

Dear Colleagues,

It is a great pleasure as well as an honor for me to wellcome you in “**5th Congress of Update in Cardiology and Cardiovascular Surgery (UCCS)**” which will be held between the dates of 25th-28th September 2009 in WOW Kremlin Palace Hotel in Antalya, Turkey.

This year , our congress will run in two separate halls as an **ultra interactive** congress with live transmissions of interventional cardiological procedures and cardiovascular operations from national & international cath-labs and ORs enriched by interactive lectures. In this regard, UCCS Congress will include again **International Academia of Interventional Cardiology** in its traditional and well received format.

In addition, a two-days of an ESC Adult Congenital Heart Disease Training Course will be presented by the most prominent European cardiologists and Pediatric Cardiac Surgeons in the field of Grown Up Congenital Heart Disease in conjunction with our congress. Besides cardiologists and cardiovascular surgeons, internal medicine specialists and family physicians are wellcomed to attend and have a certificate at the end of this course.

Hands- On Cardiac Morpholgy Course and Hands-On Aortic Root Enlargement Course, Perfusion Course, Hypertansion Course and Cardiac Nursing Course that have been organized in the previous years will also take place in their advanced versions in UCCS 2009 Congress.

It is a special honor for me to publish all accepted surgical abstracts in HSF once again. I would like to thank cordially both to the scientists who submitted their abstracts and to the Editorial Board of HSF to make this UCCS tradition happened.

We wish you a fruitfull congress and a pleasant stay in Antalya.

With my warm regards,

Prof. Oztekin Oto, MD, FESC, FACC

President of the Congress

President, Heart and Health Foundation of Turkey

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ORAL PRESENTATIONS

FROM ENDOTHELIAL DYSFUNCTION TO THE EFFECTIVENESS OF THERAPY IN HYPERTENSIVE PATIENTS

OP-001 CLINICAL AND THERAPEUTIC EXPERIENCE IN ARTERIAL HYPERTENSION

Ali Oto¹, Sercan Okutucu¹, Guliz Erdem Yazici², Erol Tulumen³, Onur Sinan Deveci⁴, Banu Evranos¹, Sefik Gorkem Fatihoglu¹, Muhammet Dural¹, Hakan Aksoy¹, Kudret Aytemir¹
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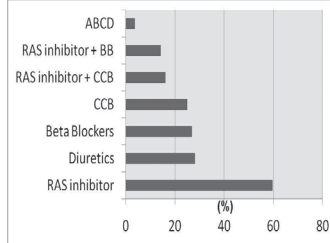
OBJECTIVE: The epidemiological data have shown that the goal blood pressure (BP) control is achieved in only a small percentage of the hypertensive patients. The aim of this study was to present our therapeutic experience and quality of the management related with arterial hypertension (AH) in prospectively followed patients.

METHODS: This prospective study included 419 consecutive hypertensive patients (56.8±13.5 years, 205 females), admitted to our institution between January 2000 and January 2009. Systolic and diastolic blood pressure, blood count and serum biochemistry, drug prescription and echocardiographic findings were analyzed in all study patients. Multiple linear and logistic regression analysis was used to identify the independent associates of poor BP control.

RESULTS: Overall, 59.6% of patients were discharged on renin - angiotensin - aldosterone system (RAS) inhibitors (A), 26.9% - on beta-blockers (B), 25% - on calcium channel blockers (C) and 28.1% - on diuretics (D). The most frequent drug combination used was AD (25.2%), followed by AC (16.1%), AB (14.2%) and BD (9.0%). ABCD combination was used in 15 (3.7%) patients. The goal systolic and diastolic BP was achieved in 69.5% of patients. Multivariate linear regression analysis identified; duration of hypertension, (β=0.146, p=0.046) and age (OR=0.203, p=0.006) as independent predictors of poor BP control. Multivariate logistic regression analysis identified diabetes (OR, 2.23; 95% CI, 1.06-4.69; p=0.034) as an independent predictor for poor BP control.

CONCLUSIONS: Blood pressure goal was achieved in most of the hypertensive patients that were followed in our center. The diabetes, age and duration of hypertension were independent predictors of poor hypertension control.

KEY WORDS: Antihypertensive drugs, arterial hypertension, blood pressure control



OP-002 ASSESSMENT OF INTERATRIAL CONDUCTION TIME BY MEANS OF ECHO-TISSUE DOPPLER IN PATIENTS WITH HYPERTENSION

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OBJECTIVES: Prolongation of interatrial conduction time (IACT) as an index of atrial electrical dysfunction is considered an important factor in the pathophysiology of atrial fibrillation. The purpose of this study was to assess atrial electrical function by tissue Doppler imaging (TDI) and to determine related structural and hemodynamic alterations of the heart by conventional echocardiography in hypertensive patients.

METHODS: The study included 70 hypertensive patients and 33 control subjects who underwent echocardiographic studies. We measured the interval of time from initiation of the P wave on the electrocardiogram (ECG) until the beginning of the late diastolic TDI signal at the left atrial wall (P-LA') and the right atrial wall (P-RA') for the assessment of IACT which was defined as the difference between the P-LA' and P-RA' intervals (LA' - RA'). The other echocardiographic measurements to determine the structural and hemodynamic changes in the heart in consequence of hypertension were the following: left atrial volume index (LAVI), left ventricular mass index (LVMI), ejection fraction (EF), E/e' and myocardial performance index (MPI). From the 12-lead electrocardiogram, P wave duration (P max) was calculated.

RESULTS:(see Table). The age, heart rate, P max and ejection fraction did not differ between the patients and controls. LAVI, LVMI, E/e' and MPI were significantly higher in patients with hypertension compared with controls. IACT was longer in hypertensive patients (27.71±13.01 vs 20.30±10.02 msec, respectively; P=0.005). A positive correlation was found between IACT and LV mass index (P=0.006). There was no significant correlation between the IACT and other echocardiographic parameters.

CONCLUSIONS:The TDI-derived IACT can be prolonged in hypertensive patients. This electrical alteration in the atrium is associated with increased left ventricular mass index. A potential mechanism explaining this observation may be that the left atrial remodeling parallels the development of changes in left ventricular mass is accompanied by changes in atrial synchronization.

Characteristics of study population

	Controls (n=33)	Hypertensive (n=70)
Age (years)	50.5±8.1	53.2±8.7
Men (%)	15 (45.5)	37 (52.9)
Heart rate (beat/min)	68.6±9.0	72.3±10.2
P-max (ms)	98.8±9.5	99.7±11.0

EF (%)	63.2±3.8	62.2±4.5
LAVI (ml/m ²)	24.5±4.6	27.8±6.6*
LVMI (g/m ²)	98.8±18.5	130.0±39.0*
E/e'	5.4±1.5	6.1±1.7*
MPI	0.50±0.06	0.57±0.09*

* P < 0.05

OP-003 ASSESSMENT OF LEFT VENTRICULAR SYNCHRONICITY IN HYPERTENSIVE PATIENTS WITHOUT HEART FAILURE

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OBJECTIVES: Hypertension is a major cause of diastolic heart failure(HF). Recent studies demonstrated that LV synchronicity was impaired in patients with diastolic HF. The aim of the study is to examine whether LV systolic dyssynchrony exist in hypertensive patients who have not developed clinical evidence of HF.

METHODS: Conventional and pulsed tissue Doppler imaging (TDI) echocardiography was performed in 88 hypertensive and 36 clinically normal subjects.The inclusion criteria were the following: LV ejection fraction (LVEF) >50%, QRS duration <120 ms, absence of known ischemic, valvular disease or other systemic disease. Dyssynchrony was determined by measuring the intraventricular conduction time (IVCT), which was calculated as the maximal difference of Q-Sm (time from QRS to onset of myocardial systolic velocity (Sm) on TDI) between 6-basal LV segments. A value of 60 ms was used as the cut-off point for LV dyssynchrony. The LVEF, left atrial volume index (LAVI), LV mass index (LVMI), E/e' and myocardial performance index (MPI) were also assessed. From the 12-lead electrocardiogram, maximum QRS duration (QRS-max) was calculated.

RESULTS: Table display clinical characteristics and echocardiographic measurements of the study population. The QRS-max, LAVI, LVMI, E/e' and MPI were significantly higher in patients with hypertension compared with controls. LV dyssynchrony was not commonly observed, occurring in 3 of 88 hypertensive patients (%3.4). IVCT did not differ either hypertensive or control groups (19.1±11.4 ms vs 17.8±11.2 ms respectively, p=0.56). Linear regression models pointed out positive association of IVCT with left atrial volume index (p=0.014).

CONCLUSIONS: LV dyssynchrony is not common among hypertensive patients without clinical heart failure syndrome.

Characteristics of study population

	Controls (n=36)	Hypertensive (n=88)	P value
Age (years)	50.3±7.9	52.7±8.8	0.150
Men (%)	17 (47.2)	45 (51.1)	0.422
Body Mass Index (kg/m ²)	28.7±3.3	29.9±4.4	0.139
QRS-max (ms)	88.1±7.8	91.8±8.4	0.024
EF (%)	63±3.9	62±4.4	0.236
LAVI (ml/m ²)	24.4±4.5	27.4±6.9	0.005
LVMI (g/m ²)	99.4±18.3	127.2±37.8	<0.0001
E/e'	5.3±1.5	6.1±1.7	0.011
MPI	0.50±0.06	0.57±0.08	<0.0001

OP-004 RELATIONSHIP BETWEEN EXERCISE HEART RATE RECOVERY AND CIRCADIAN BLOOD PRESSURE PATTERN

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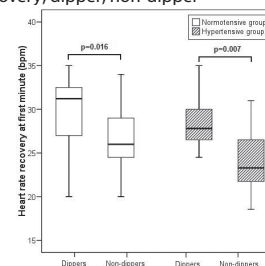
OBJECTIVE: The aim of the present cross-sectional study was to evaluate HRR in normotensive and hypertensive individuals with either non-dipper or dipper type circadian rhythm of BP.

METHODS: A total of 85 individuals with no history of hypertension were enrolled. All patients underwent 24-h ambulatory BP monitorization, treadmill exercise testing and transthoracic echocardiographic examination. Patients with a decline in mean night-time blood pressure of less than 10% were accepted as non-dippers. Heart rate recovery indices were calculated by subtracting first, second and third minute heart rates from the maximal heart rate obtained during stress testing and designated as HRR1, HRR2 and HRR3.

RESULTS: Eighty-five patients were divided into 4 groups according to the presence of HT and circadian blood pressure pattern as follows: a) HT(-)/dipper; n=20, b) HT(-)/non-dipper; n=21, c) HT(+)/dipper; n=22, and d) HT(+)/non-dipper; n=22. Mean HRR1 values (29.7 ± 4.0 vs. 26.6 ± 3.7, p=0.016) were significantly higher in HT (-)/dipper group than the HT (-)/non-dipper group. Mean HRR1 values (28.6 ± 4.0 vs. 24.8 ± 4.6 bpm, p=0.007) were higher in HT (+)/dipper group than the HT (+)/non-dipper group. Spearman's correlation analyses revealed a positive correlation between degree of night-time dipping and HRR1 (r=0.600, p=0.001)

CONCLUSIONS: As a conclusion, blunting of the nocturnal fall in BP associates with a delayed recovery of heart rate after graded maximal exercise in both normotensive and hypertensive groups.

KEY WORDS: Heart rate recovery; dipper; non-dipper



OP-005 VASCULAR ENDOTHELIAL FUNCTIONS, CAROTID INTIMA-MEDIA THICKNESS, AND SOLUBLE CD40 LIGAND LEVELS IN DIPPER AND NONDIPPER ESSENTIAL HYPERTENSIVE PATIENTS

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OBJECTIVE: The lack of nocturnal decline in blood pressure (BP) has also been associated with an increase in cardiovascular events. Soluble CD40 ligand (sCD40L) is involved in the pathogenesis of risk factor-related vascular damage. The purpose of this study was to examine the relationship between vascular endothelial functions, carotid intima-media thickness, plasma sCD40L levels and circadian BP profile in patients with essential hypertension.

MATERIAL AND METHODS: The study population consisted of 81 essential hypertensive out-patients. Blood pressure dipping was defined as a night-to-day systolic and diastolic decrease $\geq 10\%$. Forty seven dipper and 34 nondipper patients were compared. High sensitivity C-reactive protein (hs-CRP), sCD40L and urinary albumin were measured. Brachial artery flow-mediated dilatation (FMD) and carotid intima media thickness (cIMT) were compared between the groups.

RESULTS: sCD40L level (3.28 ± 2.08 and 2.30 ± 1.99 ng/ml, respectively, $p=0.036$) and urinary albumin concentration (36.7 ± 20.1 and 23 ± 29.7 mg/L, respectively, $p<0.0001$) were higher in nondippers than in dippers. Serum hs-CRP levels were not significantly different. FMD was found higher in dippers than nondippers ($11.8 \pm 3.9\%$ and $6.6 \pm 2.2\%$ respectively, $p<0.0001$). The average cIMT was significantly higher in nondippers than dippers (0.928 ± 0.060 versus 0.734 ± 0.134 mm; $p < 0.0001$).

CONCLUSIONS: Nondipper pattern has an additional negative effect on endothelial functions in hypertensive patients. Nondippers have enhanced sCD40L levels, which may contribute to their increased susceptibility to develop vascular damage.

Table

	Dippers (n=47)	Nondippers (n=34)	p
sCD40L (ng/ml)	2.30 ± 1.99	3.28 ± 2.08	0.036
Urinary albumin excretion (mg/L)	23 ± 29.7	36.7 ± 20.1	<0.0001
FMD (%)	11.8 ± 3.9	6.6 ± 2.2	<0.0001
NID (%)	13.7 ± 3.7	12.8 ± 3.6	0.278
cIMT(mm)	0.734 ± 0.134	0.928 ± 0.060	<0.0001

sCD40L, urinary albumin excretion, flow-mediated dilatation (FMD) and nitroglycerin-mediated dilatation (NMD) of the brachial artery and carotid intima-media thickness (cIMT) of the study groups

OP-006 THE RELATIONSHIP BETWEEN HEART RATE RECOVERY INDEX AND FRAMINGHAM RISK SCORE

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OBJECTIVES: Coronary heart disease is the leading cause of morbidity and mortality around the world. Many parameters and tests are used to determine atherosclerotic CHD. An association between decreased heart rate recovery index (HRR) which is measured during exercise stress test and increased cardiac mortality had been reported earlier. In this study, we aimed to evaluate the association of heart rate recovery index (HRR) and Framingham Risk Score in asymptomatic sedentary individuals.

METHODS: We enrolled 42 patients undergoing exercise stress test and having mean age 46.5 ± 13.52 of whom 20 were female (47.6%) and 22 were male (52.4%). Heart rate recovery index (HRR) was obtained by subtracting 1 minute after resting heart rate from maximal heart rate during exercise stress testing (Bruce protocol). Cardiovascular disease risk was determined by Framingham Risk Score. The statistical correlation between HRR and Framingham Risk Score were assessed with Pearson correlation analysis and ANOVA.

RESULTS: Of the 42 patients 14.3% had diabetes mellitus (DM), 28.6% had hypertension (HT), 54.8% had hyperlipidaemia (HL), 40.5% was current smoker and 61.9% had a positive family history for coronary artery disease. Mean HRR was 26.54 ± 9.63 and mean Framingham Risk Score was 10.9 ± 6.2 . According to Pearson correlation analysis, inverse relationship between HRR and Framingham Risk Score was determined to be statistically significant ($p=0.001$, $r=-0.50$).

CONCLUSION: Autonomic nervous system abnormalities are associated with coronary heart disease and its complications. Attenuated heart rate recovery index after exercise, which is thought to be a marker of reduced parasympathetic activity, has been shown to be an independent predictor of cardiac mortality among patients referred for stress testing. Having low HRR values, particularly < 12 /minute is associated with increased cardiac mortality. In our study, the negative correlation of low HRR values and Framingham Risk Score suggests, usage of these two parameters in combination for determination of cardiovascular risk. Patients with high Framingham Risk Scores and low HRR values should be further evaluated for CHD.

OP-007 ARTERIAL HYPERTENSION IN GERIATRIC AGE GROUP AND YOUNGER ADULTS: A COMPARISON OF DEMOGRAPHIC AND CLINICAL FEATURES

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OBJECTIVE: The prevalence of hypertension and other cardiovascular diseases increases with

the increasing age. The aim of this study is to examine the differences between geriatric hypertensives and younger hypertensives in terms of clinical properties and laboratory results.

METHODS: Total number of 404 consecutive hypertensive patients admitted to our institution between January 2000 and January 2009 were enrolled in this prospective study. Demographic properties like gender, smoking status, alcohol consumption; comorbid diseases including diabetes mellitus, coronary artery disease; and information about their hypertension such as the duration of HT, prescribed drugs, blood pressure control status were recorded. Systolic and diastolic blood pressure, serum biochemistry, blood count, and cholesterol levels were analyzed, and ambulatory blood pressure monitoring was performed in all patients. These properties were compared between geriatric patients (≥ 65 years old) and younger adults (< 65 years old) by chi-square test and Mann Whitney U test, where suitable.

