocardiogram to assess for PICM. PICM is defined as ≥10% absolute reduction in LVEF independent of baseline LVEF, its prevalence ranges from 5.9 % to 39.0 %. İn our case, We aimed to present the management of a patient who developed PICM after DDD-R PM implanted with the diagnosis of complete AV block.

CASE

An 87-year-old female patient with a diagnosis of hypertension presented with complaints of fatigue and dizziness for a month. AV complete block was detected in the patient's ECG (Figure 1a). In transthoracic echocardiography, ejection fraction was measured as 48% by Simpson's method. A DDD-R pacemaker was implanted in the patient with the diagnosis of symptomatic AV complete block. QRS duration widened even more (Figure 1b). Our patient presented to the outpatient clinic with a clinical picture of NYHA III-IV dyspnea approximately one month later. EF was measured as 25% in transthoracic echocardiography performed under the same conditions. We excluded alternative causes and diagnosed PICM in the patient. We did not plan a CRT upgrade to be able to use the same battery in a patient who had a DDD-R pacemaker 1 month ago. In our patient; After removing the RV lead, we detected coronary sinus (CS) (Figure 1c). We placed a lead in the CS and connected the lead to the same battery. (Figure 1e). We provided QRS narrowing by providing left pacing in the patient and right bundle branch block appeared on her ECG (Figure 1d).

CONCLUSION

CRT upgrade, his-bundle pacing or left bundle branch area pacing can be applied in the treatment of patients who develop PICM. While crt upgare is preferred in young patients, medical approach is considered more prominent in elderly and asymptomatic patients. The procedure we performed was important in terms of cost-effectiveness, as the patient did not need to use a new battery by providing pacing from the CS instead of the CRT upgrade. Our preferred method can be an inexpensive treatment alternative in the treatment of PICM and can be used more in the coming years.

ID: **130**

Topic: **Cardiovascular Surgery » Minimally Invasive mitral valve surgery**

Presentation Type: **POSTER**

MINIMALLY INVASIVE CARDIAC SURGERY THROUGH RIGHT VERTICAL INFRAXILLARY MINITHORACOTOMY WITHOUT PERIPHERAL CANNULATION IN LOW-RESOURCE SETTINGS

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Objective

The aim of this study was to evaluate the in-hospital and early outcomes of direct vision minimal invasive cardiac surgery with central aortic and venous cannulation compared to conventional cardiac surgery with median sternotomy in low resource settings.

Methods:

100 consecutive adult patients undergoing cardiac surgical procedures (mitral valve, tricuspid valve procuderes and atrial septal defect closure) with vertical infraaxillary minithoracotomy using standard surgical instruments, cannulas and retractors with central aortic and venous cannulation were included in the study. 100 consecutive adult patients undergoing cardiac surgical procedures with standard median sternotomy and central aortic and venous cannulation formed the control group.

Results:

None of the patients were converted from a minimally invasive to standard median sternotomy. Mortality and morbidity rates were similar in both groups. Furthermore, patient satisfaction was higher in the minithoracotomy group compared to median sternotomy group.

Conclusions:

In the present study, we have demonstrated that minimally invasive cardiac surgery through right vertical infraaxillary thoracotomy without peripheral cannulation is a safe and feasable procedure associated with low morbidity and mortality rates and high patient satisfaction. Furthermore, this strategy may help to establish a minimally invasive cardiac surgery program in hospitals with limited resources.

ID: **133**

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

Presentation Type: **POSTER**

SPONTANEOUS MULTIPLE CORONARY ARTERY DISSECTION; CASE REPORT

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Spontaneous coronary artery dissection is a rare cause of acute coronary syndromes and sudden death. It is frequently observed in young-middle-aged, female patients and in the left anterior descending coronary artery. Spontaneous coronary artery dissections may have a stable course with angina pectoris, or they may present with clinical manifestations such as shock and sudden cardiac death. Its etiology is often idiopathic, and atherosclerosis, hypertension, and inflammatory arterial diseases can be counted among other causes. The diagnosis is made by coronary angiography. Although many treatments for the disease have been tried, there is no standard treatment. Treatment is related to the patient's clinic, the number and length of the dissected segment. Treatment options include surgery or interventional revascularization and medical therapy.

A 56-year-old male patient was admitted to the cardiology clinic with chest pain that started 3 days ago. The patient had a history of hypertension, diabetes mellitus and smoking. There was no blunt trauma and no family history of heart disease. Coronary angiography was performed with the diagnosis of inferior myocardial infarction due to ST elevation and high cardiac enzyme levels in the inferior leads in the electrocardiography.

Upon detection of spontaneous dissection in the left anterior descending artery, intermediate artery, circumflex artery, and right coronary artery, the patient was decided for surgical revascularization (Figure 1). Coronary artery bypass graft operation was performed on all dissected segments. The patient, who was extubated at the 6th hour after the operation and taken to the service on the 3rd postoperative day, was discharged on the 6th postoperative day.

Keywords: Spontaneous Coronary Artery Dissection, Acute Coronary Syndrome, Coronary Artery Bypass Graft Operation

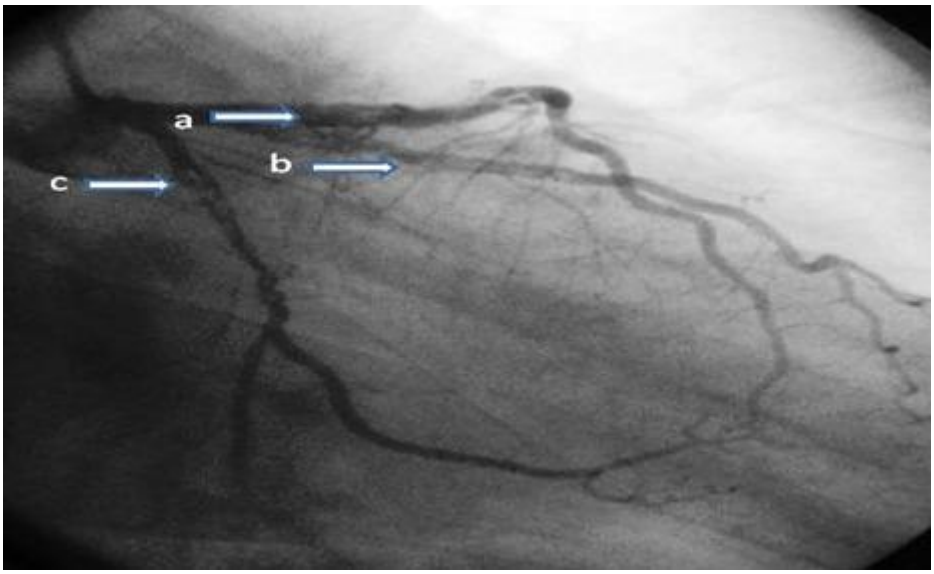

Figure 1: Angiographic image of a patient who presented with acute coronary syndrome due to spontaneous coronary artery dissection

ID: **134**

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

Presentation Type: **POSTER**

EXTRACRANIAL SPONTANEOUS CAROTID ARTERY DISSECTION; CASE REPORT

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Extracranial internal carotid artery dissections(ICA) may develop spontaneously or due to traumatic causes. It is the most important cause of ischemic stroke especially under the age of 50. In this study, we aimed to present a 44-year-old female patient who presented to the emergency department with right hemiplegia and speech difficulties and was diagnosed with internal carotid artery dissection on MR angiography. (Figure 1)

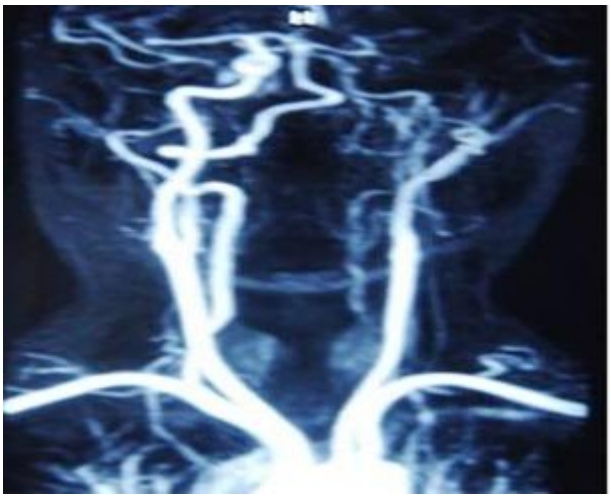

Figure 1.