RESULTS: Within 404 hypertensive patients, 108 were 65 years and older. Within geriatric hypertensive patients 57.4% were female, whereas 45.9% of younger adults were female ($p=0.041$). Smoking were more frequent in the younger adults (34.1% vs. 17.6%, respectively; $p=0.001$). Alcohol consumption was also more frequent in the younger adults (13.9% vs. 4.6%, respectively; $p=0.010$). When comorbid diseases were compared both diabetes and coronary artery disease were found to be more frequent in the geriatric age group (19.4% vs. 4.4%, $p<0.001$ for diabetes and 30.6% vs. 12.2%, $p<0.001$ for coronary artery disease). Only 17% of the hypertensive geriatric patients' blood pressure was under control, this was not significantly different from the 18.2% ratio in the younger adults. Duration of hypertension was significantly higher in the geriatric group (10 (1-40) years in geriatric group, vs 5 (1-30) years in the younger adults, $p<0.001$). Mean values of systolic and diastolic blood pressures in the geriatric age group were 151.7 ± 21.3 and 88.0 ± 11.9 which were both higher than the younger group ($p<0.001$ and 0.041 respectively). Lipid parameters were not significantly different between the two groups. Number of prescribed drugs was significantly higher in the geriatric group (2 (0-5) vs. 1 (0-4); $p<0.001$). Ambulatory blood pressure monitoring results revealed that total systolic, day systolic, and night systolic blood pressures were significantly higher in the geriatric group; whereas total diastolic, day diastolic, night diastolic blood pressures and heart rate were significantly higher in the younger adults; suggesting the importance of isolated systolic hypertension in the geriatric population.

CONCLUSION: Geriatric patients constitute a special group with different demographic and clinical properties. With increased prevalence of comorbid diseases and isolated systolic hypertension, this population needs a special attention while treating hypertension.

OP-008 THE PREVALENCES AND CORRELATES OF WHITE-COAT AND MASKED HYPERTENSION IN OUR CLINICAL EXPERIENCE

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OBJECTIVE: Masked hypertensives are known to have higher cardiovascular risk than WCHT patients and this risk is nearly similar to sustained hypertensives. The aim of this study was to determine the prevalences and correlates of WCHT and MHT in our institution and comparison the two group also with sustained hypertensive patients.

METHODS: This descriptive study included 419 patients who underwent ambulatory blood pressure monitoring for borderline hypertension or for assessment of antihypertensive treatment in our institution between January 2000 and January 2009. Systolic and diastolic blood pressure, blood count and serum biochemistry, drug prescription and echocardiographic findings were analyzed in all study patients. WCHT was identified as office BP $\geq 140/90$ mmHg and ambulatory blood pressure mean $< 130/80$ mmHg. MHT was diagnosed as office BP $< 140/90$ and 24 hour BP mean $\geq 130/80$ mmHg.

RESULTS: WCHT was diagnosed in 16.4% (80 patients) of all study population. For the patients without known hypertension ($n=73$), the prevalence of WCHT and MHT were 6.2% and 9.9%, respectively. 13.1% of the total population had sustained hypertension. There were no significant difference of age, gender, the presence of diabetes mellitus, smoking, alcohol consumption between the three groups. Lipid profiles were also similar. The WCHT, MHT and sustained hypertensive patients had similar correlates in our study population.

CONCLUSIONS: The WCHT and MHT prevalences obtained in our study are too high for underestimation because of high cardiovascular risk associated with those patients. Therefore ambulatory blood pressures are very important for hypertension diagnosis.

KEY WORDS: White-coat hypertension, masked hypertension

OP-009 THE EFFECT OF GENDER DIFFERENCE ON BLOOD PRESSURE, CLINICAL CHARACTERISTICS AND TREATMENT IN PATIENTS WITH ARTERIAL HYPERTENSION

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OBJECTIVE: The aim of this study is to investigate the effect of gender on blood pressure, clinical characteristics and treatment in prospectively followed patients with arterial hypertension (AH).

METHODS: In this study, we have included 404 consecutive hypertensive patients (56.8 ± 13.5 years, 206 females) who were admitted to our institution between January 2000 and January 2009. Systolic and diastolic blood pressures, blood count, serum biochemistry, prescribed drug use and echocardiographic findings were analyzed in all study patients. Clinical characteristics were recorded in databases. T-test and Mann Whitney U test was used to evaluate the gender effect on blood pressure control.

RESULTS: Accurate blood pressure control was achieved equally in different genders. A significant difference between groups was age in which female patients were older than male patients ($p<0.05$). HT duration, DM coexistence were similar between male and female patients. Smoking ($p=0.022$), alcohol consumption ($p<0.05$) and coronary artery disease history ($p=0.037$)

were higher in men as expected. The goal systolic and diastolic BP's were achieved in 20.4 % of female patients and 15.9 % of male patients with similar approaches. Isolated systolic blood pressure was higher in women than men (p:0.048). As laboratory investigations, creatinin, triglycerate, Hb levels were higher in men and total cholesterol, HDL-C levels were higher in women. Total systolic, diastolic, mean and day systolic, day diastolic, day mean, night systolic, diastolic, mean blood pressure levels were higher in male patients (p<0.05). The pattern of blood pressure reduction and drugs used for treatment including the type and doses were similar between groups. Male patients had higher blood pressure levels all day long. Although the blood pressure levels were higher in men, it didn't affect dipper pattern.

CONCLUSION: According to our study we have found that gender is not a determining factor for the efficacy of hypertension treatment. Although the blood pressure levels were higher in men, including higher smoking, alcohol consumption rates and coronary artery disease history; it did not effect the dipper pattern, drug choice and doses.

KEY WORDS: Gender, arterial hypertension, blood pressure control, clinical characteristics.

CORONARY ARTERY DISEASE : AN INTERNATIONAL PERSPECTIVE

INT-OP- 001 THE EFFECT OF QUANTUM THERAPY IN PATIENTS WITH UNTREATABLE REFRACTORY ANGINA

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PURPOSE: To examine the effect of quantum therapy in patients with untreatable refractory angina according to a compassionate protocol in order to evaluate the overall anti-inflammatory effects.

METHODS: 21 patients (mean age 57.7±8.9 years) with unstable angina (USA) refractory to maximal medical therapy and not suitable for revascularization were treated with autotransfusion of ultraviolet irradiated blood (AUVIB) for 2 weeks. Number of ischemic episodes and CCS class were carefully recorded. CRP levels and IL-6 production after were measurement before and after treatment

RESULTS: All patients were in CCS class IV and had a mean of 3 daily ischemic episodes at enrollment: all but four had a subjective improvement of one week that was still present at two months in 6 patients (CCS class II), 1 patient died after 2 months and 2 had no improvement and had new hospitalizations. No patients had myocardial infarction, episodes of congestive heart failure and changes in standard hematological tests during the treatment. CRP decreased rapidly and markedly but not significantly during the first week (from a median level of 10.8 mg/L at admission to 4.4mg/L at 48 hours, 2.9 mg/L at 2 weeks) persisting low in patients with symptomatic improvement at 5 months. IL-6 production significantly decreased at 48 hours remaining significantly reduced at 2 weeks, 3 and 6 months (from 4061 pg/ml at admission to 1702 pg/ml at 48 hours, 1209 pg/ml at 2 weeks, 1311 pg/ml at 3 months and 498pg/ml at 6 months respectively; p<0.05).

CONCLUSIONS: Two weeks of treatment with AUVIB is safe and effective in improving symptoms in refractory and otherwise untreatable unstable angina patients. The clinical effects are persistent in the majority of patients and are associated with a reduction in CRP levels and IL-6 production. Although an analgesic effect can not be excluded, the beneficial effects of quantum therapy seems to be mediated by modulation of the inflammatory response.

INT-OP- 002 POST-OPERATIVE OUTCOME AND MID-TERMS RESULTS OF CORONARY BYPASS SURGERY IN OCTOGENARIANS

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OBJECTIVE: The age of the patients referred for coronary bypass surgery is getting older progressively. Consequently we have evaluated disease, surgical and early and midterm postoperative outcome of octogenarians to determine the feasibility of cardiac surgery at this age.

METHODS: A prospective consecutive series of 46 patients aged 80 years and older (mean age 82.4 ± 2.8) underwent isolated coronary artery bypass grafting during a 2 years period (from 2001 to 2002) was analyzed. Seven operations (15.2%) were urgent. There were 37 men (80.4%) and 9 women (19.6%), 29 patients (63.1%) had unstable angina, 11 (23.9%) had left main coronary artery disease, 6 patients (13.1%) in CF NYHA IV, mean FC NYHA 2.9 ± 0.9, with Ejection Fraction 32.4 ± 5.8 %, 14 diabetic patients (30.4%), 7 with renal failure (15.2%), 3 (6.5%) with history of stroke and 8 (17.4%) with previous cardiac surgery.

RESULTS: There were performed 2.8 ± 1.1 anastomoses, with 1 LIMA in 11 cases (23.9%) and bilateral IMA in 31 patients (67.4%). There were no deaths in the hospital or within 30 days of operation (0%). Postoperative complications were: intraaortic balloon pump for low cardiac output in 6 patients (13.1%), 4 (8.7%) reexplorations for bleeding, 3 (6.5%) were presented prolonged ventilation, 1 sternal wound infections (2.1%); mean postoperative hospital stay was 9.4 ± 5.8 days. During 1 year follow-up period 1 patient dead (2.1%) but for no cardiac causes, myocardial infarcts were not observed and freedom from angina was 94.3% (43 patients). Four patients (8.7%) of the survivors suffered from depression. We have compared these results with those of a standard patient population underwent same operation with the same risk factors but an inferior mean age and we have observed no differences statistically meaningful.

CONCLUSION: We can conclude that, in patients over eighty years of age suffering from ischemic heart disease, coronary artery bypass grafting can be performed safely with acceptable morbidity, an acceptable quality of life and good mid-term results and so the advanced age isn't a major risk factor.

Keywords: Octogenarians - coronary bypass surgery

INT-OP- 003 SIX-MONTH PATENCY WITH THE PAS-PORT PROXIMAL CONNECTOR DEVICE: A SINGLE CENTER EXPERIENCE

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BACKGROUND: The PAS-Port (Cardica Inc, Redwood City, CA) is an automated system that allows for the clampless anastomosis of vein grafts to the aorta. The aim of this study was to compare early results of this system with conventional hand-sewn anastomoses in patients underwent elective coronary bypass surgery.

METHODS: A total of 10 patients undergoing elective on pump coronary bypass surgery receive proximal anastomosis with hand-sewn conventional technique and at least one anastomosis with the PAS-Port system. Patient follow-up consisted of multislice computed tomographic scans or coronary angiogram performed at discharge and six months postoperatively.

RESULTS: twelve proximal anastomosis was performed using PAS-Port and 15 anastomosis done using hand-sewn technique. In two patients severe atherosclerosis of the aorta required to do all proximal anastomosis using the PAS-Port device. All the Pas-port anastomosis were done successfully. Time needed for completion of the proximal anastomosis including graft loading was 152±19 seconds for the PAS-Port. No mortality or stroke seen early or at follow-up. Patency at discharge was 100% in both PAS-Port and hand-sewn group and after six months (98.8% PAS-Port group vs 93.7% control group) were comparable.

CONCLUSIONS: This study demonstrated excellent short and midterm patency in both the hand-sewn and PAS-Port grafts.

INT-OP- 004 AN ARTERIAL CONDUIT SPARING PROCEDURE: 10 YEARS FOLLOW-UP OF CORONARY-CORONARY BYPASS GRAFT

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OBJECTIVE: The Internal Mammary Artery (IMA) is already known as the best arterial graft for coronary artery bypass grafting since many years. Often the bilateral use of of IMAs is limited because the right IMA (RIMA) do not possess an adequate length to be directed to the posterolateral myocardium. We have studied the quality of the IMAs and the radial artery for the coronary-coronary bypass graft (C-C bypass) between two segments of the same coronary artery or two different coronary arteries.

METHODS: From May 1989 to December 1999, 167 patients (138 M and 29 F, mean age 63,7 ± 10,2 years) underwent total arterial myocardial revascularization using the technique of C-C bypass in addition to other bypass grafts: 159 patients (95,2%) underwent 1 C-C bypass and 8 (4,8%) 2 C-C bypass for a total of 548 distal anastomoses (3,2 ± 0,8 for patients). C-C bypass was chosen for the following reasons: calcified ascending aorta, inadequate length of IMA for in situ graft, stenosed or occluded subclavian arteries or in case of impossibility to use the saphenous vein as a graft. The arteries used for all the patients were RIMA in 129 patients (77,2%), left IMA (LIMA) in 28 patients (16,8%) and radial artery (RA) in 10 patients (6,0%). C-C bypass was performed totally on 175 cases and exactly on right coronary artery in 158 cases (90,3%), on the circumflex artery in 6 cases (3,4%), on the left anterior descending coronary artery in 6 cases (3,4%) and between two different coronary arteries in 5 cases (2,9%). Mean aortic cross clamping time was 83,6 ± 27,8 min and mean cardiopulmonary bypass time was 130,8 ± 43,2 min.

RESULTS: The actual survival is 97,0% (n = 162): 3 patients (1,8%) died of myocardial infarction and 2 patients (1,2%) died for non cardiac causes; 2 patients (1,2%) underwent reoperation. Early postoperative angiography (8,7 ± 0,6 days) showed a patency rate of 99,2% of cases and the angiography was repeated in 62,8% of patients (n = 105) after a mean period of 5,7 ± 2,8 years which proved the patency of the grafts in 94,6% of cases. Results of exercises testing were normal at 2 months in 97% of patients, at 1 year in 96%, at 3 years in 93% and at 6,8 ± 3,1 years in 90,4% (n = 151) the result was negative for myocardial ischemia.

CONCLUSION: The coronary-coronary bypass graft provides excellent results with a variety of conduits and allows the expanded use of arterial grafts, particularly the internal mammary artery. This can lead to a sparing of arterial conduit and allows complex myocardial revascularization with a liberal use of internal mammary arteries and radial artery.

KEYWORDS: coronary-coronary artery bypass

INT-OP- 005 EFFECTS OF DEXAMETHASONE ON PULMONARY AND RENAL FUNCTIONS IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

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BACKGROUND: Cardiac surgery and cardiopulmonary bypass (CPB) activate a systemic inflammatory response characterized clinically by changes in renal and pulmonary function. This study examined the pulmonary and renal effects of dexamethasone in patients undergoing coronary artery bypass grafting (CABG).

METHODS: In this Prospective, Randomized, Double Blind, Placebo controlled study, forty patients were randomized to receive either placebo (same amount of isotonic Sodium Chloride at the same time points) or dexamethasone (1 mg/kg, at induction of anesthesia and 0.5 mg/kg 8 h later).

RESULTS: Both groups show significant increase in Alveolar-arterial (A-a oxygen gradient) at postoperative measurement times and significant decrease in both Dynamic and Static lung

compliance at the same measurement times but no difference between groups. No significant difference regarding extubation time between dexamethasone group and the other group (772 ± 292 minutes; range, 208 to 1,359 minutes versus 735 ± 321 minutes; range, 200 to 1,358 minutes, respectively). Creatinine clearance improved significantly at the end of operative period in both groups and returned to preoperative values in the first and second postoperative days. Urinary micro albumin excretion increased in both groups at the operative period and started to decrease in the first and second postoperative day. The urinary N-acetyl-β-glucosaminidase (NAG) activity values significantly increased in the operative period in both groups and remained significantly higher in the postoperative 24 and 48 hour periods in both dexamethasone and placebo group.

CONCLUSIONS: Administration of dexamethasone to patients undergoing elective CABG with CPB is unable to prevent postoperative pulmonary and renal dysfunction.

INT-OP- 006 MIBCAB VERSUS OPCAB IN SINGLE VESSEL DISEASE

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BACKGROUND: Coronary artery bypass grafting via median sternotomy on cardiopulmonary bypass (CPB) is still considered as the 'gold standard' for revascularization in the management of patients with ischemic heart disease. The increasing recognition of the multiple deleterious effects of CPB and the ease of grafting the coronary arteries using cardiac retractors and stabilizers has led to a resurgence of OPCAB grafting and prompted the emergence and rapid spreading of MIDCAB surgery. We compared our results in CAD patients with single vessel disease who underwent surgery with full sternotomy with off-pump coronary artery bypass (OPCAB) or a left anterior small thoracotomy (LAST) with minimally invasive direct coronary artery bypass grafting (MIDCAB) without cardiopulmonary bypass.

METHODS: From January 2008 to May 2009, 40 patients with single-vessel disease of the left anterior descending artery who underwent surgery performed by the same surgical team were included in this prospective study. Of these patients, 20 underwent MIDCAB through an anterolateral minithoracotomy, and 20 had OPCAB through a full sternotomy. These two groups were similar in all demography parameters and risk factors.

RESULTS: There were no cases of operative mortality, early graft insufficiency, myocardial infarction, cerebrovascular accident or conversion to cardiopulmonary bypass in either group. Durations of mechanical ventilation and total hospital stay were shorter in the MIDCAB group. There were 4 cases of sternal wound dehiscence in OPCAB group.

CONCLUSION: MIDCAB procedures are technically more demanding than OPCAB, for this reason, sternotomy seems to be the best approach when beginning with off-pump techniques. OPCAB allows a more extensive coronary revascularization and is more comfortable for both the patient and the surgeon as in case of hemodynamic instability, OPCAB also allows immediate conversion to CPB. These advantages may well counterbalance the avoidance of sternotomy and cosmetic benefits of MIDCAB procedures. However in OPCAB group chances of sternal wound dehiscence is more specially in patients who have diabetes, COPD or renal dysfunction. So in properly selected patients MIDCAB is a safe option.

INT-OP- 007 EARLY AND MIDTERM OUTCOME OF PATIENTS WITH RENAL IMPAIRMENT UNDERGOING OPCAB USING THE "PI-CIRCUIT"

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INTRODUCTION: The aim of the study was to verify retrospectively the safety of applying the OPCAB technique using the π-circuit in coronary patients with renal impairment and to determine the early and midterm morbidity and mortality of these patients.

MATERIALS & METHODS: Between 03/2001 and 03/2004 we operated on 960 coronary patients. Nine hundred and four patients had normal renal function (group N) and 56 had a degree of renal impairment (group R). In group R, 11 patients had serum creatinine values of 1.6 – 1.9 mg/dl and 45 had values > 2.0 mg/dl. Fifteen of these patients were on extrarenal dialysis preoperatively. All patients underwent total arterial revascularization using the π-circuit. This circuit is based on preconstructions (compositions, extensions or sequential grafting) on the two pedicled skeletonized IMA's for total arterial, off-pump and aorta non-touch revascularization. The mean number of anastomoses was 2.3 in all patients.

RESULTS: All patients were followed up for 3 to 36 months. There were 15 (1.6%) perioperative cardiac deaths in group N and 1 (1.8%) in group R. Two patients (3.5%) in group R and 0 (0%) patients in group N developed renal failure postoperatively requiring dialysis. Three patients (5.4%) in group R and 7 (0.8%) patients in group N exhibited a slight increase of their serum creatinine values which resolved before discharge. Major perioperative complication rates were similar in both group. During the 3 years follow up there were 52 deaths of which 9 cardiac (1.0%) in group N and 7 deaths of which 1 cardiac (1.8%) in group R.

CONCLUSIONS: 1. Patients with renal impairment, undergoing OPCAB using the π-circuit, exhibit similar perioperative morbidity and mortality when compared retrospectively to patients with normal renal function. 2. The use of our method seems to maintain the preoperative level of renal function. 3. In 3 years renal patients show a higher all-cause mortality than the non-renal patients which, however, is not related to cardiac causes.

INT-OP- 008 OFF PUMP CABG CAUSES LESS RENAL COMPROMISE COMPARED TO ON-PUMP CABG

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BACKGROUND: Postoperative acute renal dysfunction (ARD) is still a common complication after coronary artery bypass grafting (CABG) and is associated with high morbidity and mortal-

ity. Cardiopulmonary bypass (CPB) has been identified as a major risk factor for postoperative acute renal dysfunction after CABG. Our aim was to assess the impact of the off-pump coronary artery bypass (OPCAB) compared to the on-pump coronary artery bypass (ONCAB) technique on the rate and severity of ARD.

METHODS: This is a retrospective review of a prospective collected database. Data of patients undergoing isolated CABG between January 2006 and August 2008 were analysed. The patients were divided into low risk group (Euro score < 6) and high risk (Euro Score > 6). All patients in each group were operated by either of two, experienced surgeons. ARD was defined as an increase of serum creatinine 50% within 48 h postoperatively.

RESULTS: During the study period 2912 patients underwent isolated CABG, 2243(77.02%) OPCAB and 669 (22.97%) were ONCAB. In the low risk group 530 (22.12%) patients underwent ONCAB and 1866 (77.87%) patients underwent OPCAB and in the high risk group 139 (26.93%) patients underwent ONCAB and 377 (73.06%) patients underwent OPCAB. The two groups were comparable on demographic and preoperative co morbid variables. Significantly fewer OPCAB patients developed ARD compared to ONCAB in low risk group (2.09% vs 5.85% p < 0.001) and also in high risk group (4.5% vs 24.46% p < 0.001). The incidence of acute renal failure requiring hemofiltration or hemodialysis was significantly less in OPCAB compared to ONCAB (2.09% vs 3.96% p < 0.001) in the low risk group and (2.38% vs 16.5% p < 0.001) in the high risk group.

CONCLUSIONS: OPCAB technique for CABG was associated with a significantly lower rate and less severe ARD compared to ONCAB.

KEYWORDS: acute kidney injury; acute renal failure; cardiopulmonary bypass; coronary artery bypass grafting; off-pump coronary artery bypass

DIAGNOSIS AND SURGICAL SOLUTIONS FOR DISEASES OF AORTA AND PERIPHERAL ARTERIES

OP-010 AXILLARY ARTERY CANNULATION VIA TRANSPECTORAL APPROACH WITH SUBCLAVICULAR INCISION IN SURGERY OF ASCENDING AORTA AND AORTIC ARCH

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Cannulation of the axillary artery is one possible means of establishing cardiopulmonary bypass during surgery of the ascending aorta and aortic arch. Potential advantages of axillary artery perfusion instead of femoral perfusion are antegrade aortic flow with decreased risk of atheremboli, low risk of false lumen perfusion in aortic dissections, avoidance of groin manipulation, and a possibility of antegrade cerebral perfusion during cardiocirculatory arrest. The presence of aortoiliac aneurysms, severe peripheral occlusive disease, atherosclerosis of the femoral vessels, and distal extension of the aortic dissection may preclude their utilization. Axillary artery cannulation via subclavicular incision transpectoral approach may represent a valid alternative in these circumstances. In 17 patients between 2005 and 2008 undergoing proximal

aortic surgery, perfusion via the axillary artery was performed with direct cannulation. There were no axillary complications, hospital mortality was one out of 17, and one stroke occurred.

OP-011 COMPLICATIONS DUE TO CANNULATION OF THE BRACHIAL ARTERY IN AORTIC ANEURYSM SURGERY

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PURPOSE: The best method of cerebral protection during the aortic arch surgery still remains controversial. Antegrade cerebral perfusion(ACP) seems to be more favorable because of the better neurological outcome. Although studies about ACP via the brachial cannulation have been published, there is a lack of a study particularly focusing on the local complications with objective findings. The aim of the present study is to investigate the local neurologic and/or vascular complications subsequent to upper brachial cannulation.

METHODS: Between May 2003 and January 2009 173 patients undergoing procedures on the ascending aorta aortic arch or descending aorta had upper brachial artery cannulation for cardiopulmonary bypass. The mean age of the 105(61 %) men and 68(40 %) women was 56.4 ± 11.7 years(Table 1). Doppler analysis of the arteriotomy in upper brachial artery was performed for 116 (67 %) patients postoperatively. Mean follow up time for Doppler analysis was 5.1 ± 2.3 months. The collateral circulation and retrograde backflow in distal segments of the brachial artery which were not affected after cannulation is demonstrated by administration of a radiopaque solution through the cannula in brachial artery (Figure 1). We also introduced by Doppler analysis that the flow in radial artery was not interrupted after insertion of the brachial cannula although it was transformed from threephasic to monophasic pattern.(Figure 2)

RESULTS: The mean body surface area was 1.86 ± 0.1m². The mean ACP time was 26.4 ± 17.3, ranging from 11 to 122 minutes. The mean degree of hypothermia was 25,3 ± 2,1C° and the mean flow rate during ACP was 544.8 ± 38.9 l/min. Hospital deaths occurred in 6(3.4%) patients. Two local vascular complications occurred at the cannulation site (1.1 %). Two patients suffered from local neurologic complications (1.1 %). Electromyography analysis was performed for these two patients. One had permanent mild residual numbness in the thumb, index, long and one-half of the ring finger and weakness in the hand with thenar atrophy due to injury of the median nerve while the other had transient hypoesthesia regressed within seven days.

CONCLUSIONS: The anatomical location of the cannulation site of the upper brachial artery, when compared to axillary artery cannulation, carries lower risk of local neurologic injury because it is beyond the reach of the axillary, the musculocutaneous and the radial nerve(Figure 2). In brachial cannulation the periscapular collateral circulation of the upper limb remained unaffected because the tip of the cannula does not extend beyond the origin of either the subscapular artery or the anterior and posterior circumflex humeral arteries.(Figure 2) We also introduced by Doppler analysis that the flow in radial artery was not interrupted after insertion of the brachial cannula although it was transformed from threephasic to monophasic pattern. (Figure 3) Brachial artery cannulation is technically simple and less time consuming thus suitable even for emergent cases. It has an acceptable risk of local complications. Therefore we recommend routine use of upper brachial cannulation in ACP.

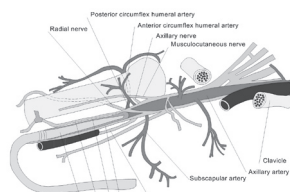
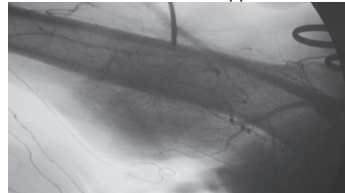


Figure 1:The collateral circulation of the upper arm is not affected by arterial cannula.

Figure 2:The anatomical positions and the branches of the axillary/brachial artery and the brachial plexus

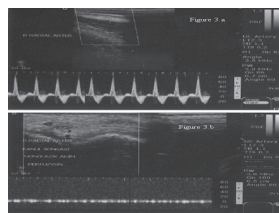


Figure3:The threephasic flow pattern(Fig. 3.a) was transformed to monophasic pattern(Fig. 3.b) after insertion of the brachial cannula

Table 1: Demographics

Mean age	56.5 ± 11.5
Gender (M/F)	105(59.6 %) / 71(40.3%)
BSA (m ²)	1.86 ± 0.2
Aorta diameter (cm) (n=128)	6.3 ± 1.4
NYHA	
I	28 (15.9 %)
II	79 (44.8 %)
III	52 (29.5 %)
IV	17 (9.7 %)
Noncardiac comorbidity	
Diabetes Mellitus	24 (13.6 %)
Hypertension	123 (69.8%)
History of smoking	89 (50.5 %)
COPD	30 (17.0 %)
Renal Disease	6 (2.2 %)
Cardiac comorbity	

Previous cardiac operation	14 (7.9 %)
Marfan's Syndrome	13 (7.3 %)
Emergent operations	11 (6.2 %)
Aortic pathology	
Aneurysm	156 (88.6 %)
Dissection	16 (9.0 %)
Atherosclerosis	2 (1.1 %)
Calcification	2 (1.1 %)

COPD:Chronic obstructive pulmonary disease

OP-012 A SIMPLE TECHNIQUE TO REDUCE TENSION ON CORONARY BUTTON ANASTOMOSIS IN AORTIC ROOT SURGERY

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INTRODUCTION: The permanency of the coronary ostial anastomosis is an important predictor of morbidity in aortic root surgery. Numerous large series in the literature have documented the problems about the coronary ostial anastomosis which are bleeding, distortion , pseudoaneurysm formation, thrombosis , kinking , coronary dehiscence and coronary damage. We introduced a new technique to reduce coronary reimplantation related complications in aortic surgery.

SURGICAL TECHNIQUE: After the instution of cardiopulmonary bypass, the redundant aortic wall is excised and the coronary buttons are prepared by harvesting of the coronary ostia surrounded by a large portion of aortic wall, which allows the coronary buttons to be sutured with a sort of endo-button technique. A conduit graft is sewn to the aortic root. To perform coronary button anastomosis, the suture line is placed around the edge of coronary ostia, incorporating surrounding aortic tissue. A running suture of 4-0 prolene is used for tailoring buttons to the holes in the vascular graft slightly larger than the corresponding coronary ostium which are fashioned by high temperature cautery. The vertical folds of the conduit graft that provides its accordionization are plicated at both sides of each ostial anastomosis by single sutures in order to avoid tension on the anastomosis after declamping of the aorta.(Figure1) Then distal ascending aorta is transected and anastomozed to the conduit graft if the arch replacement will not be performed.

DISCUSSION: Complications after aortic root replacement are mainly represented by pseudoaneurysm formation. Connective tissue disorders appear to play a significant role in development of these anastomotic problems. It has been demonstrated that, coronary ostial aneurysms are a common finding in patients with Marfan syndrome after elective aortic root surgery even when the button technique is used. Thus, we plicate the folds of the graft at both sides of each coronary ostial anastomosis although we use button technique. By this means the unfolding graft after declamping the aorta, does not result in tension on the suture line. We recommend plicating the folds of the graft at both sides of the sapheno-aortic anastomosis as well if a concomittant coronary artery bypass grafting with conduit grafts is performed(Figure 1, Figure 2). In conclusion we believe that, plicating the folds of the graft at both sides of the coronary ostial anastomosis reduces the tension on the suture line and may be advantageous to avoid pseudoaneurysm formation, detachment of the coronary button from the graft, distortion of the coronary geometry or bleeding from the suture line.



Figure 1:Both sides of coronary button and aorta-saphenous anastomosis are plicated

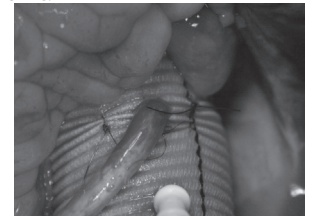


Figure 2: Plicated folds at both sides of the anastomosis between the saphenous vein and the synthetic graft are seen

OP-013 CEREBRAL PROTECTION WITH ANTEGRADE SELECTIVE CEREBRAL PERFUSION IN COMPLEX ARCUS AORTA PROCEDURES

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INTRODUCTION: Two cases of complex ascending and arcus aortic surgery with antegrade selective cerebral perfusion (ASCP) via brachial artery cannulation are presented.

CASE 1: 40-year-old female patient has admitted to the hospital with dyspnea, chest and left arm pain. CT revealed severe and diffuse calcification of ascending (7.0 cm) and arcus aorta (3.1 cm). Brachial arterial cannulation made. Antegrade cerebral perfusion was started. Brachiocephalic artery and left common carotid artery were implanted together as an island to a 16-mm Dacron graft. Single clamping of proximal part of graft was made and then bilateral antegrade cerebral perfusion was started. A 24-mm Dacron graft was interposed distally to descending aorta before left subclavian artery and previous graft was interposed to this 24-mm graft in end-to-side manner. Left subclavian artery and arcus graft were unclamped respectively. Single clamp was put to proximal portion of 24-mm graft and antegrade cerebral perfusion was stopped and full flow was maintained (Figure 1). With partial annuloplasty of non-coronary and half of right coronary leaflet, remodelling was done by 28-mm Dacron graft. Control CT was applied and as there was no problem the patient had discharged at postoperative 7th day.

CASE 2: 69-year-old male patient has admitted to the hospital dyspnea and angina pectoris. Coronary angiography revealed stenosis in coronary arteries. CT revealed ascending aorta was measured 5.1 cm and presence of aneurysmal dilatation of the aortic arch (4.6 cm). Duplex ultrasound revealed demonstrated 70% to 99% stenosis in the right internal carotid artery and total occlusion of the other side.

Carotid endarterectomy was performed. Subsequently brachial artery cannulation was performed. After cross-clamping the distal ascending aorta, during the cooling period distal anastomoses of coronary arteries were done first. Ascending aorta was replaced with a supra-coronary 30-mm Dacron-woven graft. During arch reconstruction, open distal technique was employed with continuous ASCP, accomplished by clamping the brachiocephalic, left carotid, and the left subclavian arteries proximally. A 30-mm Dacron-woven graft was used for arch reconstruction.

DISCUSSION: The axillary and brachial arteries are currently gaining interest as alternatives to femoral artery cannulation in aortic surgery and ASCP is proved to be a safe method for brain protection. ASCP is suitable, technically simple, not time consuming and providing optimal repair chance in arcus aortic repair requiring surgery. Also cardiopulmonary bypass and operation times are shorter and deep hypothermia is not needed.

In conclusion; even in complex aortic surgery with coexistence of other situations as carotid artery stenosis or severe and diffuse calcification of aorta, ASCP via brachial artery cannulation may be used as an alternative to other modalities.

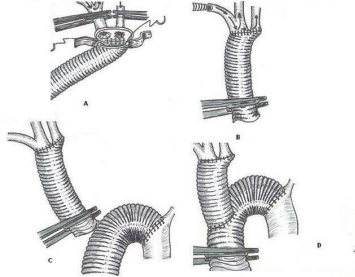


Figure 1

OP-014 THE ROLE OF THE PAI GENE POLYMORPHISM IN BUERGER'S DISEASE (TROMBOANGIITIS OBLITERANS)

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Thromboangiitis obliterans (TAO) is an unusual tobacco-associated vasculopathy that is a non-atherosclerotic inflammatory disorder of unknown etiology that affects small and medium-sized vessels of the extremities. Etiopathogenesis of disease could not be evenly revealed. Researchers think that tobacco is rolled for starting and progressing of disease and by the way genetic factors, hypercoagulability, endothelial function and immune mechanisms etc. are suspicious factors that enrolled such as tobacco. For example HLA-9 and HLA-B5 was excessively documented in patients with TAO. The elusive etiology of this disease makes it difficult to diagnose and treat. Concerning other risk factors or predisposing factors, only a few data's found in the literature.

Highly cellular thrombus occludes much of the lumen and lymphocytes, giant cells, fibrous hyperplasia, intimal thickness have seen around vaso-vasorum in histological investigation of vessel that affected by TAO. A highly cellular thrombus occludes much of the lumen. A multinucleate giant cell and micro-abscess are present within the thrombus. Both genetic and thrombotic events, reminds that prothrombotic gene deletions might act a part in this disorder.

In the present study we investigated plasminogen activator inhibitor (PAI) gene mutation scanned in peripheral blood. Because of this, we performed case-control study between groups, drawing peripheral blood from 30 patients who diagnosed with TAO in our clinic and from 30 healthy individuals that similar age and gender does not have any complaint. Heterozygote mutation was detected in 25 (83.3%) patients with TAO and 13 (43.3%) healthy subjects. We found that heterozygote PAI gene polymorphisms (p<0,05) was significantly more frequent in patients with TAO.