When we look at the etiology of spontaneous carotid artery dissections, it may be idiopathic or related to the underlying arterial system. It can be seen together with connective tissue diseases such as fibromuscular dysplasia, Marfan syndrome, Ehler danlos. Other common risk factors can be listed as high blood pressure, family history of dissection and oral contraceptive use.

This case had a history of non-smoker, did not have hypertension and hyperlipidemia, and had no family history of trauma to the neck or carotid region, or stroke. However, the patient was using oral contraceptives. The patient's clinic had signs of right hemiplegia and Horner's syndrome, and a combination of aspirin and clopidogrel was used in the treatment. The patient responded well to the treatment and his right hemiplegia showed a significant improvement in the follow-up. In the control cranial magnetic resonance imaging (MRI) taken 1 month later, an area of chronic infarction was detected adjacent to the left lateral ventricle.

Spontaneous internal carotid artery dissection is a rare disease that can cause significant mortality and morbidity. Surgery is possible in a limited number of cases. We think that good results can be obtained with anticoagulant follow-up and extremity physiotherapy.

Keywords: spontaneous, dissection, internal carotid artery.

ID: **135**

Topic: **Cardiovascular Surgery »Minimally invasive CABG**

Presentation Type: **POSTER**

MINIMAL INVASIVE APPROACH OF POST MI VENTRICULAR SEPTAL DEFECT REPAIR AND CORONARY ARTERY REVASCULARIZATION VIA LEFT ANTERIOR MINITHORACOTOMY

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ABSTRACT

A 54 years old male was admitted to our hospital with a prolonged dypsnea,orthopnoea and chest pain that has lasted for almost two weeks. Physical examination revealed symptoms of heart failure. Transthorasic echocardiography revealead a ventricular septal defect located at the apical segment of the interventricular septum, mild mitral regurgitation and hypokinesia of the apex of left ventricle. Coronary angiography showed a critical proximal lesion of left anterior descending artery(LAD). He was diagnosed with post myocardial infarction ventricular septal defect(post-MI VSD). Our patient underwent minimal invasive coronary artery bypass and ventricular septal defect repair via left anterior minithoracotomy. Postoperative period was uneventiful and our patient was released on postoperative day 7. Postoperative transthorasic echocardiography revealead no residue of repaired ventricular septal defect with improved left ventricular functions.

Keywords:Post MI-VSD,left anterior mini-thoracotomy, minimal invasive coronary artery bypass grafting

ID: **142**

Topic: **Cardiology »Peripheral arterial diseases**

Presentation Type: **POSTER**

SUPERIOR VENA CAVA SYNDROME SECONDARY RECCURRENT PACEMAKER IMPLANTATIONS (A CASE REPORT)

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Superior vena cava (SVC) obstruction is a serious ,potentially life –threatening condition,which results from extrensic compression of SVC or direct intimal injury with resultant thrombosis and stenosis.Malignancy has been historically most common etiology.Mediastinal fibrosis and indwelling venose catheters ,cardiac pacemakers(PM) and implantable cardioverters(ICD) have resulted in more patients with SVC syndrome of benign etiology .

A 68 year-old doctor presented with reccurent spasm and swelling of the face and the neck for duration of two years. PM-ICD was implanted in 2007 for ischemic dilated cadiomyopaty and paroxysmal ventricular tachycardia. The pacemaker generator was exchanged in 2012 because of end of life. Two years later, it was again removed in 2014 due to recurent pocket infection and infective endocarditis. After the infected ICD generator and leads were removed and proper antibiotherapy was given for 2 months, a new ICD was implanted at same(left)site. He complainted the his face and neck swelling and prominent superficial veins of the chest wall and neck region from 2019.(Figure 1)

Current electrocardiogram and echocardiogram were normal. Computed tomography (CT) of chest and venogram confirmed SVC obstruction with dilated azygous vein. (Figure 2)

He was been taking anticoagulant therapy(NOAC)and antiischemic medications. He smokes nearly 1 packs of cigarettes a day for last 40 years and had significant history of alcohol intake. Percutanous intervention was not planned. He is currentyl free of symptoms.

All of primary care physician should be aware of this unusual complication of PM-ICD .We should also be aware after using of indwelling all venous catheters.

ID: **158**

Topic: **Cardiovascular Surgery » EVAR, TEVAR**

Presentation Type: **POSTER**

REPAIR OF RUPTURED MULTILAYER FLOW MODULATOR STENT GRAFT WITH HYBRID OPERATION

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Objective: Endovascular treatments have been used widely in the last decades. Delayed complications of the procedure have been reported in the literature. We will present graft migration, detachment and rupture in the long term after an endovascular repair performed four years ago.
Methods: Detachment, migration and rupture in the multilayer flow modulator stent graft repaired with hybrid methods. Firstly endovascular interventions was completed, then surgical operation for lower extremity was performed.

Results: An 81-year-old male patient presented with a fusiform aneurysm in the descending aorta and abdominal aorta four years ago. The aneurysm measured 56 mm above the level of the hiatus aorticus. Dilatation up to both common iliac arteries was measured as 52 mm at the renal level. After selective visceral and parenchymal cannulation, the endovascular repair was performed with the Cardiatis Multilayer Flow Modulator (Cardiatis, Isnes, Belgium). The patient visits every year for periodical follow ups. In the tomography imaging of the patient in follow ups, the graft stent was slowly detaching. Four years after , the patient had back and abdominal pain. It was observed that the stent-grafts were separated at the abdominal infrarenal level, and the stent-grafts implanted in the two main iliac arteries were independently separated. A femorofemoral bypass was planned from the right femoral artery to the left femoral artery to prevent left lower extremity ischemia. Afterward, embolization to the left common iliac artery was accomplished with a 22 mm Medtronic MVP-9Q vascular plug. Then, a 36 * 14 * 102 mm Medtronic Endurant II stent graft system was loaded over the right femoral artery to the intact part of the old stent-graft. Meanwhile, a 16 * 13 * 124 mm Medtronic Endurant II stent graft system was opened by loading the right main iliac artery as a continuation of the stent-graft opened at the infrarenal level starting from the inside of the old stent graft. Than second stent-graft loaded into the previous stent dissociated at the infrarenal level. A planned femoro-femoral bypass was performed from the right common femoral artery to the left common femoral artery with a 6 mm ringed polytetrafluoroethylene graft. The patient, who was followed up in the clinic for three days discharged with recovery.