In conclusion genetical mutations may be an important risk factor of TAO. This study indicates that the 4G/5G gene polymorphism of PAI-1 associated is with TAO that 4G/4G type is probably an important hereditary risk factor. Detection of etiopathogenesis is important for meticulous care of these patients.

KEY WORDS: Thromboangiitis obliterans, genetic polymorphisms, PAI-1

OP-015 ACUTE PERIPHERAL ARTERIAL EMBOLISM: Review of 619 Cases

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PURPOSE: We retrospectively analyzed the outcomes of 619 patients who underwent a total of 721 operations for acute peripheral arterial embolism in our clinic between May 1993 and June 2009.

METHODS: All of cases were done embolectomy due to acute extremity ischemia. The patients ranged in age from 16 to 95 years old (mean 60.5). There were 355 male (%57.4) and 264 female (%42.6) patients. The time of admission to hospital was 2 hours and 15 days.

RESULTS: The underlying cause of arterial embolism was cardiac in 351 patients (%56.7) and in 325 patients (%52.5) atrial fibrillation. There was lower extremity, and upper extremity emboli

in 488 (%78.8) and 131 (%21.2) patients, respectively. Re-embolectomy was required in 95 patients (%15.3). Additional techniques like bypass procedures, patchplasty and endarterectomy were applied in 71 patients (%11.5). Fasciotomy were made in 59 patients. Ileoprost and hyperbaric oxygen treatment were applied in the 18 (%2.9) and 10 (%1.6) patients, respectively. Postoperative hospital mortality occurred in 36 patients (%5.8). Death usually was observed in delayed, elder patients have cardiac problems. Echocardiography was performed to determine the etiology in the 369 patients (%59.6) and cardiac thrombus were determined in 28 patients (%4.5). In 9 patients t-PA, in 4 patients LA thrombectomy and MVR also in 1 patient aneurysmography and in 1 patient LA mixoma excision were done. Amputation was performed in 36 patients (%5.8). In 4 patients who had continued ischemic complains were applied ileoprost treatment, and in 3 patients who amputation below the knee was necessary were applied hyperbaric oxygen treatment. We found wound infection in 51 patients.

CONCLUSION: If the embolectomy, which is a rapid and easy technique for treatment of acute arterial emboli, is performed by experienced surgeons without delay, the complications associated to emboli might be prevented.

OP-016 OUR COMPLEX ARTERIOVENOUS FISTULA EXPERIENCES

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OBJECTIVE: First choice of dialysis access for dialysis-dependent patients is a Brescia-Cimino arteriovenous (AV) fistula. When not possible or failed, more complicated procedures might be required. In this study, we reported 39 complex arteriovenous access procedures performed to 32 patients between April 2007 and May 2009 in Konya Meram Eğitim Arastirma Hospital, Konya, Türkiye.

PATIENTS AND METHODS: 19 male and 13 female patients were retrospectively reviewed. They underwent 39 operations. Of them, 30 brachio-basilic AV fistula creation and basilic vein superficializations, one basilic vein transposition, seven brachial axillary graft interpositions and one graft interposition between femoral artery and saphenous vein were performed. Local anesthesia and supraclavicular nerve block were used during the procedures. Only one patient was operated under general anesthesia as her preference. After failure of a brachio-axillary graft, femoro-saphenous graft interposition was performed to one patient.

RESULTS: Primary patency was achieved in 24 of 30 patients in brachio-basilic group (% 80), and five of seven (% 71) in brachioaxillary graft interposition group. Two ones in brachioaxillary group occluded after 6 and 11 months respectively. One of brachioaxillary fistula failed 6 months after the procedure and femorosaphenous fistula with PTFE graft was performed thereafter.

CONCLUSION: Brachio-basilic fistula with vein superficialisation is an acceptable procedure for dialysis access with satisfied rates and has fewer complications compared to brachio-axillary grafts. We concluded that fistula creation using native vessels should be considered in hemodialysis access rather than prosthetic ones

OP-017 EVALUATION OF NICOTINE ADDICTION USING FAGERSTROM TOLERANCE TESTING IN PATIENTS WHO UNDERWENT SURGERY FOR PERIPHERAL ARTERIAL DISEASE

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ABSTRACT: The Fagerstrom Tolerance Test for Nicotine Dependency allows physicians to classify smokers according to the level of nicotine dependency. Scores of patients who underwent surgery for peripheral arterial disease were higher than control groups (5.3;4) which was suggestive of higher nicotine addiction.

INTRODUCTION: Relative to other risk factors, smoking is more strongly associated with peripheral arterial disease (PAD) which is characterized by flow-limiting atherosclerosis in the muscular arteries of the lower extremities. Smoking is an important source of exposure to lead and especially to cadmium. It has been proposed that cadmium in cigarettes is a causative agent for cigarette smoke-induced cardiovascular disease. The Fagerstrom Tolerance Test for Nicotine Dependency allows physicians to classify smokers according to the level of nicotine dependency and to identify those most likely to need nicotine replacement therapy (usually indicated by a score of 6 or above). Smoking cessation is an obligatory element in the management of vascular problems, and in patients scheduled for vascular interventions, and also in those who undergo surgery for peripheral arterial disease.

MATERIALS AND METHODS: 47 smokers with peripheral arterial disease operated on between 2007-2009. As a control group, 40 smokers (20 young smokers and 20 old smokers) were also involved in the study.

- Six questions below were asked and scores were calculated;
- How soon after you wake up do you smoke your first cigarette?
 - After 60 minutes (0)
 - 31-60 minutes (1)
 - 6-30 minutes (2)
 - Within 5 minutes (3)
 - Do you find it difficult to refrain from smoking in places where it is forbidden?
 - No (0)
 - Yes (1)
 - Which cigarette would you least like to give up?
 - The first in the morning (1)
 - Any other (0)
 - How many cigarettes per day do you smoke?

- 10 or less (0)
- 11-20 (1)
- 21-30 (2)
- 31 or more (3)

5. Do you smoke more in the first hours after awakening than during the rest of the day?

- No (0)
- Yes (1)

6. Do you smoke even if you are so ill that you are in bed most of the day?

- No (0)
- Yes (1)

CONCLUSION: The number of patients in the young control group was 20 and had a mean age of 37 and a score of 4.3. The number of patients in the old control group was 20 and had a mean age of 61 and a score of 4. The number of patients in the operated group was 47 and had a mean age of 56 and a score of 5.3. The patients in the operated group had a higher score than the other groups suggesting that they have a higher nicotine addiction. This proves the importance of cessation of smoking in patients undergoing surgery for peripheral arterial disease (PAD). Moreover, this study highlights the importance of referring patients to a smoking cessation programme or clinic following surgical procedures for PAD.

OP-018 RETINAL MICROVASCULAR COMPLICATIONS DURING RETROGRADE CEREBRAL PERFUSION FOR AORTIC DISSECTION SURGERY

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AIM: The aim of this retrospective study was to determine the influence of retrograde perfusion on retinal microcirculation for apatients treated for aortic dissection.

MATERIALS-METHODS: The groups composed as ascending aortic and arch replacement (Group II) or the ascending aortic replacement only (Group I). There were 25 men and 15 women, (mean age 49.4 ± 13.5). The intimal tear was resected and replaced with a Dacron graft. All patients underwent fundus examinations in first day and 4 weeks after operation.

RESULTS: Ocular complications were detected in 20 patients (5 in Group I and 15 Group II). Blurring of vision was found in 15 and retinal pale 5. Binocular photopsia was persisted in 6 after 4 weeks (all in Group II). The prevalence of transient ocular dysfunction was found significantly higher in the Group II. The ischemic lesions in the retina disappeared and no abnormality was observed by retinal angiography 6 months later.

CONCLUSION: Binocular ischemic retinopathy can be sign of cerebral protection effect during aortic surgery. Therefore we believe that ophthalmic observation is a useful method of observing cerebral perfusion directly during aortic dissection surgery.

KEYWORDS: Retinal microcirculation, retinal ischemia, aortic dissection, retrograde cerebral perfusion

assessed further in prospective studies with a larger patient population to confirm the above findings and to understand their importance.

KEY WORDS: acute myocardial infarction, ischemia, reperfusion, thymosin beta 4

OP-020 GAMMA GLUTAMYL TRANSFERASE IN CORONARY ARTERY ECTASIA

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BACKGROUND: Gamma-glutamyltransferase (GGT) is known to be associated with atherosclerosis. Circulating GGT may participate in the pathogenesis of cardiovascular atherosclerotic disease and its complications. It is unclear whether GGT activity may be associated with coronary artery ectasia (CAE), a variant of atherosclerotic coronary disease. Thus, we aimed to investigate the plasma level of GGT in patients with CAE.

METHODS: This study consisted of 161 consecutive patients undergoing angiographic evaluation. CAE was defined as a dilation exceeding the 1.5-fold of normal diameters in major coronary arteries. One-hundred seven patients had CAE (CAE group, 46 male, mean age=58±12 years). Risk factors for atherosclerosis were noted. Control group included age-, sex- and risk factor matched 54 patients with normal coronary arteries. Exclusion criteria were as follows; a history of alcohol use, elevation of hepatic transaminases (AST and/or ALT), known hepatic disease and heart failure. Plasma GGT levels were measured by the enzymatic calorimetric test.

RESULTS: Plasma GGT level was significantly higher in patients with CAE compared with the control group (28.1±15 vs 15.8±6.5 U/L, p=0.01). In addition, GGT quartiles were significantly correlated with diffuse ectasia (r=0.44, p<0.001), but not with multi-vessels involvement.

CONCLUSION: Our results suggest that GGT level may be elevated relatively in patients with CAE and that it may be associated with the extension of CAE. These findings may provide a new consideration in the pathogenesis of CAE.

KEYWORDS: Gamma glutamyltransferase, coronary ectasia

OP-021 IS THERE ANY ASSOCIATION BETWEEN INFLAMMATION AND CORONARY ARTERY ECTASIA?

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OBJECTIVE: In recent years, prevalence of coronary artery ectasia (CAE) is growing. However, its underlying mechanisms are clearly unknown. Also, it is unclear that there is a link between CAE and inflammation. We investigated the role of well-known inflammatory marker, high-sensitive C-reactive protein (hs-CRP), in CAE patients.

METHODS: This study consisted of 161 consecutive patients undergoing angiographic evaluation. CAE was defined as a dilation exceeding the 1.5-fold of normal diameters in major coronary arteries. One-hundred seven patients had CAE (CAE group, 46 male, mean age=58±12 years). Risk factors for atherosclerosis were noted. Control group included age-, sex- and risk factor matched 54 patients with normal coronary arteries. Serum hs-CRP level was measured by using polystyrene particles coated with monoclonal antibodies to CRP.

RESULTS: Serum level of hs-CRP was significantly higher in CAE patients compared with controls with normal coronary arteries (4.6±2.3 vs 2.8±1.8 mg/dl, p=0.001). hs-CRP levels were not correlated with both diffuse ectasia and multi-vessel ectasia.

CONCLUSION: Our results suggest that hs-CRP level may be elevated relatively in patients with CAE. Thus, it may have a pathogenetic role in CAE formation. However, there is no significant association inflammation and the severity or extension of CAE.

OP-022 THE ASSESSMENT OF RISK FACTORS FOR ATHEROSCLEROSIS IN PATIENTS WITH CORONARY ARTERY ECTASIA

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BACKGROUND: Coronary artery ectasia (CAE) is characterized by abnormal dilatation of the coronary arteries. Atherosclerosis is responsible for the majority of CAE. We aimed to evaluate the association between risk factors for atherosclerosis and CAE in an angiographic-based study.

METHODS: Between 2000 and 2008 years, isolated CAE was documented in 1208 (9.9%) of 12117 patients undergoing elective coronary angiography in our center (CAE group). It was defined as a dilation exceeding the 1.5-fold of normal diameters in major coronary arteries, without concomitant luminal stenosis of ≥50%. Control group (n=217) was considered as having angiographically normal coronary arteries. Demographic and clinical characteristics and major risk factors for atherosclerosis were evaluated in the study groups. The severity of CAE was assessed based on the number of involved vessel or diffuse/focal involvement.

Results: There was no significant difference in mean age (56±11 vs 55±8 years, p=0.16) between CAE and control groups. The percentage of male patients was higher in CAE group than controls (53% vs 34%, p<0.01). CAE patients had stable (62%) and unstable angina pectoris (36%) before angiography. The left anterior descending artery (86%) was the most frequently involved vessel for CAE and it was followed by the right coronary artery (RCA) (52%) and circumflex artery involvement (47%). Multi-vessel and diffuse involvements were identified in 65% and 69% of CAE patients, respectively. Diffuse ectasia was more prevalent in the RCA (41%). With major risk factors for atherosclerosis, hypertension (45% vs 36%, p=0.01) and smoking (26% vs 16%, p=0.01) were more prevalent in CAE group than controls. It was observed that diabetes mellitus, dyslipidemia, obesity and familial history of coronary artery disease were comparable in two groups.

CONCLUSION: Our study findings show that hypertension and smoking among risk factors

CORONARY ARTERY DISEASE : CORONARY ECTASIA, REPERFUSION AND SURGICAL RESULTS

OP-019 LEVELS OF THYMOSIN BETA 4 FOLLOWING ACUTE MYOCARDIAL INFARCTION AND SUCCESSFUL REPERFUSION THERAPY

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PURPOSE: Thymosin beta-4 (Tβ4) which is isolated from the thymus gland plays an important role in the regeneration, remodelling and healing of injured or damaged tissues. Acute myocardial infarction (AMI) is the leading cause of death worldwide. After AMI, early and successful myocardial reperfusion with the use of thrombolytic therapy (TT) or primary percutaneous coronary intervention (PCI) is the most effective strategy for reducing the size of a myocardial infarct and improving the clinical outcome. Several studies have demonstrated that restoration of epicardial flow does not guarantee adequate myocardial perfusion and several markers have been proposed to evaluate reperfusion success. In the present study, we aimed to determine whether there was any change in Tβ4 levels in patients presenting with AMI after reperfusion therapy and comparing these Tβ4 levels in subjects with normal coronary arteries (NCA).

METHOD: Twenty-three patients admitted to the coronary care unit with diagnosis of AMI (23 patients with ST elevated myocardial infarction) and twelve healthy subjects with NCA were enrolled into the study. All patients in the myocardial infarction group underwent either primary PCI or TT. The Tβ4 levels were measured before and 48 hours after the successful reperfusion therapy in patients with AMI and the results were compared with levels of subjects with normal coronary angiogram.

RESULTS: Baseline clinical and demographic characteristics of subjects were similar except HDL levels and white blood cells count between control and AMI groups. The Tβ4 levels before reperfusion therapy in the AMI group were significantly lower than those in the control group (1.9 ± 0.9 vs 2.5 ± 0.6, respectively, p=0.03). However, after 48 hours of reperfusion therapy, the Tβ4 levels were similar when compared to baseline values of the control group (2.3 ± 0.7 vs 2.5 ± 0.6, respectively, p=0.296).

CONCLUSION: Tβ4 levels were lower in patients presenting with AMI than subjects with NCA and increased after successful reperfusion therapy. Many markers have been used in assessment of reperfusion success and Tβ4 may be a new option. However, these findings should be

for atherosclerosis can be associated with CAE. This result needs further large-scale studies for validation.

KEY WORDS: Coronary ectasia, risk factors

OP-023 EARLY TERM RESULTS OF CONCOMITANT CAROTID ENDARTERECTOMY AND CORONARY ARTERY BYPASS OPERATIONS

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INTRODUCTION: The accompanying carotid arterial disorder in patients who have undergone myocardial revascularization is an important cause of stroke. Controversies still continue concerning how the mode of therapy should be in patients with both CABG and the indication of carotid endarterectomy (KEA). Surgical strategies such as two-staged (staged, reverse staged) or concomitant approaches have been reported. In this report we aimed to report the outcomes of 20 cases who undergone CABG + KEA surgery concurrently.

MATERIALS AND METHODS : Among the 250 CABG operations performed between June 2008 and May 2009 only 20 patients underwent concurrent CABG + KEA surgery. Their (10 woman, 10 men) mean age was 63.5 years. Among 20 patients only 3 had a previous history of transient ischemic attack(TIA) or stroke. All the patients were evaluated by preoperative carotid Doppler and MR angiography. Those patients having diameter reduction of more than 70 % (asymptomatic), 60 % and over (symptomatic) and those having lesions for thrombogenic ulcer were considered indication for KEA. Following anesthesia induction the carotid artery and its branches were explored and suspended on the affected side. Following 5.000U heparin induction, the KEA was performed. The carotid artery was primarily sutured with 6/0 polypropylen. No shunt, saphanous vein or materials of fabric patch were used in any of the patients. Subsequently, CABG was performed by using median sternotomy.

RESULTS : At the early term only one patient was died postoperative 5th day due to cardiac arrest(5%). At the late term no mortality occurred. A permanent major neurological event or stroke was not observed in any of the patients. One patient developed hoarseness which improved later and one case monoparesis(10%). All of them improved in time.

CONCLUSION: Consequently, we consider concurrent CABG + KEA a good method to be applied, with an acceptable mortality and morbidity rate.

OP-024 THE EFFICACY OF MODIFIED MECHANICAL POSTCONDITIONING ON MYOCARDIAL PROTECTION FOR PATIENTS UNDERGOING CABG

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BACKGROUND: Coronary artery bypass grafting (CABG) with cardioplegic cardiac arrest and cardiopulmonary bypass (CPB) is associated with myocardial injury. The aim of this study was to investigate whether a modified mechanical postconditioning(MMPOC) technique has a myocardial protective effect by enhancing early metabolic recovery of the heart following revascularization.