Conclusion: A succesful treatment of a ruptured multilayer flow modulator stent graft was achieved.

ID: **160**

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

Presentation Type: **POSTER**

EARLY REPOLARISATION SYNDROME APPEARING ON THERAPEUTIC HYPOTHERMIA: A CASE REPORT ON YOUNG SUDDEN CARDIAC ARREST

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BACKGROUND

Early repolarisation syndrome (ERS) which is a part of J wave syndromes is not widely known as Brugada syndrome (BrS) by the general cardiologist. In this paper we present a young patient with ERS and a short review of the literature about the topic.

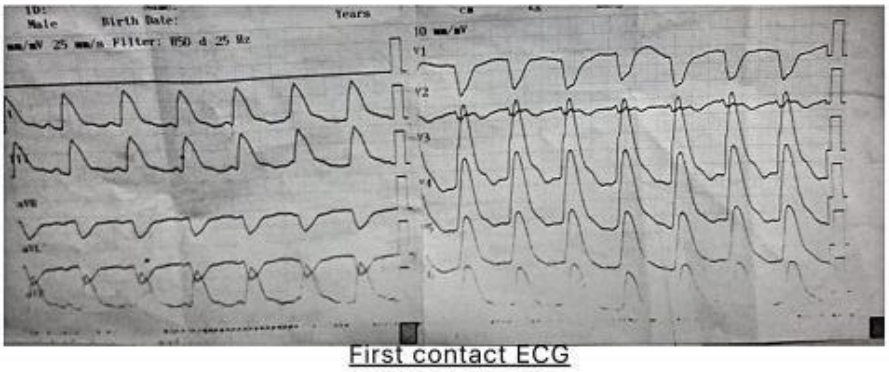
METHOD AND RESULTS

22-year-old male patient was found lying on the floor unconsciously with abnormal breathing pattern at 5 a.m. He was intubated and defibrillated by emergency medical service and transferred to our hospital for advanced life support. He had no significant medical history and was not on medical therapy. His first ECG at emergency department revealed ST segment elevation in all leads except aVR (picture 1). Laboratory data showed no abnormality except slightly elevated high-sensitive troponin levels. Coronary angiogram showed normal coronary arteries. After angiography, he was transported to intensive care unit for therapeutic hypothermia. His follow up ECGs under hypothermia (34°C) showed marked J waves with following downsloping ST segment elevations on anterolateral leads (V2-V6) and prominent Osborn waves on inferior leads (picture 1). After the patient was heated up to temperatures of 36-37°C, early repolarization waves disappeared except inferior leads (picture 2). Echocardiography was reported as normal cardiac functions without any structural abnormality. After weaning period, he was transferred to cardiology unit for further investigation. Ajmaline test for Brugada Syndrome and subsequent intracoronary ergotamine test for vasospastic angina was performed. Both tests resulted negatively and considering lack of structural cardiac abnormality with his ECG findings during hypothermia, the patient has been diagnosed as early repolarization syndrome(ERS).

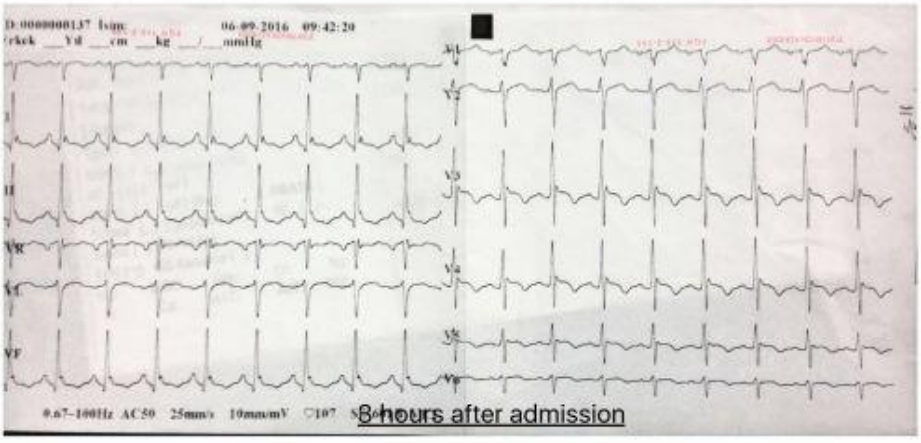
According to the current guidelines, he was treated with successful ICD placement and 600 mg/d quinidine p.o. He was discharged safely to home with the same drug regimen. His sixth month control revealed no ER pattern on ECG and pacemaker history showed no records of ventricular arrhythmias.

CONCLUSION

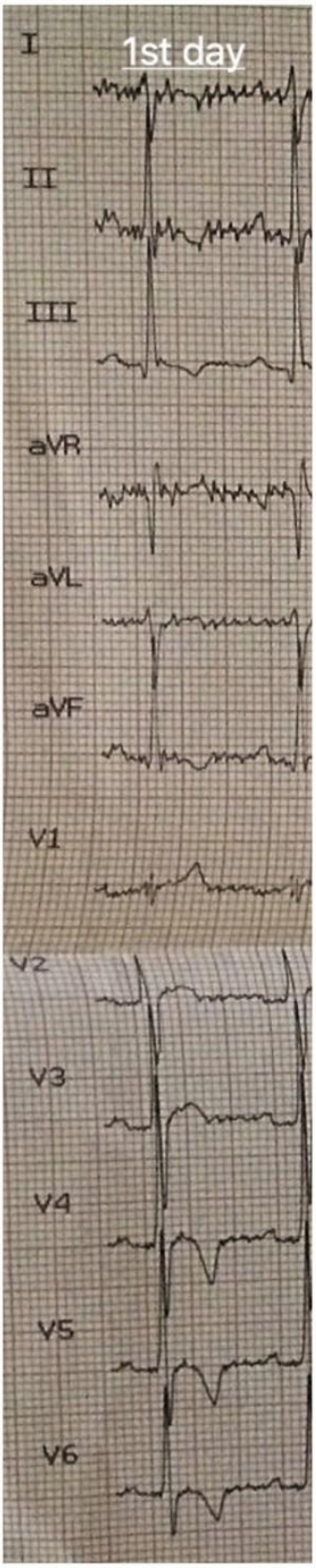
Early repolarization is associated with ventricular arrhythmias and sudden cardiac death in young individuals. It is very important for physicians to recognize this specific pattern especially who are working with patients under treatment of hypothermia. Specific treatment algorithms and prevention/treatment of arrhythmic episodes with appropriate agents also should be recognized.