METHODS: A prospective, randomized trial was conducted at a single-center university hospital performing adult cardiac surgery. Seventy nine adult patients undergoing first-time elective isolated multivessel coronary artery bypass grafting were prospectively randomized to MMPOC or control group.

RESULTS: Operative characteristics, including CPB and aortic cross-clamp time, were similar between the two groups (p>0.05). The MMPOC group had lower troponin I and other cardiac biomarkers level post CPB and postoperatively, with greater improvement in cardiac indices (p<0.001). MMPOC shortened postsurgery hospitalization from 9,1 ± 2,1 to 7,5 ± 1,6 days(p<0.001).

CONCLUSIONS: MMPOC technique promotes early metabolic recovery of the heart during elective CABG, leading to better myocardial protection and functional recovery.

OP-025 LEFT ANTERIOR DESCENDING ARTERY LESIONS DECISION BY FRACTIONAL FLOW RESERVE(FFR) : RELIABLE OR NOT

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Coronary angiography is limited in its ability to determine the physiologic significance of coronary stenoses. As a result, intracoronary physiologic measurement of myocardial fractional flow reserve (FFR) was introduced and has proven to be a reliable method for determining the functional severity of coronary stenosis. Using a pressure-sensing guidewire, 4 distal pressure can now be easily assessed and FFR can be calculated from the ratio of mean distal coronary artery pressure to mean aortic pressure during maximal hyperaemia. In a landmark study, Pijls and colleagues showed that a cutoff value of 0.75 reliably detects ischaemia-producing lesions for patients with moderate coronary stenosis and chest pain of uncertain origin, with a sensitivity of 88%, specificity of 100%, and diagnostic accuracy of 93%. A FFR of less than 0.75 is functionally significant and has been found to correlate well with the presence of ischaemia as measured by noninvasive testing modalities such as perfusion scintigraphy, stress echocardiography, and bicycle exercise testing.

MATERIAL AND METHODS: Between february 2005-april 2007, 50 patients whose left anterior descending(LAD) artery lesion were decided by FFR,were evaluated for graft patency(lima-lad anastomosis),stent stenosis or medical follow-up.20 patients were operated,10 patients were stenting and 20 patients were in medical follow-up.For graft patencyand stent stenosis coro-

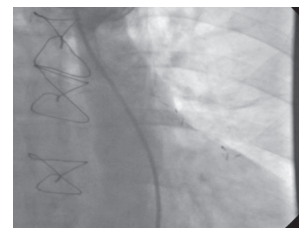
nary angiography were done and also medical follow-up patients who have angina,were diagnosed by coronary angiography.

RESULT: 10 of 20 operated patient's LIMA-LAD grafts are occluded,3 of 10 stenting patient's stents were occluded and 2 were operated and 1 is re-coronary angioplasty was done.3 of 20 medical follow-up patients stil have an angina but their re-coronary angiography are still medical in decision rest 16 of 20 patients have no angina or myocardial infarction.Operated patients whose FFR result's under 0.70 were 6 and their grafts are open.

CONCLUSION: LIMA graft is very important conduit for coronary by-pass surgery due to long patency period.But if it is used for non-critical coronary lesion,according to competition phenomenon it can be occluded in a short period.Beside this,patients get surgery risks but they cant take exact treatment and they become a redo cases in a quick time interval.On the otherhand,at medical follow-up group high asymptomatic condition and no-progress at symptomatic ones coronary angiography reveals us;negative predictive power of FFR may be more reliable.6 of 20 operated patients whose FFR was under 0.70,have an open grafts may suggest that new cut off point for surgical decision by FFR



LAD lesion with lima string sign



string sign of LIMA

OP-026 OFF-PUMP CORONARY ARTERY BYPASS SURGERY IN PATIENTS WITH CRITICAL LEFT MAIN CORONARY ARTERY LESIONS

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Despite demonstration of the advantages of off-pump CABG in high risk patients, some consider this technique is hazardous in presence of critical left main coronary artery disease. In order to take advantage of this technique, between April 2008-April 2009 20 high risk patients with critical left main coronary artery stenosis was underwent multivessel off-pump CABG. The mean age was 64.4 (44-82), female-male ratio was 1:4 and mean number of distal anastomoses was 3.1 (2-5). None of them needed to convert to on-pump CABG. As a principle, LIMA-LAD anastomosis was performed first then proximal anastomoses completed. The vessels with most critical lesions bypassed first. Complete revascularization was achieved in all of the patients. Hospital mortality was 5%. The only patient died at postoperative 22th day due to multiorgan failure and ventilatory dependency. None of the patients had perioperative myocardial infarction and low cardiac output syndrome. The results of this retrospective study demonstrated that in high risk patients with critical left main stem lesions, off pump technique is safe and succesful.

CARDIOVASCULAR RISK ASSESSMENT AND CHALLENGES IN CARDIAC SURGERY

INT-OP-010 FAVOURABLE EFFECT OF RABEPRAZOLE ON INFLAMMATORY PROCESS IN ACUTE PHASE OF UNSTABLE ANGINA

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Unstable angina (UA) is accompanied by increased levels of inflammatory cytokines.

AIM: We investigated the effect of rabeprazole (pariet, Janssen-Cilag Company) on high-sensitivity C-reactive protein (hs-CRP), interleukin-6 (IL-6) and monocytes chemoattractant protein -1 (MCP-1) in acute phase of UA.

METHODS: 98 patients (62 males, 36 females; mean age 65.6 years old) with UA were divided into 2 groups (1st group using standard UA therapy (n=41) and 2nd group: 57 patients taking standard therapy and adding pariet in a daily dose 20-40 mg). Serum levels of IL-6,MCP-1 and hs-CRP were determined at baseline and after 6 weeks of treatment.

RESULTS: This investigation demonstrated that after 6 weeks of UA therapy the inflammatory markers were significantly better in 2nd group (hs-CRP from 3.5 3.3mg/l to 1.20.3mg/l , p < 0.001 vs 1st group from 3.392.2 mg/l to 2.20.3mg/l, p < 0.001); (IL-6 from 5.840.78 pg/ml to 3.220.58 pg/ml, p < 0.001 vs 1st group 5.930.74 pg/ml to 4.80.68 pg/ml, p < 0.01); (MCP-1 from 37931.6 ng/ml to 35222 ng/ml, p < 0.0001 vs 1st group from 38032.2 to 36619 ng/ml, p < 0.05). On the background of pariet treatment there were observed a better positive clinical effect (p < 0.001).

CONCLUSION: Thus, the study shows the necessity of considering the value of inflammatory markers for the choice of UA treatment and, if necessary, to determine the addition of pariet correcting acute phase markers into the complex therapy of UA.

INT-OP-011 VASCULAR ATHEROSCLEROSIS AND CARDIOVASCULAR RISK STRATIFICATION: PREVALENCE AND ROLE OF SCREENING ECHO-DOPPLER EXAMINATION IN SYMPTOMATIC GENERAL POPULATION

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SYNOPSIS: To investigate the prevalence and impact of carotid and peripheral vascular ultrasonographic examination on determination of high risk symptomatic general population.

METHODS: Two thousand one hundred fifty one patients, both males and females, 30 to 80 years old, complaining of vertigo, headaches, and/or previous stroke, leg pains and/or previous peripheral bypass underwent carotid and peripheral ultrasonographic vascular examination. Total cardiovascular risk was assessed by SCORE for high regions in Europe. All patients that had significant stenosis (higher than 70%) underwent 64-MSCT carotid or peripheral angiography.

RESULTS: According to the SCORE stratification 33% of the whole population was considered at low, 54% at medium risk and 13% were high risk patients.

Prevalence rate of vascular disease in symptomatic general population was 38.3% according to Doppler ultrasonography. Vascular subclinical damage was found in 36% of the evaluated population. Fifty patients (2.3%) had $\geq 70\%$ stenosis of the carotid and/or peripheral vessels, out of which 20 patients (40%) underwent 64-MSCT peripheral angiography, 28 patients (56%) underwent 64-MSCT carotid angiography, two patients (4%) underwent 64 MSCT aortography. Out of the fifty patients, second 64-MSCT examination was needed in 32% of patients, while third 64-MSCT examination was done in 10% of patients. As a result of these examinations, 10% of the patients underwent CABG surgery, 10% underwent surgery of the carotid arteries and 14% of the patients were subjected to peripheral bypass. More than one operative treatment was performed in 8% of patients.

CONCLUSIONS: Our results show that screening estimation by Doppler ultrasonography of cardiovascular risk in general population enables more accurate identification of high risk patients. The selective use of 64-MSCT procedure in subjects at high risk of target organ damage may substantially improve the prevention and timeliness of therapy.

INT-OP-012 ENDOCRINE, IMMUNE AND METABOLIC STRESS RESPONSES TO SURGERY

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Surgical stress response is a consequence of two main mechanisms and a cause of several aspects of the postoperative morbidity. Surgery induces a reaction of nervous, endocrine, metabolic and immune systems, non-specific, shared with all the situations of physical, psychical and environmental stress (1). General anaesthesia with deep morphinic analgesia or epidural analgesia reaching the T4 level allow a relative control of the endocrine and metabolic response, at least during the operative period. An inflammatory-like reaction, linked to the surgical wound, produces the release of several mediators (interleukines, TNF) which enhances during the postoperative period the reaction eventually controlled by anaesthesia during surgery. Minimum invasive surgery is of interest to limit the severity of the reaction and of its consequences on postoperative morbidity.

Sympathetic stimulation and catecholamines release play a role of starter, followed by a stimulation of the hypothalamo-hypophysio-adrenocortical axis modulated by leptin, a recently isolated hormone (2).

In the hypothalamus, the stress response stimulates the proopio melanocortin secretion leading to the simultaneous production of ACTH and β -endorphins by fragmentation of the molecule. Hormonal blood levels are suddenly and strongly increased from 10 to 100 times the normal values and decrease slowly on several hours or several days (3).

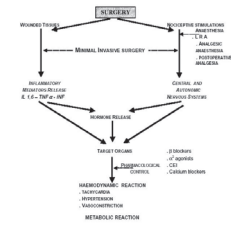
Metabolic consequences include hyperglycaemia, increased lipolysis, proteic catabolism and a water and sodium retention. Hyperglycaemia is a consequence of an increased hepatic glycogenolysis and an insulin resistance (4) by impairment of cellular glucose transporters (GLUT 4). Impaired blood glucose control has consequences on immune defenses producing a sensibility to infections and proteic catabolism has an incidence on wound-healing, especially in the diabetic patient. A tight link exists between hormonal response and stress-induced immune modifications: hormones and neuropeptides modify the production and the expression of immune cells and conversely, mediators of inflammation, such as interleukins, interferons, TNF... possess hormonal functions (5).

Side to metabolic consequences, hemodynamic disturbances of general or regional circulations, may have noxious effects especially in the patient with pre existing pathology, such as a coronary artery disease. The control of the surgical stress response imply a reduction of the operative traumatism, a better analgesia and, in some cases, a decrease of hormones and mediators effects on the target organs (6).

Many drugs like beta blockers, alpha 2 agonists, conversion inhibitory enzymes and calcium channel blockers have been proposed to limit the effects of the stress response in particular pathological context. Of theoretical interest in the normal patient, the surgical stress response needs attention in the patient with associated pathology.

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Surgical stress response

INT-OP-013 RESPONDERS WITHOUT MAJOR HEMORRHAGE WHEN COMBINING CLOPIDOGREL WITH LOW DOSES OF ASPIRIN IN PATIENTS WITH ATRIAL FIBRILLATION.NET EFFICACY ADJUSTED FOR RISK ANALYSIS.

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BACKGROUND: In the ACTIVE A study (1), the benefit of combining clopidogrel with aspirin has been investigated in patients with atrial fibrillation (AF) when compared with aspirin alone: it reduced the risk of major vascular events, but it increased the risk of major hemorrhage. Our aim is to analyse these results under the Net Efficacy Adjusted for Risk (NEAR) analysis (2), which combines benefits and risks to obtain evidence based recommendations.

METHODS: The ACTIVE A trial results, which was a randomized study, double-blind, multicenter trial, were evaluated under NEAR analysis. The proportion of patients who respond favorably to treatment without being affected by adverse drug reactions (ADR) was measured, which could be a suitable end point. A 2x2 table was completed for each randomized group (proband –clopidogrel plus aspirin - and control – aspirin alone-), with the expected frequencies of responders with and without ADR and non-responders with and without ADR

RESULTS: Are shown at table 1

The NEAR Relative Risk is 1.006 (no benefit from 0.95 to 1.05)

CONCLUSIONS: Clopidogrel plus aspirin is not net superior to aspirin alone in AF, under the NEAR analysis

1: The ACTIVE Investigators. N Engl J Med 2009; 360:2066-78.

2: Boada JN, et al.s.PLoS ONE 2008;3:e3580.doi:10.1371/journal.pone.0003580

The expected frequencies

	Proband	Control
Responders without ADR	2774	2736
Responders with ADR	196	122
Non-Responders without ADR	777	884
Non-Responders with ADR	55	40

Proband: clopidogrel plus aspirin. Control: aspirin alone

INT-OP-014 TRANSPLANTABILITY AND BRIDGE TO HEART TRANSPLANT (HTX) USING INTRA-AORTIC BALLOON PUMPING (IABP) IN HIGH-URGENCY CANDIDATES WITH PULMONARY HYPERTENSION

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PURPOSE: Many high-urgency (HU) candidates for HTx additionally develop pulmonary hypertension (PHT) as a relative contraindication to HTx. A reliable risk/benefit analysis for IABP as a bridge to transplant (BTT) is not available and its effect on the reversibility of PHT parameters is not known.

METHODS: Intermediate-term outcome, clinical data, and hemodynamics were analyzed in 19 HU patients (mean age: 52yrs) with PHT (pulmonary vascular resistance (PVR) > 250 dyn x sec x cm⁻⁵ and/or a transpulmonary gradient (TPG) > 12 mmHg treated by IABP as BTT.

RESULTS: The 19 patients were transplanted after a mean waiting time of 21 days (range 1-88) and 26 days of IABP (range: 2-89). One-, 6- and 12-month survival after listing were 100%, 81%, and 81%, respectively, which is comparable to survival rates after HTx (p>0.5). One day after IABP, cardiac index increased from 1.7 L/min/m² to 2.3 L/min/m² and central venous oxygen saturation from 41% to 62%. Left ventricular preload (mean pulmonary capillary artery pressure) and afterload (systemic vascular resistance) dropped from 23 mmHg to 19 mmHg (p<0.02), and from 1497 dyn x sec x cm⁻⁵ to 1109 dyn x sec x cm⁻⁵, respectively (p<0.005). Right ventricular afterload was reduced as reflected by a decrease in mean pulmonary artery pressure from 38 mmHg to 29 mmHg (p<0.004) and in PVR from 365 to 194 dyn x sec x cm⁻⁵ (p<0.0001). The marker of right ventricular preload, mean right atrial pressure, decreased from 11 mmHg to 8 mmHg (p<0.01). There was a constant inotropic need (p<0.05). As a result, TPG decreased from 14 to 10 mmHg (p<0.045). There was no evidence of limb ischemia or infectious or embolic complications during IABP.

CONCLUSION: Our results show that IABP, a minimally invasive and safe circulatory assist device, is an efficient BTT that restores transplantability in patients with low cardiac output and concomitant PHT.

INT-OP-015 MINIMALLY INVASIVE BRIDGE TO TRANSPLANT WITH INTRA-AORTIC BALLOON PUMPING (IABP) IN HIGH-URGENCY CANDIDATES FOR HEART TRANSPLANTS (HTX)

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PURPOSE: Donor organ shortage for HTx prolongs waiting time and increases morbidity and mortality of high urgency (HU) candidates. At present the risk benefit ratio of IABP as bridge to transplant (BTT) is not known.

METHODS: Intermediate-term outcome, hemodynamics and clinical data, were analysed in 46 HU patients (mean age: 52 yrs) who received IABP implantation before HTx.

RESULTS: 42 patients were transplanted after a mean waiting time of 20 days (range 1-88) and 24 days of IABP (range: 2-89). 4 patients received a ventricular assist device (VAD). Out of these patients, two candidates were transplanted after 27 and 67 days, respectively, one died, and one is still listed for elective HTx. 1-, 6- and 12-month survival after listing were 98%, 84%, and 82%, respectively, which is comparable to survival rates after HTx ($p > 0.5$). One day after IABP, cardiac index increased from 1.7 L/min/m² to 2.4 L/min/m², and central venous oxygen saturation from 40% to 64%. Pre- and afterload were effectively reduced with a decrease in filling pressures and resistances ($p < 0.0001$), and a constant inotropic need ($p > 0.5$). There was no evidence of limb ischemia, infectious or embolic complications during IABP.

CONCLUSION: IABP in the long term, which is a minimally invasive and safe circulatory assist device, is efficient in low cardiac output and BTT. Because IABP in contrast to VAD implantation does not lead to downgrading of the listing status and does not hinder HU listing at Eurotransplant, IABP in the long term should be taken into account.

INT-OP-016 DRAINAGE WITH REDON DRAINS AND CLOSED SYSTEM (BELLOVAC®) VS TUBE DRAINS AND CLASSICAL SYSTEM (PLEUREVAC®) IN CARDIAC SURGERY: THE BEST CHOICE

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AIM: To compare the effectiveness of 18F redon drains with low negative pressure (Bellovac®) vs 24F tube drains with classical aspiration (Pleurevac®) for post cardiac surgery pericardial drainage.