First contact ECG



8 hours after admission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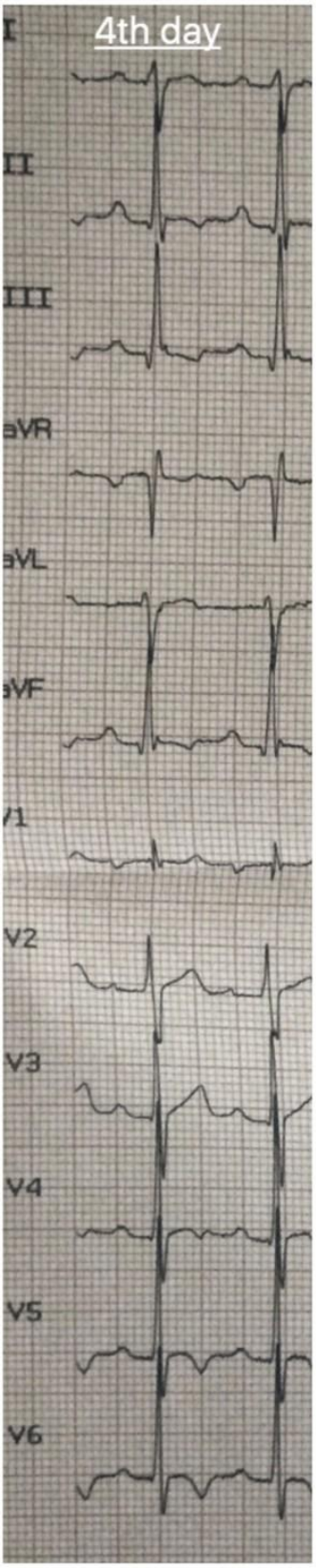
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ID: **165**

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

Presentation Type: **POSTER**

CASE REPORT WITH RIGHT VENTRICULAR OUTFLOW TRACT PSEUDOANEURISM AS A RARE COMPLICATION AFTER FALLOT TETRALOGY REPAIR

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INTRODUCTION: Right ventricular outflow tract (RVOT) pseudoaneurism has been reported as a rare complication of RVOT reconstruction using conduit replacement or patch repair. RVOT should be followed by echocardiography, and the aneurysm should be operated on if a large aneurysm has formed. Usually, the progression of the aneurysm is slow. It can rarely occur with symptoms secondary to the pressure of adjacent mediastinal structures or the formation of thrombus within an aneurysm.[1,2] We present a case of RVOT pseudoaneurism developing and undergoing surgical repair.

CASE PRESENTATION: The patient was born at 37th gestational week with a C/S of 3400 g,Tetralogy of Fallot (TOF) was diagnosed from the antenatal period. Left modified Blalock-Taussig shunt operation was performed due to hypoxic spell in the postnatal 3rd month. TOF complete correction surgery was performed at 11 months of age. Echocardiography performed during routine control 3 years after the full correction operation revealed mild stenosis in the pulmonary artery and a cystic structure extending to the left upper mediastinum in RVOT. It was seen that this cystic structure was bloodied from RVOT with a thin neck. This image was evaluated as RVOT pseudoaneurysm. In the thorax computed tomography angiography, an appearance consistent with a 7x5.5x6cm sized pseudoaneurysm with contrast material filling was detected in the mediastinum with a length of 1 cm extending to the left from the suture material adjacent to the previous operation associated with the pulmonary trunk on the left. The patient was hospitalized and followed up. He was operated under elective conditions. In the operation, the giant pseudoaneurysm encapsulated with tissue was completely excised without rupture. The defect was closed using a pericardial patch. The patient was discharged on the 6th postoperative day.

DISCUSSION: RVOT pseudoaneurysm is a rare complication that develops after Tetralogy of Fallot complete correction surgery. RVOT should be carefully examined in echocardiographic follow-ups, and it should be closely monitored for possible pseudoaneurysm rupture, compression on mediastinal structures, and thrombus formation within the aneurysm.

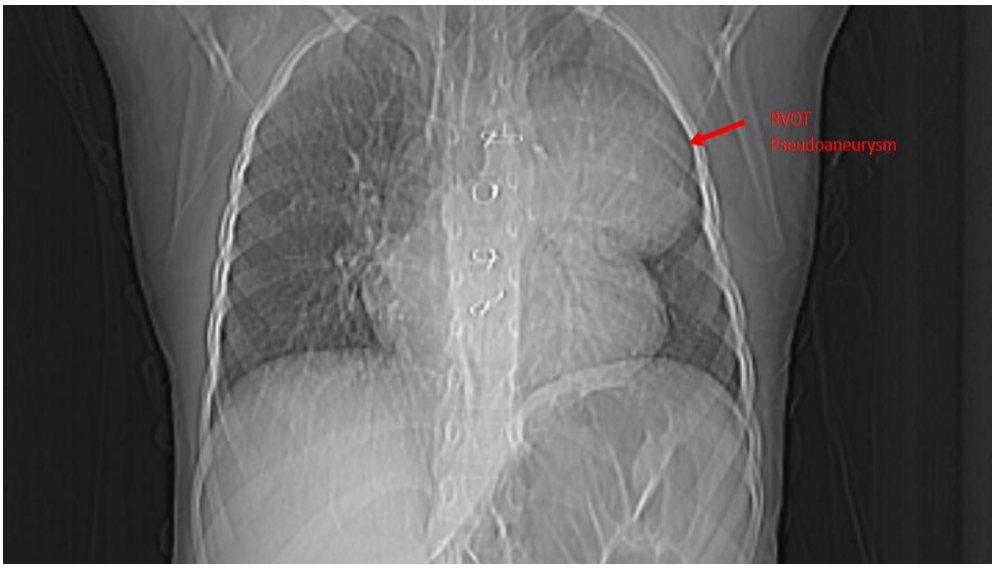

Figure 1: (VOT pseudoaneurysm X-ray image. RVOT: Right ventricular outflow tract

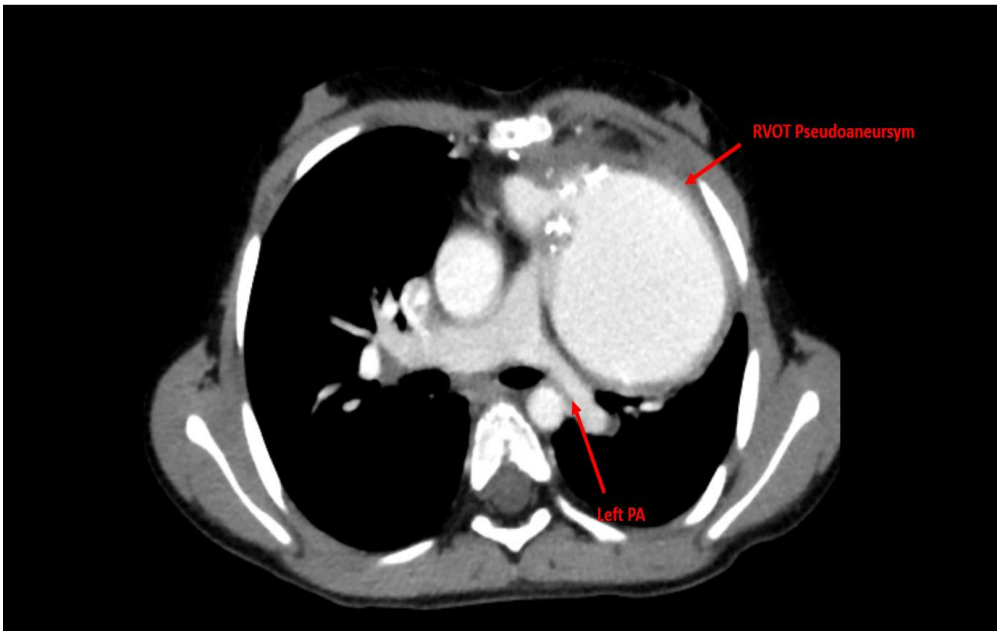

Figure 2: Thorax CT angiography image of RVOT pseudoaneurysm. RVOT: right ventricular outflow tract, PA: pulmonary artery.

REFERENCES:

1. Tomar M, Bhan A. Rapidly progressing giant aneurysm of right ventricular outflow tract with severe conduit obstruction: Report of two cases. *Images Paediatr Cardiol*. 2018;20(1):1-7.

2. Shashidharan S, Wells WJ, Detterich J, Wong J, Kumar SR. Giant Pseudoaneurysm of Reconstructed Right Ventricular Outflow Tract. *Ann Thorac Surg*. 2015;100(2):734. doi:10.1016/j.athoracsur.2015.04.011

ID: **175**

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

Presentation Type: **POSTER**

PROGNOSIS OF NON-OPERATED MATERNAL VSD IN PREGNANCY: A CASE REPORT.

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Despite advances in early diagnosis and recovery in cardiac surgery for congenital heart diseases, rarely some patients may not be diagnosed and treated until adulthood. women with congenital heart disease are surviving to adulthood and getting married and are likely to have complications in pregnancy. Pregnancy is associated with severe hemodynamic changes like increasing blood volume, redistribution of blood flow, and increased oxygen consumption but it can be challenging for some patients especially with congenital heart diseases. VSD is a rare congenital disorder characterized by a high risk of maternal and fetal mortality.

In the presented case, a 28-year-old primigravid woman with VSD diagnosed for the first time presented at 17 weeks of gestation. The patient was consulted from the obstetrics clinic because of dyspnea and systolic murmur (because of suspected fetal congenital heart disease). EKG was in sinus rhythm and incomplete RBBB. 2D echocardiography demonstrated malalignment in the membranous interventricular septum, right ventricular hypertrophy, and RV outflow tract obstruction. the defect diameter was 8 mm in color doppler. There was a shunt from LV to RV and a gradient of 90 mmHg was measured in the VSD and a gradient of 100 mmHg in RV outflow. The patient was evaluated by a council of cardiology and cardiovascular surgery specialists to decide on the continuation of the pregnancy or abortion. It was decided to continue the pregnancy with palliative treatment without invasive intervention. In the third trimester, dyspnea and pretibial edema increased. And the shunt gradient dropped to around 50 mmHg and the RV outflow gradient around 80 mmHg. No medication was prescribed, salt consumption was restricted, and prenatal endocarditis prophylaxis was administered. Based on the pathophysiology of the congenital cardiac lesion, cesarean delivery was performed under spinal anesthesia under management by a multidisciplinary team at 38 weeks of gestation. Oxygen support was given because the saturation decreased to 90% in the perioperative period. Apart from this, the intrapartum and postpartum periods were uneventful in terms of cardiac disease.

Conclusion: This report highlights the management of an uncorrected VSD for delivery. In selected patients, close follow-up of pregnancy and only palliative care may even be sufficient.

ID: **176**

Topic: **Cardiovascular Surgery »Covid-19 and Cardiovascular Surgery**

Presentation Type: **POSTER**

LEFT ATRIAL MYXOMA MIMICKING CARDIAC THROMBUS IN COVID-19 PANDEMIC

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Myxomas, the most common primary tumors, are usually located in the left atrium of the heart. Clinical presentations vary depending on the location, size, and mobility of the tumor. In this poster, we want to present a late-diagnosed atrial myxoma patient who suffers from shortness of breath during the Covid-19 pandemic.

ID: **185**

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

Presentation Type: **POSTER**

PERICARDIAL CYST

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OBJECTIVE,
Pericardial cysts are extremely rare, their approximate incidence of 1 in 100,000 people. 1

Most patients with pericardial cysts are diagnosed incidentally. 2 They rarely become symptomatic.
These symptoms can be manifested by cardiac compression and retrosternal pain which radiating to the shoulder, compression of the right ventricle and atrium that cause septal deviation, diastolic dysfunction, obstruction of the right ventricular outflow tract, pulmonary stenosis, mitral valve prolapse and left ventricular sistolic dysfunction.

We aimed to emphasize a rare medical condition that should be kept in mind in patients with these and similar complaints.

METHODS

Phisicians diagnose most cases incidentally during imaging. In this case , computed tomography and echocardiography and MRI were used.

RESULTS

We report 40-year-old woman who has pericardial cyst. She applied to the internal medicine deparment with complaint of fatigue. We were consulted when pericardial cyst was seen on the her computed tomography while during examination of internal medicine. She dosen't have any complaint except cough and fatigue.

When examined with echocardiography, there was no evidence of pressure in the heart cavities .

CONCLUSIONS

The patient evaluated by our heart team . Since the patient had no complaints related to pericardial cyst and this cyst did not affect cardiac physiology, an interventional treatment was not recommended. We continue the routine follow-up of the patient.

1 Davis RD, Oldham HN, Sabiston DC. Primary cysts and neoplasms of the mediastinum: recent changes in clinical presentation, methods of diagnosis, management, and results. Ann Thorac Surg. 1987 Sep;44(3):229-37.

2 Parmar YJ, Shah AB, Poon M, Kronzon I. Congenital Abnormalities of the Pericardium. Cardiol Clin. 2017 Nov;35(4):601-614.

ID: **199**

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

Presentation Type: **POSTER**

ASD, L-R SHUNT AND TRICUSPIDAL REGURGITATION.

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Intrudoction,The patient came with faituge,tired, pain in torax and her arms and atrial fibrilation and hypotension.She is hospitalized in my department and I continue to treated it with medicaments.She give a birth of three child before 17 years .She was also with St post myometomiam.

Material and methods: In RTgTg thorax I saw a differences in her cor an pulmo I did Echocardiografy and find ASD ,L-R shunt,Tricuspidal regurguitation Gr III degree Pisa ero 0.7 cm,AD was dialted 54 mm also VR 39mm there is shunt from Lef to Right Atrium.VM was 34mm and AM:37 mm with mitral Regurgitation Gr I,also there is an Aortal regurgitation.ARPHT240m/s.Distolic disfunction I/Iv with FE 60% and effusion pleurae lat dex.I started to treat it with diruetics,antiarithmics,anitrombotic,betablokators.After 2 day I have made also CT of thorax wich was without effusion and Pneumothorax but Radiolog said to do it with contrast.I have made a second RTg torax wich was much better after medicaments she was in sinus rythm than I have advised her and sent to go in Univeristy Clinic in Prishtina to Cardio surgeon.

Results: The patient was not addmited and she came at the same day in me department and said that she is filling better and must made and appointment to the CT with contrast and Cardiosurgeon.

Conclusion: Should this patient have to wait again or to to be involved in **Cardiocurgery procedure when in those days is TAVI and percutaneous ASD closure corrigated without any ac-captions.**

References: N.Brissesor,1,2,3,4 Current perspectives in percutaneous atrial septal defect closure devicesMed Devices (Auckl). 2015; 8: 297–303.Published online 2015 Jul 15. doi: 10.2147/MDER.S49368

ID: **210**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **POSTER**

EFFECTS OF OZONE ON MYOCARDIAL ISCHEMIA-REPERFUSION DAMAGE IN THE ISOLATED RAT HEART

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OBJECTIVE: To investigate the effects of intraperitoneal and systemic ozone therapy on myocardial ischemia-reperfusion injury and oxidative status during cardioplegic arrest.