PATIENTS: After they underwent cardiac surgery, 467 patients (mean age: 63 ± 14 years) were randomized to either redon drains and Bellovac® (group R, n = 234) or tube drains and Pleurevac® (group T, n = 233). In the mean time, 53 patients were excluded from the study due to surgeon decision. Pre and per-operative data were similar between both groups. Eleven percent of the patients had previous operation. Effectiveness was analyzed on: persisting pericardial effusion at discharge, reoperation for pericardial effusion and rate of tamponnade.

RESULTS: Effectiveness was similar in both groups: reoperation for pericardial effusion (R: 5.5 %, T: 4.7 %; $p > 0.05$), rate of tamponnade (R: 0.8%, T: 0.4 %; $p > 0.05$), moderate to severe pericardial effusion at discharge (R: 7.7 %, T: 3.8 %; $p > 0.05$). Drainage volume a 24 hours was significantly lower in group R: 335 ± 225 ml vs 499 ± 316 ml. Redon drains were removed significantly earlier than tube drains: 2,2 ± 0,7 D vs 2,8 ± 1,2 D. In group R, 3 patients had to be switched to pleurevac® system because of undiagnosed pulmonary leak.

CONCLUSION: After cardiac surgery, pericardial drainage with redon drains and low negative pressure is as much efficacious as tube drains with classical aspiration. Moreover, redons cost is lower and patients autonomy is better.

KEYWORDS: Redon drains - tube drains

INT-OP-017 CARDIAC SURGERY IN NONAGENARIAN. SHOULD WE OPERATE?

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BACKGROUND: Patients aged 90 years and older represent a rapidly growing subset of this population, many of whom are functionally limited by cardiovascular disease. The aim of this study was to review our local experience with nonagenarians.

METHODS: A consecutive series of nonagenarians who underwent cardiac operations between June 2007 and May 2009 were retrospectively reviewed.

RESULTS: There were 2 women (16.7%) and 10 men (83.3%). Left ventricle ejection fraction (LVEF) was 45±3.5%. All patients were in New York Heart Association class III or IV. There were 6 coronary artery bypass grafting (CABG) procedures (50%), 1 aortic valve replacements (AVR) (8.3%), one combined mitral valve replacement (MVR) and CABG (8.3%), two combined AVR and CABG (16.7%), one double valve procedure (8.3%) and one removal of left atrial clot (8.3%). Thirty-day mortality was 16.7% (2 deaths total; one operative death and one cardiac arrest at ICU day 2 postoperative). Short-term follow up (range, 3 weeks to 2 years), 9 patients 75 % are still alive. One patient is missing follow up. Quality of life outcomes were similar to that of two related norm-based populations based on age and disease process.

CONCLUSIONS: With improving techniques and greater attention to detail, the select nonagenarian can safely undergo cardiac surgery. The aging of our population in Saudi Arabia will have a profound impact on the cost and delivery of health care resources in the future. This issue must be addressed in the current debate on the provision of expensive cardiac procedures

DISEASES OF THE CAROTID AND PERIPHERAL ARTERIES: MEDICAL AND SURGICAL THERAPEUTIC STRATEGIES

OP-027 PROSTHETIC AND AUTOGENOUS VASCULAR GRAFTS INFECTIONS: CLINICAL PRESENTATION, ANALYSIS OF THE RISK FACTORS, DIAGNOSTIC STRATEGIES AND RESULTS OF SURGICAL TREATMENT

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PURPOSE: In our study, we aimed to examine prosthetic and autogenous vascular graft infections. We also tried to determine the relations between these infections and some variables such as patient based factors, graft types, location, timing of operations, surgical techniques.

MATERIAL AND METHODS: At Dr. Siyami Ersek Cardiovascular Surgery Center between 2003 and 2008 for 5 years period, we performed 1870 elective and urgent vascular grafting operations to the patients who suffered from occlusive arterial diseases. 147 of these 1870 patients had graft infections. 120 of these 147 patients had early graft infections and 27 of them had late graft infections. When we compared different groups of patients with early and late period graft infections and also with non-infected grafts by their preoperative risk factors and post operative complications, we determined statistically significant differences between these groups of patients. ($p < 0,005$) We figured out that Dacron grafts had significantly higher operative complication rates than the other graft types. ($p < 0, 05$) We also detected that graft infection was a typical complication for the urgent cases (32 cases, 3.4 %) with the usage of Dacron grafts. ($p < 0, 02$) The most frequent locations for the infection were the aortofemoral Dacron grafts (20%) and iliofemoral Dacron grafts. (15, 3%) We recorded no graft infections for the patients with autogenous ones. However, Staphylococcus aureus was more common agent for the early graft infections; we could see Staphylococcus epidermidis especially at late graft infections. Bacteroides (18, 5 %) and E.coli (18, 5 %) were also typical agents. Infected cases categorized by the Szilagy classification system to define the appropriate treatment. 20 cases (13,6 %) classified as Szilagy type 1, 23 cases as Szilagy type 2 and finally 104 cases as Szilagy type 3. We performed local therapy with debridement, 6 weeks of antibiotherapy and continuous negative topical suction through a vacuum sponge to the Szilagy type 1 and 2 patients. We made graft resection to the Szilagy type 3 patients and 64 of the type 3 patients had extraanatomic bypass and the rest of them had medical treatment. We also defined that patients who had extraanatomic bypass for the initial surgery, had higher infection rates than the mean infection rates. Some of the patients that we performed extraanatomic bypass after the initial procedure because of some contraindications converted to anatomical bypass after these contraindications disappeared. Prosthetic grafts were left in rifampicin solution for twenty minutes before the operation. We assessed mortality rate as 0.6% and amputation rate as 0.4% for the cases with non-infected grafts. Therefore, mortality rate increased to 8.2% and amputation rate to 19% for the cases with infected grafts. There was no significant difference of amputation and mortality rates for the patients who had prosthetic grafts. Otherwise, there was no mortality or amputation among the patients with autogenous grafts.

RESULT: We accepted that the best infection results were achieved by using autogenous grafts. Even though we could use autogenous grafts to reduce the mortality and amputation rate or we could use some alternative techniques, currently available for the treatment of prosthetic vascular graft infections, we have to suggest that comprehensive studies with large number of patients must be done for definitive results.

OP-028 TRAUMATIC PERIPHERAL VASCULAR INJURIES

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Bursa Yüksek İhtisas E.A.H.¹

INTRODUCTION: Vascular trauma is a common cause of mortality and morbidity worldwide.

METHODS: In this study the patients who were operated owing to peripheral vascular injuries between January 2006 and March 2009 were reviewed in terms of age, sex, types of injuries, wounded artery or vein and applied surgical procedures.

RESULTS: In the study period, totally 109 (24 female, 85 male) patients, consulted with 109 arterial and 20 venous injuries. Patients' average age was 38 (10-79). 68 (62%) patients had penetrating injuries, 6 (6%) had gun shots, 9 (8%) had blunt trauma, 20 (18%) had iatrogenic injury, 6 (6%) had traffic accident. Distribution of the vascular injuries were: 44 upper extremity distal artery, 11 brachial artery, 6 upper extremity venous injury, 2 iliac artery, 28 femoral artery, 15 popliteal artery, 3 lower extremity distal artery, 14 lower extremity venous injury. Injuries were managed as follows: 80 primary vascular repairs, 23 saphenous vein graft interposition, 2 ilio-femoral bypasses, 3 femoropopliteal bypasses, 7 ligations and 2 embolectomies. The average duration in the hospital was 6 days (1-33). The mortality rate was 4%. Postoperative amputation was performed in 4 patients with lower extremity injury.

CONCLUSION: For diagnosis of peripheral vascular injury clinical examination is usually sufficient. In peripheral vascular injuries primer end-to-end repair or saphenous vein graft interposition are the techniques often applied. Injuries to peripheral vessels have a potential to cause morbidity and mortality if they are not recognized and treated promptly.

OP-029 COMPARISON OF RETROPERITONEAL AND TRANSPERITONEAL PROCEDURES IN AORTOILIAC OCCLUSIVE DISEASES

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OBJECT: Superiority of transperitoneal (TP) versus retroperitoneal (RP) procedures at the surgical treatment of aortiliac occlusive diseases (AIOD) was searched in this study. Advantages and disadvantages of the procedures were evaluated.

METHODS: From October 2003 to August 2008, 55 patients underwent aortic surgery. TP technique was performed to 25 patients and RP technique was performed to 30 patients. Demographic data, risk factors, preoperative and postoperative medical data (24 parameters) were analyzed and compared between two groups.

RESULTS: No statistically significant difference was observed in demographic data and risk factors. 5 of 8 operative parameters resulted in favor of RP procedure. Length of ICU stay ($p < 0.01$), length of hospital stay ($p < 0.01$), return of bowel functions ($p < 0.01$), time of beginning

oral feeding ($p<0.01$), effort pain score ($p<0.01$) were significantly different in RP group and, results were better than TP group. Pulmonary complications were analyzed lesser in RP group ($p=0.02$) but no statistical difference occurred at this parameter. There was no statistically difference at the rest of complication datas (wound complications $p=0.09$, paralytic ileus $p=0.14$, re-operation $p=0.46$, 30 day mortality $p=0.30$).

CONCLUSION: Datas, compared in this study resulted as RP procedure is more advanteuous than TP procedure at the surgical treatment of AIOD.

OP-030 PARAMEDIAN INCISION FOR AORTOILIAC OCCLUSIVE DISEASE

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PURPOSE OF THE STUDY: Aortoiliac occlusive disease is one of the most encountered occlusive arterial diseases. Different surgical approaches to the infrarenal abdominal aorta have been reported. We evaluated the postoperative outcomes of patients treated retroperitoneally and transperitoneally.

METHODS: From January 2005 through May 2009, 44 patients were operated for aortoiliac occlusive disease. Thirty patients were operated using paramedian retroperitoneal approach and 14 patients using the midline transperitoneal approach. Preoperative demographics and perioperative data of the patients were analyzed.

RESULTS: Surgical procedures were aortofemoral bypass in 12 patients, aortobifemoral bypass in 1 patient, iliofemoral bypass in 15 patients and aortoiliac bypass in 2 patient in the retroperitoneal group. Aortobifemoral bypass was done to 14 of the patients in the transperitoneal group. There were 2 postoperative deaths only in the retroperitoneal group. Immediate surgical success was obtained in all patients by physical examination and ankle-brachial indices. Mean postoperative hospitalization was 7.57 ± 3.18 days (range; 5-16 days) and 12.4 ± 5.99 days ($p=0.001$) and mean intensive care unit follow-up duration was 0.66 ± 0.78 days and 1.60 ± 1.00 respectively in retroperitoneal and transperitoneal groups ($p=0.001$). Mean blood transfusion was significantly higher in the transperitoneal group ($p=0.010$). distal anastomosis leak and one for hematoma formation in the retroperitoneal group and two for acute distal embolism in the transperitoneal group. These were treated with simple operations.

CONCLUSIONS: Retroperitoneal aortoiliac approach with paramedian incision is simple, rapid, effective and well tolerated in aortoiliac revascularization.

OP-031 EFFECT OF CAROTID ENDARTERECTOMY ON CHRONIC OCULAR ISCHEMIC SYNDROME IN BILATERAL CAROTID ARTERY DISEASE COMPLICATED WITH TRANSIENT ISCHEMIC ATTACKS

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AIM: We evaluated the effect of carotid endarterectomy on chronic ocular ischemic syndrome (OIS) with transient ischemic attacks (TIAs).

MATERIALS-METHODS: Twenty patients were examined with OIS due to carotid stenosis (>80% stenosis). There were 17 men and 3 women, (mean age 66.7 ± 6.5).

Preoperatively, dominant ocular sign was diagnosed as amaurosis fugax in 14 patients, quarrantanopia in 2, and blindness in 1. The ophthalmic artery flow directions were reversed in 11 patients and antegrade in 9. The average peak systolic flow velocity was -0.029 ± 0.05 m/s.

RESULTS: All patients showed antegrade ophthalmic artery flow after surgery. The average peak systolic flow velocity in the patients measuring 24 hours after operation, 0.32 ± 0.14 m/s. There were no significant change among the first day findings at 1 week, 1 month and 3 months after endarterectomy. During the follow-up period (mean, 28.4 mo), no patients complained of recurrent visual symptoms.

CONCLUSION: Carotid endarterectomy was effective for improving or preventing the progress of COI caused by internal carotid artery stenosis.

KEYWORDS: Ocular ischemic syndrome, ophthalmic artery, transient ischemic attack, carotid endarterectomy, color Doppler flow imaging

OP-032 OUR RESULTS OF CILOSTAZOL THERAPY IN PATIENTS WITH PERIPHERAL OCCLUSIVE ARTERIAL DISEASE

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OBJECTIVE: Cilostazol is a phosphodiesterase 3 inhibitor that inhibits the destruction of cyclic adenosine monophosphate (cAMP) and causes an increase in cAMP values in all tissues including platelets and blood vessels. This mechanism causes inhibition of platelet aggregation and vasodilatation by various stimulus. In our study; the objective was to determine the outcome of cilostazol therapy in patients with Fontaine stage 3 peripheral occlusive arterial disease.

METHOD: This prospective study includes 30 patients who were treated in our clinic. The decrease in the Fontaine staging, ankle/brachial index (ABI) and the need of analgesics and the increase in the measurement of walking distance were used to evaluate the patients. In evaluation all of the collected data, Student's-t test was used.

RESULTS: After average of 6 months follow-up it was found that after cilostazol treatment the need of analgesics was decreased ($p<0.05$), the walking distance was increased ($p<0.05$), ABI was increased ($p<0.05$) and alleviation of the stage of the patients' Fontaine staging ($p<0.05$). The average walking distance before the treatment was 30 meters. At the end of the treatment there was an improvement to 50-100 meters of average walking distance.

CONCLUSION: Cilostazol treatment is useful in patients with advanced stage peripheral occlusive arterial disease that are unresponsive to surgical treatment. Cilostazol treatment is helpful in decreasing the symptoms of peripheral occlusive arterial disease and can be recommended for relieving the symptoms of such patients.

KEY WORDS: Peripheral arterial disease, Cilostazol, Ankle-brachial index

OP-033 SHOULD PREOPERATIVE CAROTID DOPPLER USG BE A ROUTINE TEST IN CABG PATIENTS?

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INTRODUCTION: The incidence of serious perioperative neurological complications has been reported to be between 0.5 % and 7 % in patients who undergone Coronary Artery Bypass Surgery (CABG). Doppler ultrasonography is both an easy and inexpensive method in detecting the carotid artery disease accompanying the patients who will receive coronary artery bypass surgery. However, it is not routine in daily practice. In this study an answer to whether carotid Doppler USG is a routine test in patients who will CABG patients has been investigated.

MATERIALS AND METHODS: Study was included 250 patients who will undergo CABG patients. Whether or not there was a history of symptom, TIA or stroke all patients have undergone to preoperative carotid Doppler USG. Of them, 163 were men and 87 were women. Among the patients the lesions forming plaque + stenosis were observed in 35 patients (group 1), plaque not forming stenosis in 55 patients (group 2), diffused intimal thickening in 68 patients (group 3) and plaque + intimal thickening in 32 patients (group 4). Normal carotid artery was shown in 60 patients (group 5). In group 1, 20 patients received concomitant KEA + CABG. Among them while only 3 patients had the history of previously experienced a neurological event, carotid auscultation finding was found in 8 patients. In remaining 12 patients any symptom or auscultation finding could not be detected.

CONCLUSION: Carotid Doppler is an easy and inexpensive method for both physician and patient. In our study group in a population of 4.8 % no symptom or finding was detected except stenosis. When the incidence of perioperative neurological complications is considered, we suppose this rate significant. Therefore, the preoperative carotid Doppler examination can be regarded as a routine test.

OP-034 POPLITEAL ENTRAPMENT SYNDROMU

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INTRODUCTION: Popliteal entrapment syndrome is a pathologic vascular disease seen rarely. In our clinic, total 3 patients, two of whom are male at the age of 13-15 and one of them female at the age of 16 applied for.

METHOD: Two of the patients had a single side and one had bilateral. It was in left extremity in one of the patient. The patient with bilateral has been pursued for long time in different centres with the diagnosis of Raynaud and Burger with various treatment protocols. There were open lesions in the first and second toes of right foot of the patients with bilateral. Common complaints of the patient were the pain in the legs, claudicatio and coldness. In physical examinations of the patients the nabazan which has pathology couldn't be taken by hand and there was bad poor flows with doppler. ABI has changed between 0.30 and 0.46. all the diagnosis of the patients were determined by means of MR-CT angio.

FINDINGS: To one of the cases with a single side and the lesions at the left side of the cases with bilateral and to popliteal region to popliteal fossa was entered by means of S incision the mass of muscle pressing on popliteal artery was excised and the artery was opened and tromboembolectomy was applied. Papaverin was applied in the vein. The flow was evaluated by peroperative doppler and it was detected that it was good. To the lesson at the right side of the cases with lateral and bilateral S incision was applied. It was found out that the vein under-vent to the pressure was occluded exactly. Safen vein was removed from the same side and by-pass was applied to popliteal artery from hunter region to the over of trifurcation by femoral artery. In MR-CT angio controls a month later the openings of the lumen were assessed exactly and the lesion were healed exactly.

IN CONCLUSION AND DISCUSSION: Popliteal entrapment syndrome is a pathology seen very rarely. In young patients detailed examination and the other distinctive examinations should be done.

OP-035 CLINICAL FEATURES OF CHRONIC CONTAINED RUPTURE OF ABDOMINAL AORTIC ANEURYSMS

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INTRODUCTION: Chronic contained rupture is a condition in which a rupture occurs once, but then is stopped by the surrounding tissues. This condition was reported as chronic contained rupture. The characteristic findings of these conditions are the presence of previous of abdominal pain ,homodynamic stable patients with hematocrit level is normal and the Computerized Tomography(CT) showing the retroperitoneal hematoma and pathological confirmation of organized hematoma.

MATERIAL METHOD: We investigated consecutive 112 patients who were operated with emergency abdominal aortic aneurysms in our clinic. In this series, we rule out the characteristic findings of 14 cases of chronic contained rupture of Abdominal aortic aneurysm.

RESULTS : The mean age was 64.37 ± 9.0 . all the patients were male. Mean diameter of the aortic

aneurysms were 6.83±1.5cm(5-10cm), level of hematocrit was 37.27±5.14, mean white blood cells(WBC) ratio 12.21±3.4 cells/μl with 7 of them had inflammatory criteria. The co-existing diseases were coronary artery disease(4 of them), chronic obstructive lung disease(9 of them), hypertension(8 of them), thyroidal disease(1 of them), diabetes mellitus in 1. Symptoms were syncope in 3, abdominal pain in 14, back pain in 14, abdominal pulsatile mass in 14, claudication in 3, pain radiating from back to cuff in 3. Surgical procedures were as follows tubular graft interpositions in 5; aorta-bifemoral graft bypass in 7; aorta-biliac in 2. Peritoneal serohemorrhagic fluid was found in 4 patients with high WBC count. The rupture place of the aorta was posterior in 13 patients and only 1 in lateral localization. Diagnosis was established in 10 patients with C.T and 4 patients with ultrasonography respectively. One patient was died due to multiorgan failure at 7th day.

CONCLUSION: Due to high mortality rate of this disease in older patients, early diagnosis is essential. Chronic contained abdominal aortic rupture should be suspected in patients with chronic abdominal and back pain with syncope, claudication and lumbago. Leucocytosis could be a trademark of the re-ruptured contained abdominal aortic aneurysms. Surgical intervention should be planned as soon as possible after the diagnosis without a delay.

OP-036 TURKISH ATHEROTROMBOSIS MANAGEMENT COST (TAM) STUDY

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Similar to the developed countries, cardiovascular disorders, stroke and peripheral vascular disorders are among the most important causes of mortality in hospitalized patients, with considerable economic burden. In Turkey, paucity of the studies on disease cost represent a limitation for decision making on issues of healthcare economics such as reimbursement policies.

The aim of the present study was to estimate and compare the inpatient healthcare costs associated with circulatory disorders, stroke and peripheral vascular disorders in five selected hospitals of Turkey (1 private hospital, 2 university hospitals and 2 MoH Hospitals) using Diagnosis Related Groups (DRGs) by 'activity base costing' method. A total of 3,738 patients were included in the present study and disease group costs were estimated for the year 2007. The distribution of the cases were as follows: 798 patients with stroke, 1,504 patients who underwent coronary bypass surgery, 763 patients with acute myocardial infarction – AMI and 673 patients with peripheral vascular diseases.

The mean cost per patient was 5,299 TL for stroke, 11,503 TL for coronary bypass with invasive cardiac investigation, 7,727 TL for coronary bypass without invasive cardiac investigation, 3,384 TL for AMI and invasive cardiac investigative procedure, 2,485 TL for circulatory disorders with AMI but without invasive cardiac investigative procedure, and 4,115 TL for peripheral vascular diseases. Significant amount of variation was observed between disease groups and hospitals with regard to relative cost weight. As expected, costs were relatively higher in training hospitals.

*Current exchange rate: 1 USD = 1.50 TL

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OBJECTIVE: In recent years diffuse coronary artery disease frequency growing and can not be operated with the classic coronary artery bypass.

MATERIALS AND METHODS: This study in March 2007 - March 2009 between one or more target lesions detected vessels working in terms of emergency and elective coronary heart total 21 patients were included in the endarterectomy.

RESULTS: The average age of the cases of 14 men and 7 women was 64.61 ± 10.54. Functional capacity of patients, according to the Canadian Heart Association classification average was 3:47 ± 0.51. Ejection fraction rates were between 41 ± 8. Euro-SCORE was detected as 8.5 ± 3.4. Total mortality and morbidity rate of STS, the average estimate was found to be 51.90%. 15 LAD patients had open endarterectomy; RCA of 5 patients underwent closed endarterectomy. The average number of anastomosis was realized as 1.6 ± 0.48. Two patients died and mortality was 9.5%. Postoperative follow-up period were 21.31 ± 6.78 months in the patients. Openness of grafts was 85% for LIMA, and 50% saphen vein grafts respectively.

CONCLUSION: Inoperable high-risk patient groups which can not be operated with classical methods, coronary endarterectomy is an alternative method. But in the several series still be discussed and mortality rates of 0-10%, peroperative MI rates of 5-30%, and distal anastomosis opening rate of 38-100% reaches. In our study 74% of cases survive without complaint of angina pectoris. Regarding to the conventional method, patients need less inotropic agents and neurological complications frequency was lower. Arrhythmia rate was similar but slightly less conventional methods. In conclusion, beating heart coronary endarterectomy application is feasible method for selected patients with acceptable risk.

KEY WORDS: Coronary Artery Disease, Beating-Heart Bypass, Endarterectomy, Peroperative MI, Angina Pectoris.

OP-039 THE EFFECT OF TRIMETAZIDINE ON IN-HOSPITAL MORTALITY RATES OF PATIENTS WITH UNSTABLE ANGINA PECTORIS: A SINGLE CENTER REGISTRY.

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PURPOSE: To evaluate the effect of trimetazidine on short term cardiac mortality rates of patients with unstable angina pectoris treated with medically in real world clinical settings.

METHODS: In the registry of 4023 patients. Patients with unstable angina pectoris treated with medical therapy alone were analyzed. The patients were divided two groups. Group-1 was consisted of the patients treated with heparin, acetyl salicylic acid, clopidogrel, beta blocker, nitrates and trimetazidine 20 mg tid without loading. Group-2 included in patients treated with heparin, acetyl salicylic acid, clopidogrel, beta blocker and nitrates were included. In-hospital mortality rates of two groups were compared.

RESULTS: One thousand-two hundred-twenty one patients with unstable angina pectoris taking medical therapy alone were included in the analysis. Two of 477 patients taking trimetazidine (group-1) and 15 of 744 patients not taking (group-2) were died of cardiac causes. In-hospital mortality rates were found 0.4 % and 2 %, respectively, (p =.003). The in-hospital mortality rates of patients with unstable angina pectoris treated with only medical therapy were lower in patients taking trimetazidine as an adjunct to standard therapy.

CONCLUSIONS: This study shows that trimetazidine added to standard therapy without loading in patients with unstable angina pectoris treated with medical therapy only may provide significant in-hospital mortality advantage. Large scale randomized trials are needed to verify this results.

OP-040 ANGIOGRAPHIC AND CLINICAL OUTCOMES FOLLOWING PACLITAXEL-ELUTING STENT (EUROCOR) IMPLANTATION: A RETROSPECTIVE SINGLE CENTER EXPERIENCE

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BACKGROUND AND OBJECTIVES: Coronary stents dramatically improve acute outcomes of percutaneous coronary interventions but also induce abundant intraluminal neointimal hyperplasia. Drug-eluting stents decrease intimal hyperplasia, the main cause of in-stent restenosis. The safety and beneficial effects of paclitaxel-eluting stents (Eurocor) in patients (pts) treated in daily practice remains to be defined. The aim of this study was to evaluate immediate and long-term clinical and angiographic follow-up results of Eurocor implantation in pts with coronary artery disease.

METHODS: 101 pts (mean 59,98±10 years), 75/101(74,3%) men, 21/101(20,8%) diabetics, 61/101 (60,4%) hypertensive due to JNC VII, 41/101(40,6%) unstable angina were enrolled per protocol for elective stent deployment into native coronary de-novo or post-PTCA restenotic lesions (stenosis: min. 60%, max. 100%; reference diameter 2.5 mm and <4,0mm; lesion length <30mm) with 34/101(33,6%) lesion type A, 31/101(30,6%) type B1, 24/101(23,7%) type B2, 12/101(11,8%) type C. The mean reference diameter was 2,68 mm, the lesion length 16,1mm. Lesions were 3/101 (3%) ostial; 82/101 (81,2%) non-tortuous; 32/101 (31,7%) mildly calcific; 88/101 (87,1%) with <45 degree anglement; 9/101 (8,9%) have thrombus. Mean stenosis ratio was 81,8±9,6%, mean implanted stent diameter was 3.1±0.4 mm and mean length was 16±5,4mm. Most frequent localization of the implanted stents was the proximal segment of LAD (29/117, 24,7%).

RESULTS: The success rates of procedure and study stent deployment were 100% and 99,2%, respectively. In 16/101(15,8%) two stents were implanted. Follow-up was performed clinically in 100/101(99%) and angiographically in 18/101(17,8%) pts (follow up period mean 14,6±6,7 months, min. 5 months and max. 35 months). Patients were evaluated with treadmill exercise test (43/101; 42,6%), myocardial perfusion scintigraphy (22/101; 21,8%) and MDCT angiography (18/101; 17,9%) during follow up period. Major adverse cardiac events occurred in 6/101(5,94%).

CORONARY ARTERY DISEASE: GENDER DIFFERENCES, PERCUTANEOUS INTERVENTIONS, OFF-PUMP SURGERY

OP-037 ASSOCIATION BETWEEN CORONARY FLOW RESERVE AND EXERCISE CAPACITY IN WOMEN WITH NORMAL CORONARY ARTERIES

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PURPOSE: Coronary microvascular coronary function is common in women and it influences the daily activities. In this study we aimed to investigate the association between coronary flow reserve (CFR) and exercise capacity in women.

METHODS: Twenty-four women (the mean age 52 ± 9 years) with normal coronary arteries by coronary angiography were enrolled. All subjects underwent transthoracic echocardiography and exercise test. In patients coronary flow velocity was measured in the mid to distal LAD from foreshortened apical 2-chamber view at baseline and after dipyridamol infusion (0.56 mg/kg/4 minutes). CFR was calculated as the ratio of hyperemic to baseline peak diastolic velocity. CFR ≥ 2 was considered as normal. Exercise test was performed by Bruce protocol. Exercise time, metabolic equivalents (MET) values were determined and these values were compared coronary flow reserve.

RESULTS: Peak diastolic velocity after dipyridamol infusion and CFR were correlated with exercise time (r = 0.444, P = 0.30; r = 0.437, P = 0.33, respectively). Exercise time is shorter in women with impaired CFR than those patients with normal CFR (5.6 ± 1.3 min vs. 8.2 ± 3.2 min, P=0.018). Also MET values were found to be decreased in patients with impaired CFR than normal CFR (6.6 ± 2.2 MET vs. 9.0 ± 3.0 MET, P=0.048).

CONCLUSION: CFR was found to be associated with exercise parameters. Exercise time, MET values were decreased in women with impaired CFR. Impaired CFR could be influenced exercise capacity in women.

OP-038 ANALYSIS OF EFFECT ON SHORT-MID TERM GRAFT PATENCY OF USING ENDARTERECTOMY IN OFF-PUMP CORONARY ARTERY SURGERY.

CONCLUSION: The clinical and angiographic follow up results of this study indicate a potential benefit of the Eurocor stent for the prevention of stent thrombosis and restenosis in these relatively high-risk patients.

OP-041 EARLY CORONARY ARTERIAL BYPASS GRAFTING(CABG) AFTER LIFE SAVING PRIMARY PERCUTANEOUS CORONARY INTERVENTION(PCI) : STAGED THERAPY OUTCOME AND STENT RESTENOSIS

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Life-saving PCI is very important issue for acute coronary events.PCI can be applied to coronary artery which is responsible for acute ischemic condition and patient may go to CABG for other coronary lesions.But CABG after stent restenosis or stent restenosis after CABG are very complicated,morbide and mortal situation.Cardio Pulmonary Bypass,cardiac manipulation or heparinization-neutralization may cause the early stent restenosis.So even at early surgical procedure with open stent,interfering to stent may be needed for preventing to future complications.

MATERIAL AND METODS: Between january 2005-december 2008,20 patients who had PCI first of all and then CABG,were added to study.All patients were gone to surgery within a month(between 7 to 30 days) and patients acute condition were cool down before surgery and all stents were thought as open before surgery due to early time interval and no additive findings which evoke stent restenosis.All patients intraoperative,postoperative datas were collected and postoperative 1st to 36 month control coronary angiography was done.

RESULT: Male/female ratio is 16/4,avarage age is 59 years,PCI to Cx:7,RCA:15,intermediate artery:1,5 patients stoped klopidogrel usage 1 week before the surgery,rest of them entered to surgery by using klopidogrel.All of them used asatil salicylic asite untill to surgery. At control coronary angiography 4 stent are open and 19 stent are occluded.1 LIMA-LAD anastomosis and 1 aorta-Cx anastomosis are also occluded.7 re-PCI,1 redo CABG and 12 medical follow-up decision were taken for patients.6 patients have diabetes mellitus,6 patients have hypertension,average EF of patients is %45,3 patients have chronic obstructive pulmonary disease,5 mortality were seen and 2 of them are intraoperatively,9 patients needed cardiac inotropic agents,4 patients have cardiac arrhythmia which 1 of them is fatal,2 revision were happened and one was died.3 patient's stented coronary artery were grafted at surgery and no complication was observed postoperative period of these patients and their control angiography showed that stents are occluded and grafts are open.

CONCLUSION: High stent restenosis suggest that after PCI at early CABG condition,intervention to stented coronary artery may be usefull intraoperatively to prevent further complication. And also we should remember that staged treatment for coronary artery disease may be so complicated,morbide and mortal.So special approach o these group of patients are necessary in the light of these datas.

OP-042 COMPARISON OF POSTOPERATIVE PULMONARY FUNCTION AFTER CORONARY ARTERY BY PASS SURGERY BETWEEN THE LOWEST AND HIGHEST ALTITUDE CITY OF TURKEY

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KEYWORDS: High altitude, Pulmonary Dysfunction, Postoperative Pulmoner Parameters Erzurum is the second highest city in the world which performed CABG after Mexico City. Pulmonary injury during cardiopulmonary bypass is common as patient factors (smoking, pain, pneumonia) and the effects of cardiopulmonary bypass combine to compromise lung function after cardiac surgery. The quantitative contribution of altitude in cardiopulmonary bypass (CPB) to respiratory dysfunction after cardiac surgery is not documented and the effect of the altitude is not clear.

One hundred and eighty patients undergoing CABG in Izmir(altimeter:0m, n=80) and in Erzurum(altimeter:1830m, n=80) were studied. Preoperative risk factors and operation parameters were similar in both groups(Table 1 and 3). Serial arterial oxygen (paO2) and carbon dioxide (paCO2) tension, and percent saturation were measured(Table 2). The purpose of this study was to compare the incidence of respiratory complications such as hypoxemia, atelectasis, pleural effusion, and diaphragmatic dysfunction, duration of mechanical ventilation, length of intensive care unit and hospital stay and incidence of bronkodilatator supports in patients who performed in different altitudes.

In Erzurum group during coronary artery revascularization procedures carries the potential for increased incidence of postoperative respiratory complications compared with the Izmir group. There was a higher incidence and severity on the fourth postoperative day of postoperative left lower lobe atelectasis, pleural effusion, gas exchange impairment, duration of mechanical ventilation, intensive care unit and hospital stay, and incidence of pneumothorax and pneumonia in the Erzurum group(Table 4).

We conclude that the city which has a highest altitude increases th incidence of postoperative pulmonary respiratory functions during coronary artery revascularization.

TABLE 1

	GRUP I (n:80)	GRUP II (n:80)
AGE(YEAR)	61±9	65±8
HIPERTANSION	44	36
DM	20	16
CIGARETTE	76	72
PREOP MI	60	52
USAP	52	52
EJECTION FRACTION	51±4	55±2
PRE OP PAB(mmHg)	25±6	31±5

PREOPEATIVE RISK FACTORS

TABLE 2

	GRUP I (n:80)	GRUP II (n:80)
FEV1	94±12	89±6
FVC	95±14	86±6
PO2	92±8	93±4
PCO2	35±2	34±2
HTC%	32±3	45±4

PREOPERATIVE RESPIRATUAR FUNCTIONS

TABLE 3

	GRUP I (n:80)	GRUP II (n:80)
Cardiopulmoner bypass time(min)	61±9	59±11
Crossclamp time(min)	36±10	34±6
LIMA(n)	80	80
Distal Anastomosis(n)	3.4±0.6	3.2±0.5
Unilateral Open Pleura	80	64
Bilateral Open Pleura	48	36

OPERATION PARAMETERS

TABLE 4

	GRUP I (n:80)	GRUP II (n:80)
Rentubation	4	16
Long Entubation Period	4	16
Postop Atrial Fibrilation	2	10
Postop Pneumonia	1	4
Postop Pneumothorax	0	2
Steroid support	21	48
Bronkodilatator support	22	50
Left Pleural efusion	5	19
Postoperative left lower lobe atelectasis	7	34
Left Hemidiaphragma Elevation	2	8
Post op 2nd day Parsiyel O2 Pressure<	1	16
Intensive Care(day)	1±0.38	1±0.38
Total Hospitalization(day)	6±2.6	9±2
Tracheostomy	0	0
Low Cardiak Output/IABP	0	0
Mortality	0	1

POSTOP MORBIDITY AND MORTALITY

OP-043 THE RESULTS OF THE EARLY REVASCULARIZATION IN UNSTABLE PATIENTS AFTER ACUTE MYOCARDIAL INFARCTION

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OBJECTIVES: The optimal timing for a patient to undergo CABG after myocardial infarction is unclear, because there have been no randomized trials to answer this question. Un stable patients often need to early and urgent surgery. Also these patients are the most surgical risky patients. We try to give some new perspective for the surgical timing for the acute myocardial infarction beyond the evaluation of the results of these patients.