METHODS: A total of 48 Wistar albino rats (230-260 gr) were randomly assigned into 6 groups (CP, IP, CP-IP, control, ischemia, sham). 24 hours before the procedure, 0.25 mL physiological saline with 50 µg/mL ozone in the IP and CP-IP groups was intraperitoneally administered, and saline without ozone in the others. The isolated beating heart model was established in the Langendorff system. Heart rate, aortic pressure and left ventricular end-systolic pressure were continuously monitorized. Stabilization (30 min), ischemia (30 min) and reperfusion (30 min) phases were applied to the groups except the sham group in which continuous perfusion without ischemia and reperfusion phases was performed. Ischemia was obtained by the cessation of perfusion solution. Cardioplegic arrest was induced in the CP, IP, CP-IP and control groups by 10 mL St. Thomas Hospital No. 2 solution. In the CP and CP-IP groups, 50 µg/ml ozone was added into cardioplegia. Fluid samples from organ bath were collected during last 5 minutes of both stabilization and reperfusion phases in all groups to measure the levels of biochemical (lactic dehydrogenase, creatine kinase, creatine kinase myocardial band, and troponin I) and oxidative system markers (total oxidant level and total antioxidant level).

RESULTS: There was no statistically significant difference in hemodynamic, biochemical and oxidative system markers between the groups. Biochemical markers and total antioxidant level were insignificantly higher in the IP group compared to the CP and CP-IP groups. Total oxidant level was slightly higher in the CP-IP group, and left ventricular end-systolic pressure in the groups that received cardioplegia.

CONCLUSIONS: Neither intraperitoneal nor intracoronary ozone prevents myocardial ischemia reperfusion injury. Systemic and local ozone does not provide ischemic preconditioning, and may induce oxidative stress.

ID: **212**

Topic: **Cardiovascular Surgery » Research**

Presentation Type: **POSTER**

CURRENT CARDIOPLEGIA PRACTICES IN PEDIATRIC CARDIAC SURGERY CLINICS IN TURKEY

Halil Fatih AŞGÜN[1], Özkan ERTOSLUK[2], Sonay OĞUZ[1], **Turgut Alperen ASLANER**[1]

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OBJECTIVE: There are no literature about current cardioplegia practices of pediatric cardiac surgery clinics in Turkey. We aimed to determine the status of routine cardioplegia practices of the pediatric heart surgery teams in our country.

METHODS: A total of 73 perfusionists in 26 centers were participated into the study. Current cardioplegia practices including cardioplegia formulations, dosage and administration methods, and perfusion strategies were asked using a questionnaire. Data on the routine practices of 75 pediatric cardiac surgeons were included into the study. The results were represented by the percentage of surgeons.

RESULTS: Blood-based cardioplegia solutions were the most frequently chosen cardioplegia type (81.3% vs 18.7%) by the surgeons. The most commonly used cardioplegia solution was blood and St.Thomas Hospital No: 2 mixture (29.3%) followed by microplegic solutions (18.7%), Buckberg solution (16%), del Nido solution (12%), Bretschneider histidine-tryptophan-ketoglutarate solution (9.3%), and others (10.7%). The surgeons have commonly used antegrade way for cardioplegia delivery (69.3%), and an induction dosage between 5-20 ml/kg (82,7%). Most of the centers (72%) have preferred to use lower temperature (<10°C) for cardioplegia solutions. 'Hot shot' and topical cooling have been used by 42.6% and 64%, respectively. Moderate (26°-30°C) and mild hypothermic (31°-35°C) cardiopulmonary bypass have frequently been performed.

CONCLUSIONS: The study is the first survey on the current status of pediatric cardioplegia practices in Turkey. It is observed that the surgeons mostly use antegrade multidose cold blood cardioplegia in pediatric cases. Less than one third of the surgeons prefer other methods including del Nido and Bretschneider histidine-tryptophan-ketoglutarate solutions, which promise a longer arrest period with single dose. These techniques are used most often by the surgeons in private centers, and least by those in university hospitals.

ID: **230**

Topic: **Cardiovascular Surgery » Endovascular Surgery**

Presentation Type: **POSTER**

EVERYTHING IS POSSIBLE IN LOVE AND SURGERY

Serkan YILDIRIM, Ömer TANYELİ, Yüksel DERELİ, Büşra TEMEL, Yakup ALSANCAK, Niyazi GÖRMÜŞ

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OBJECTIVE: Complications related to the central dialysis catheter can be challenging for clinicians. Thrombosis and infection are the most seen complications. Although infection and thrombosis are the most common complications, malposition of the catheter can be much more difficult.

METHODS: A 45-year-old woman went to hospital for chest pain. Cardiac enzymes were negative, but ECG was shown inferior MI and then, the patient was taken to the cath-lab. No flow was detected in the distal RCA on angiography. Since the wire could not advance to the distal part of the lesion area, it was thought that the complaints might not be due to coronary artery disease, but that the hemodialysis catheter might have penetrated the RCA.

After the patient was admitted to our clinic, it was discussed in the council together with the cardiology clinic, and it was decided to process in the hybrid room. After the patient taken to the operation room cardiologist was sat the RCA with the right guiding catheter, the RCA is imagined, the 275x12 mm balloon flopy was parked after it was advanced. In the images taken from the permanent catheter across the TEE, it was observed that RCA also full as a retrograde. The catheter was retrieved under TEE and monitor observation. The control angiography was performed, and we observed that the RCA was filled and there was no opaque escape.

RESULTS: It is probable that several circumstances may have contributed to this serious complication. Blind insertion of the catheter and not being controlled after insertion are among the biggest factors. In this patient, the patient had palpitation and chest pain during hemodialysis and this was one of the biggest proofs that it could be catheter related.

CONCLUSIONS: Although catheter migration and malposition are the last thing to consider in patients presenting with chest pain, as it is always said, everything is possible in love and surgery.

ID: **248**

Topic: **Cardiovascular Surgery » Covid-19 and Cardiovascular Surgery**

Presentation Type: **POSTER**

ENDOVASCULAR MANAGEMENT OF A YOUNG PATIENT SUFFERED DEEP VEIN THROMBOSIS ASSOCIATED WITH SUPRARENAL INFERIOR VENA CAVA HYPOPLASIA AND COVID-19

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Introduction

Agenesis of the inferior vena cava (IVCA) is a rare congenital vascular anomaly characterized by absence, hypoplasia, or interruptions of the inferior vena cava. IVCA is detected in approximately 5% of predominantly young patients with deep vein thrombosis (DVT). COVID-19 is associated with an increased risk of thrombotic events. In this article, we present the treatment of a patient with extensive DVT associated with IVCA after COVID-19.

Case Presentation

A 29-year-old male patient presented with acute onset of swelling and pain in the right leg. He had a history of hospitalization due to COVID-19 one month ago. Doppler ultrasonography revealed acute iliofemoral DVT. In the initial venogram, acute iliac vein thrombus extending to the inferior vena cava and suprarenal hypoplasia of the vena cava were detected. The large lumbar veins and the well-developed azygos vein were also thrombosed. An ultrasound accelerated thrombolysis catheter (EKOS Corporation, Bothell, WA, USA) was placed through the inferior vena cava from the right popliteal vein. Ultrasound-enhanced thrombolysis (20 mg alteplase over 24 hours) was administered with a multihole infusion catheter. In the control venogram, partial recanalization of the inferior vena cava was detected. In this session, selective venography was performed to evaluate well-developed collateral vessels. Selective thrombolysis was performed via microcatheter to provide optimal venous circulation to major drainage points, including the lumbar veins. After the second prolonged thrombolytic administration (10 mg alteplase for 24 hours), a control venogram demonstrated that the residual thrombus was completely eliminated and the venous drainage of the lower extremity was optimal through the well-developed collateral veins and also the inferior vena cava. End of the first year, he is still post-thrombotic syndrome-free and has no experience of recurrent deep vein thrombosis under edoxaban prophylaxis.

Conclusions

DVT associated with IVCA should be kept in mind in young men. In this patients group, hypercoagulability and endothelial damage due to Covid-19 may trigger an unprovoked DVT. Catheter-directed therapies can be used with a high success rate in the management of IVCA-associated DVT according to the individual clinical and anatomical characteristics of the patient.

ID: **255**

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

Presentation Type: **POSTER**

ACUTE TYPE I DISSECTION IN AN 16 YEARS OLD ADOLESCENT

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Objective: Aortic aneurysm and raortic dissection, can be seen in patients with Marfan's syndrome. Although uncommon in adolescence, aortic dissection may lead to sudden death;. This case report presents a 16 years old adolescent boy with Marfan's Syndrome which has type 1 aortic dissection related aortic aneurysm.

Case: The patient presented to the emergency department with sudden onset chest and back pain. He had cerebral palsy and Marfan's Syndrome and lens dislocation in his past medical history, There was no history of cardiovascular surgery, angiographic procedure or trauma. He was a smoker no history of drug abuse.

The patients general condition was good, with stable hemodynamics. The body temperature was 36.5oC, and blood oxygen saturation was %98 in room air. Heart Rate was 105/min with sinüs rhythm, and respiratory rate was 27/min. He was tachypneic and diaphoretic. His non-invasive blood pressure was 120/80mmHg, with no difference was between both arms. There was no manifestation of malperfusion.

Laboratory data revealed; elevated d-dimer, troponin and bilirubin levels. Other results were normal.

Pre-operative emergency transthoracic echocardiography showed; aortic dissection flap and ascending aortic aneurysm. However, the aortic valve and sinus Valsalva was not visualised and appropriately evaluated.

CT Angiography distinguished Stanford type A aortic dissection and filling defect and dissection flap.

During surgery, a dissection flap was detected above the sino-tubular junction. The aortic valve was tri-cusp, and there was no sign of a valvular defect. Dacron tubular graft was interposed, and there were no complications after the operation.

Conclusions: Aortic dissection could be combined with hypertension (72%), advanced age, atherosclerosis, aortic aneurysm, Marfan syndrome (5%), bicuspid aortic valve, vasculitis, pregnancy, and cocaine abuse.

Chronic hypertension is the most common cause of aortic dissection at senility. However, in youngster patients, aortic dissection is rare; on the contrary, in younger patients diagnosed with aortic dissection, diseases such as Marfan syndrome, bicuspid aorta, and congenital heart diseases, connective tissue diseases are detected up to 50-60%.

Aortic dissection is a mortal disease. Nevertheless, it is infrequent in young children and adolescents. In two previous series, aortic dissection that covers 1085 patients reported only 38 were 19 years old or younger, consisting only 3.5% of all cases.

ID: **256**

Topic: **Cardiology »Peripheral arterial diseases**

Presentation Type: **POSTER**

FRACTURE AND RE-OCCLUSION OF THE BALLOON-EXPANDABLE STENT IN THE COMMON ILIAC ARTERY DUE TO A VERTEBRAL SPOOR.

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We would like to present a clinical case of critical limb ischemia in a young man, 42 y.o., without chronic diseases, a smoker, with increased body weight. The beginning of the disease- cardioembolism from the LV with the formation extended occlusion of the CIA, EIA . Embolism also occurred in the common hepatic artery, renal artery. The first stage made thrombectomy from the LV. Then the aortic femoral bypass was performed. Three days after surgery the occlusion of the bypass. Endovascular treatment performed and stent deployment(balloon-expandable stent 10x59 mm in proximal CIA, self-expandable stents 8x80mm, 8x60mm in distal CIA, EIA). The symptoms of ischemia resolved after stent implantation; however, the patient felt pain while at rest in the left leg 1 week later. Angiography indicated a totally occluded left CIA at the compressed stent. We wired through the stent cell and crushed it and stent-in-stent deploy(balloon-expandable stent 10x79mm). However, re-occlusion occurred three weeks later. Computed tomography angiography revealed that the stent in the left CIA was compressed by a spinal spur, and the presence of hyperlordosis of the lumbar spine. We speculate that the following occurred. The spinal spur gradually compressed the balloon-expandable stent as the patient performed normal daily activities. This is due to dynamic instability of the lumbar spine. As treatment options, we consider a bypass between the femoral arteries or repeated stenting with a large diameter self-expanding stent. We chose re-stenting and have a good long-term result. Subsequently, a retrospective analysis of patients with lesions at the same level was carried out and conclusions were made about the choice of stent.

ID: **264**

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

Presentation Type: **POSTER**

SUCCESSFUL REPAIR OF CONGENITAL MORGAGNI HERNIA AND VENTRICULAR SEPTAL DEFECT VIA MEDIAN STERNOTOMY IN A PATIENT WITH DOWN SYNDROME, ANAL ATRESIA, PECTUS CARINATUM AND CONGENITAL HYPOTHYROIDISM

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Abstract:

We report a 5 month-old female patient with Down syndrome who was successfully operated due to congenital Morgagni hernia,VSD concomitantly via median sternotomy.VSD was repaired with a polytetrafluoroethylene patch through the right atriotomy using cardiopulmonary bypass and diaphragmatic hernia was repaired primarily with prolene sutures reinforced with teflon pledgets after excising the diaphragmatic hernia pouch simultaneously.Entire operation was completed via median sternotomy.Transabdominal approach wasn't required to repair the diaphragmatic hernia.Postoperative course was uneventful.

Objective

Congenital diaphragmatic hernia(CDH) is a congenital defect involving abnormal development of the diaphragm.The hole in the diaphragm causes the abdominal organs to protrude into the mediastinum or thoracic cavity(1).The congenital Morgagni hernia(CMH) is rare in literature and the incidence is found to be 3-4% of diaphragmatic hernias(2).We report a 5 month-old infant diagnosed with Down syndrome,VSD and CMH in which all defects were repaired concomitantly via median sternotomy approach.

Method

A 5-month-old female patient with Down syndrome was referred to our institution for the operation due to the VSD.She was operated previously for anal atresia in neonatal period.No additional complication was occurred in the past 5 months.Anal dilatation had been made daily.On physical examination cardiac murmur and a mild pectus carinatum deformity was present(Figure 1A).She didn't have any serious respiratory distress therefore she wasn't investigated with further diagnostic tests except echocardiagram.On routine chest X-ray for preoperative investigation,stomach,intestines were observed in the mediastinal area(Figure 1B).Thorax computed tomography(CT) revealed a diaphragmatic hernia with protrusion of stomach,intestines to the mediastinal cavity(Figure1C,1D).Echocardiography revealed a 20 mm perimembranous VSD,patent ductus arteriosus(PDA) and a small secundum ASD.She was pulmonary hypertensive on echocardipography.She had congenital hypothyroidism,preoperative thyroid hormone levels were in normal ranges due to thyroid hormone replacement treatment.

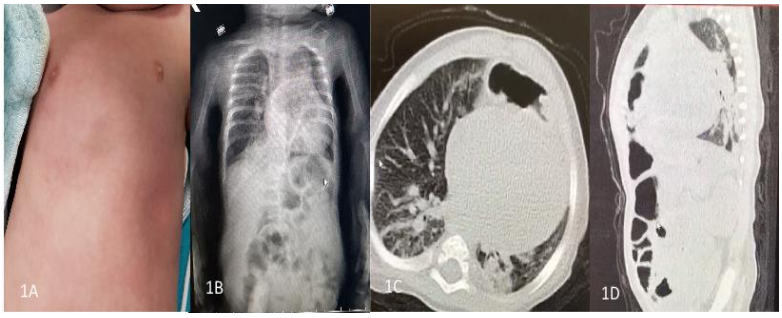

Figure 1A: Pectus carinatum deformity.

Figure 1B: Preoperative X-ray showes gas-filled abdominal organs located in the mediastinal cavity.

Figure 1C, 1D: Preoperative thorax computed tomography imaging indicates gas filled abdominal organs in the anterior mediastinum.

We decided to repair the VSD and CMH concomitantly.Midline sternotomy was performed.Anterior mediastinum was free of any abdominal organs at first sight(Figure 2A).However,anterior and medial part of diaphragma had a cleft and the hernia sac was detected to be protrude into the defect after the manual compression on the abdominal wall(Figure 2A).Hemidiafragmas were dissected(Figure 2B),reunited (Figure 2C).Using prolene sutures reinforced with teflon pledgets,the defect repaired primarly(Figure 2C).PDA was ligated.CPB was instituted using aortic and bicaval cannulation.The VSD was closed using a Goretex® patch through tricuspid valve.Secundum ASD was closed primarily.The weaning from CPB was uneventful.No rhythm disturbance occurred.In the postoperative period,intravenous iloprost infusion was given for 2 days and sildenafil was continued following the extubation at the second postoperative day.Her postoperative period was uneventful.She didn't have any problem about intestinal passage due to repaired CMH or previously repaired anal atresia.Postoperative X-ray was normal regarding abdominal organ locations(Figure 2D).The patient was discharged on postoperative day 10.

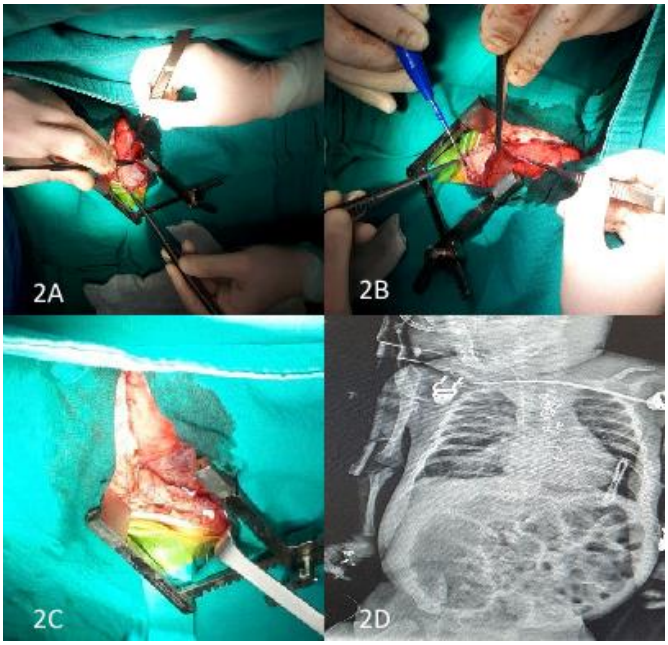

Figure 2A: Intraoperative view of intraabdominal organs protruding into anterior mediastinum.

Figure 2B: Intraoperative view: dissection of the hemidiaphragmas.

Figure 2C: Intraoperative view of the primary repair of the Morgagni hernia using prolene sutures.

Figure 2D: Postoperative X-ray, the mediastinal cavity doesn't have gas-filled abdominal organs.

Discussion

The CMH is a muscular defect of anterior diaphragm that causes abdominal visceral organs to protrude into the chest cavity,very rare among CDH in the ratio of 3-4% (3).It can be placed on the right,left or bilaterally in the ratio of 90%, 2% and 8% respectively(3).The content in the hernia sac is colon mostly(80%)(4).The CMH can be associated with congenital heart diseases(CHD) ranged from 25% to 31% (4)(5).Concomittant CHD are as follows: Scimitar syndrome(6),VSD(7)(8),cor triatriatum(9),TOF(10)(11),coarctation of aorta(11),ASD(11),dextrocardia(7),anomalous pulmonary venous return(7),endocardial cushion defect(7)(12),Williams syndrome and aortic valve stenosis(13),association of VSD and Down syndrome(14)(15)(16).CMH is usually asymptomatic.Respiratory complaints occur due to the compression of the lower lobe of the ipsilateral lung.

Respiratory complaints wasn't present in our patient,CMH remained undiagnosed for the past 5 months.However,need for the closure of a large VSD required median sternotomy.A concomitant median laparotomy would complicate the postoperative period after an open-heart operation in a patient with pulmonary hypertension and Down syndrome.Therefore,we repaired the congenital diaphragmatic hernia via median sternotomy simultaneously with VSD closure.Due to young age,her diafragmatic tissues was floppy enough to dissect and reunite thus after excising the hernia sac it was easy to repair the defect primarily.

Conclusion

We believe that median sternotomy may be the optimal choice for the repair of CDH in patients requiring open-heart surgeries.More over our patient is a rare example for the association of CMH,VSD,Down Syndrome,anal atresia,pectus carinatum and congenital hypothyroidism.

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

Presentation Type: **POSTER**

PROGNOSIS OF NON-OPERATED MATERNAL VSD IN PREGNANCY: A CASE REPORT.

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Objective: Despite advances in early diagnosis and recovery in cardiac surgery for congenital heart diseases, rarely some patients may not be diagnosed and treated until adulthood. women with congenital heart disease are surviving to adulthood and getting married and are likely to have complications in pregnancy. Pregnancy is associated with severe hemodynamic changes like increasing blood volume, redistribution of blood flow, and increased oxygen consumption but it can be challenging for some patients especially with congenital heart diseases. VSD is a rare congenital disorder characterized by a high risk of maternal and fetal mortality.

In the presented case, a 28-year-old primigravid woman with VSD diagnosed for the first time presented at 17 weeks of gestation. The patient was consulted from the obstetrics clinic because of dyspnea and systolic murmur (because of suspected fetal congenital heart disease). EKG was in sinus rhythm and incomplete RBBB. 2D echocardiography demonstrated malalignment in the membranous interventricular septum, right ventricular hypertrophy, and RV outflow tract obstruction. the defect diameter was 8 mm in color doppler. There was a shunt from LV to RV and a gradient of 90 mmHg was measured in the VSD and a gradient of 100 mmHg in RV outflow. The patient was evaluated by a council of cardiology and cardiovascular surgery specialists to decide on the continuation of the pregnancy or abortion. It was decided to continue the pregnancy with palliative treatment without invasive intervention. In the third trimester, dyspnea and pretibial edema increased. And the shunt gradient dropped to around 50 mmHg and the RV outflow gradient around 80 mmHg. No medication was prescribed, salt consumption was restricted, and prenatal endocarditis prophylaxis was administered. Based on the pathophysiology of the congenital cardiac lesion, cesarean delivery was performed under spinal anesthesia under management by a multidisciplinary team at 38 weeks of gestation. Oxygen support was given because the saturation decreased to 90% in the perioperative period. Apart from this, the intrapartum and postpartum periods were uneventful in terms of cardiac disease.

Conclusion: This report highlights the management of an uncorrected VSD for delivery. In selected patients, close follow-up of pregnancy and only palliative care may even be sufficient.