METHODS: We have analyzed the 74 unstabl patient's surgical results after acute myocardial infarction with early revascularization. Twenty nine patients were performed surgery with cardiopulmonary resuscitation from the angio table or from the intensive care unit. The main reasons for the early surgery are; i- hemodynamic instability, ii- cardiopulmonary resuscitation, iii- in spite of medical or intra aortic baloon treatment continuous cardiac unstabl pain, iv- early 6 to 12 hours of anterior S-T myocardial infarction with a critical LAD lesion, v- malign arryhtymia.

RESULTS: Nineteen of the 29 CPR patient were alive. In all cases mortality rate was %17.5 (13patients). Mortality rate was %6.66 (3patients) when excluded the CPR patients. The average EF was 48.4 at the second month of the surgery and the NYHA functional capacity was 0-1 in 49 patients , 2 in 9 patients and 3 in 3 patients.

CONCLUSION: The possible increased risk of early surgery may be balanced against the potential for improved quality of life, life saving results and decreased hospital stay costs.

OP-044 OUTCOME OF OPEN HEART SURGERY IN OCTOGENARIANS

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OBJECTIVE: The elderly are increasingly referred for operation, we reviewed the results of cardiac surgery in patients of 80 years and older performed by the same surgical team in two separate centers in Turkey and determined the outcome.

METHODS: Records of 69 consecutive octogenarians who had had cardiac operations between January 2008 and June 2009 were reviewed. Total of 800 patients were operated in the interim. 69 patients were above 80 years old. 44 patients had only on pump coronary artery bypass grafting (CABG),8 patients had CABG and aortic valve replacement (AVR), 2 patients had CABG and mitral valve replacement (MVR), 1 patient had CABG, AVR and MVR, 1 patient had AVR and MVR, 2 patients had CABG and left ventricle aneurysm repair,2 patients had CABG and mitral ring implantation (MRI), 2 patients had CABG, MRI and de vega tricuspid annuloplasty (DTA), 1 patient had MVR and DTA, 1 patient had CABG and carotis endarterectomy and 5 patients had off pump CABG operations. The effect of cardiac and operative risk factors on mortality and morbidity was evaluated.

RESULTS: There was only 3 hospital death, 3 prolonged stay(>14 days), 2 stroke (1 patient died at the end of 21th- day- in hospital stay).

CONCLUSIONS: Open-heart surgery in octogenarians carries an acceptable mortality risk and its effectiveness in terms of improved quality of life is good. Cardiac operations are successful in most octogenarians with acceptable hospital mortality, and longer hospital stay. Long-term survival needs to be determined after long term follow up and evaluation.

OP-045 EFFECT OF INSULIN TREATMENT FOR NON-DIABETIC PATIENTS FOLLOWING

OPEN HEART SURGERY

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OBJECTIVE: Hyperglycemia is commonly present in the perioperative period in patients undergoing cardiac surgery. There may be a relative risk factor for postoperative hyperglycemia. Following cardiopulmonary bypass surgery, stress factors and inflammation may trigger hyperglycemia state for non-diabetic patients. In this study, we aimed to determine the effects of postoperative tight glucose control of non-diabetic patients on mortality and morbidity either by continuous infusion or subcutaneous insulin injection.

METHODS: We performed a regression analysis of non-diabetic patients, underwent cardiac surgery between January 2008 –May 2009 in Ankara University, School of Medicine, Department of Cardiovascular Surgery. One hundred and twenty patients (76 female/44 male) were analyzed. We applied insulin injection subcutaneously in 56 patients (group1) and continuous infusion in 64 patients (group2). We performed coronary artery bypass surgery for 74 patients, mitral valve surgery for 26, aortic valve surgery for 13 and other operations for 7 patients.

RESULTS: Length of hospital stay was longer for group 1, than group 2 patients (8.9±4.7, 6.8±3.4 days, respectively). Postoperative infection was detected in 4 out of 56 patients in group 1; and 6 out of 64 patients in group 2. Postoperative atrial fibrillation(AF) was seen in 8 patients of group 1 and 13 patients of group 2. Mortality was 2 patients in group 1 and 4 in group 2. Glucose follow-up with continuous insulin injection was significantly better(144±30 mg/dL vs 177±42 mg/dL; P=0.05).

DISCUSSION: High peak serum glucose level following cardiopulmonary bypass is an independent risk factor for death and morbidity in nondiabetic patients. Normalization of perioperative hyperglycemia by continuous insulin infusion treatment may become standard for non-diabetic patients to eliminate the incremental morbidity and mortality risks following open heart surgery.

OP-046 THE EFFECT OF TRIMETAZIDINE ON IN-HOSPITAL MORTALITY OF PATIENTS WITH ACUTE NON-ST ELEVATION MYOCARDIAL INFARCTION: A SINGLE CENTER REGISTRY

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PURPOSE: To evaluate the effect of trimetazidine on short term mortality rates of patients with non-ST segment elevation myocardial infarction treated with medical approaches in real world.

METHODS: In the registry of 4023 patients. Patients with non-ST segment elevation myocardial infarction given only medical therapies were analyzed. The patients were divided two groups. Group-1 included in patients treated with heparin, acetyl salicylic acid, clopidogrel, beta blocker and nitrates were included. Group-2 was consisted of patients treated with heparin, acetyl salicylic acid, clopidogrel, beta blocker, nitrates and trimetazidine 20 mg tid without loading. In-hospital mortality rates of two groups were compared.

RESULTS: One thousand-three hundred-twenty six patients with non-ST segment elevation myocardial infarction given medical therapy alone were included in the analysis. Eighteen of 474 patients in group-1 and 27 of 852 patients in group-2 were died of cardiac causes. In-hospital mortality rates were found 3.8 % and 3.2 %, respectively, (p =.28). Although the results were not statistically significant, in-hospital mortality rates of patients with non-ST segment elevation myocardial infarction treated with only medical therapy were lower in patients taking trimetazidine as an adjunct to standard therapy.

CONCLUSIONS: This study reveals that trimetazidine added to standard medical therapy in patients with non-ST segment elevation myocardial infarction treated with only medical approaches may provide in-hospital mortality benefit even if it is not significant. Large scale randomized trials are needed to verify this results.

**ATHEROSCLEROTIC VASCULAR DISEASES:
NEW THERAPEUTIC SOLUTIONS**

INT-OP-018 ENDOVASCULAR REPAIR IN MANAGEMENT OF THORACIC AND ABDOMINAL AORTIC PATHOLOGIES MID TERM RESULTS

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OBJECTIVE: Aneurysms, dissections and ruptures of the thoracic and abdominal aorta are still potentially life-threatening situations. The conventional operation is still associated with morbidity. Endovascular stent graft repair offers an alternative to conventional operation for management of these aortic diseases. Our aim was to report our mid term experience with endovascular stent graft repair of thoracic and abdominal aortic diseases.

Patients and Methods: Between April 2004 and March 2009, endovascular stent graft repair was performed in 59 patients. The lesions were in the thoracic aorta in 19 patients and abdominal aorta in 40 patients. In 19 of the 59 patients there were emergent situations. In the postoperative period control CT scans were evaluated in the day of discharge, 3 rd, 6 th and 12 th months after the procedure

RESULTS: The mean age was 73.7 ± 16.3 (38-86) years. The deployed stent graft systems were Talent-Medtronic(n=19), Excluder-Gore (n=36) and Jotec E-vita (n=4). Successful deployment of the stent grafts in the appropriate position was achieved in all patients. There hospital mortality occurred in 3 patients and hemiparesis in one patient. There was no conversion to open

surgery. Mean follow up time was 37.1±6.8 months. The percentage of endoleaks were (21.9 %). Thrombosis in the limb of the aortobiliac grafts occurred in three patients. In one patient femorofemoral bypass was performed and thrombectomy was performed in 2 patients.

CONCLUSION: Endovascular stent graft placement is a feasible and effective approach in the treatment of patients with complicated pathologies of both thoracic and abdominal aorta even in emergent pathologies. The endoluminal approach can avoid the major trauma of surgical therapy. However the long term results will determine the future of this treatment despite the encouraging short and mid-term results

INT-OP-019 EXPRESSION OF MATRIX METALLOPROTEINASES 2 AND 3 IN PATIENTS WITH ACUTE MYOCARDIAL ISCHEMIA AND ACUTE AORTIC DISSECTION.

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OBJECTIVE: The activity of matrix metalloproteinases (MMPs) has been implicated in various diseases processes including cardiovascular diseases. Acute aortic dissection and acute myocardial ischemia share similar clinical symptoms in many instances. The diagnostic process of acute onset chest pain is time and money consuming. We studied the expression of matrix metalloproteinases 2 and 3 (MMP-2, MMP-3) in patients with acute aortic dissection and acute myocardial ischemia to find if MMP-2 and MMP-3 serum levels could add in the process of differential diagnosis.

METHODS: Serum levels of MMP-2 and MMP-3 were evaluated by enzyme-linked immunosorbent assay technique in 34 patients affected by acute aortic dissection (group A) and in 13 patients affected by acute myocardial ischemia (group B). Blood samples were collected in both groups just after admission via a central vein catheter. The two groups had comparable demographic characteristics.

RESULTS: MMP-3 levels had statistical significant difference between patients with acute myocardial ischemia and patients with acute aortic dissection (17.33 ± 2.03 ng/ml vs 12.92 ± 1.01 ng/ml, p=0.043). In contrary no statistical difference was found in MMP-2 plasma levels between groups (180.94 ± 15.49 ng/ml vs 151.62 ± 6.82 ng/ml, p=0.070).

CONCLUSIONS: This pilot study suggests that serum levels of MMP-3 could be a useful biochemical marker to orientate the diagnosis in patients with acute cardiovascular events. MMP-3 serum levels is easy and simple to calculate and it could be in the future another non-invasive useful test to make the differential diagnosis between cardiovascular syndromes manifested with acute chest pain.

INT-OP-020 ENDOVASCULAR STENT-GRAFTING FOR AORTIC TRANSECTION: THE GOLD STANDARD THERAPY? A SYSTEMATIC REVIEW OF THE LITERATURE

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BACKGROUND: Despite advances in peri-operative critical care and surgical technique, aortic transection remains a significant challenge to cardiac and vascular surgeons. The traditional open repair requires a left postero-lateral thoracotomy with cardio-pulmonary bypass as an adjunct. The advent of the endovascular revolution has allowed surgeons to treat this often life-threatening condition in a minimally invasive fashion without the complications of thoracotomy and bypass. We systematically analyse and report the role of aortic endovascular stent-grafting in the treatment of aortic transection and question whether this should now be considered the gold standard method of repair.

METHOD: A systematic literature search of five electronic databases was performed to identify all papers reporting on the use of endovascular stent-grafting in the treatment of thoracic aortic transection. Patient demographics, type of stent-graft, mode of injury and follow-up data were extracted from all studies. Where possible, pooled statistical analysis was performed and the data synthesised.

RESULTS: A total of 33 papers identifying 214 patients were included in this review. The tables below demonstrate the patient demographics and complications following endovascular repair of thoracic aortic transection.

Table 1 - Literature Search Strategy
Table 2 - Data Synthesis

Total number of papers found from search criteria ("Thoracic aortic transection")	488
Papers rejected	376
Having read full paper/abstracts	33
Papers included	33

Table 1 - Literature Search Strategy

		From available data
Type of paper	Letter	1
	Case report	21
	Retrospective study	9
	Prospective observational study	2
Total number of patients		214
Male: Female		2.8:1
Age range		18-91
200		
Mode of injury	RTA	5
	FALL	9
	OTHER	9
	Spiral cord laceration	0
Complications following endovascular repair	Stroke	3
	Dissection	9
	Stent collapse/migration	10
	Mortality	15
Follow-up (range in months)		0.25-30

Table 2 - Data Synthesis

INT-OP-021 TISSUE ENGINEERING IN THE TREATMENT OF PERIPHERAL ARTERY DISEASE

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OBJECTIVE: Based on a randomized study that showed a significantly superior patency rate of in vitro endothelialized ePTFE grafts, we investigated whether it was feasible to provide autologous in-vitro endothelialization as a routine procedure at a non-tertiary institution to all patients needing an infra-inguinal bypass who had no suitable saphenous vein available.

METHODS: Over a period of 15 years 310 consecutive patients (age 64.7± 8.6) received 341 endothelialized ePTFE grafts (308 femoro-popliteal: 153 above knee (AK) and 155 below knee (BK) and 33 femoro-distal). Autologous endothelial cells were harvested from short segments (3.9±1.1cm) of subcutaneous veins (80.0% cephalic; 11.0% basilic; 1.8% external jugular and 7.2% saphenous) grown to mass cultures within 20.3±7.2 days and confluent lined onto fibrin glue-coated ePTFE grafts. The graft diameter was 6 mm (73.6%) or 7 mm (34.4%). The procedure-related delay for graft implantation was 28.1±7.7 days. Growth failure prevented 2.6% of patients from receiving an endothelialized graft. Mean observation period was 9.6 years. Primary patencies were obtained from Kaplan-Meier survivorship functions. Explants for morphological analysis were obtained from 7 patients.

RESULTS: The overall primary patency rate of femoro-popliteal grafts was 68.8% at 5 years (68.0% AK vs 70.5% BK) and 60.5% at 10 years (59% AK vs 64% BK). Primary patency of 7mm vs 6mm grafts was 78%/ 62% at 5 year s and 71%/ 55% at 10 years. The difference between the two groups was statistically significant (log rank test p=0.023; Breslow test p=0.017). Stage I versus II/III patients showed 5 year patencies of 67% vs 73% (N.S.) and 10 year patencies of 61% vs 53% (N.S.). The primary patency of femoro-distal grafts was 52.2% at 5 years and 35.9% at 10 years. The limb salvage rate was 94% (fem-pop) vs 86% (fem-distal) at 5 years and 89% vs 71% at 10 years. All retrieved samples showed the presence of an endothelium after 38.9±17.8 months.

CONCLUSION: Autologous in-vitro endothelialization was shown to be a feasible routine procedure at a non-tertiary hospital. Explants confirmed the presence of an endothelium years after implantation while the primary patency in the particularly challenging subgroup of patients without a suitable saphenous vein resembles that of vein grafts.

INT-OP-022 SURGICAL ASPECTS OF AORTIC DISSECTION AND DISSECTING AORTIC ANEURYSM TREATMENT - SINGLE CENTER EXPERIENCE

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INTRODUCTION AND AIM: Acute aortic dissection due to its high mortality rate poses great challenge in terms of timely diagnostics and surgical treatment. Diagnostic algorithm should be based on clinical evaluation and implementation of different imaging techniques. Determination of correct diagnosis is of great importance as well as urgent surgical treatment. The objective of this study was to evaluate clinical course and surgical treatment of aortic dissections and dissecting aortic aneurysms.

METHODOLOGY: Retrospective study which included 82 patients treated, between the period of 1999 and September 2008, in Institute of cardiovascular diseases of Vojvodina.

RESULTS: Group of 82 patients treated of aortic dissection or dissecting aortic aneurysms was comprised of 66% of males. Positive trend of increase of number of operated patients per year was observed. Only 12.19% of patients did not have any pain in chest or in interscapular region as initial symptom of disease onset, and in all of these patients chronic dissection was diagnosed. In around 3/4 of patients De Bakey type I aortic dissection was diagnosed. In approximately 80% of patients, interposition of tubus graft with/without aortic valve replacement or myocardium revascularization was performed. Immediate perioperative mortality rate was 19.52%. Surgical treatment of aortic dissection was performed as redo operation in three patients.

CONCLUSION: Diseases of aorta significantly figure in overall cardiovascular mortality. Acute diseases of aorta impose timely diagnostics and urgent surgical treatment. Our results in terms of mortality rate are comparable with results of other authors.

INT-OP-023 CORONARY AND CAROTID ARTERY OCCLUSIVE DISEASE – CHANGED APPROACH TO OPERATIVE TACTICS?

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INTRODUCTION AND AIM: Carotid endarterectomy (CEA) proved its value in both symptomatic and asymptomatic high-grade carotid stenosis, but considerable controversy still exists regarding the role of prophylactic CEA in CABG patients with coexistent carotid artery stenosis. In this study, we present our experience in treating patients needing both CEA and CABG, we evaluate perioperative mortality and morbidity as well as surgical approach.

METHODOLOGY: The study included 835 patients operated from occlusive coronary and carotid artery disease during the period 1982 – 2009.

RESULTS: Around 80% of the patients were in the age group of 50-70 years. There were 558 (66,83%) male patients and 277 (33,17%) female patients. Echocardiography revealed that almost every third patient had poor ejection fraction (less than 30%). Coronarography demonstrated that 21,43% of the operated patients had significant left main coronary artery stenosis of more than 60%. 71.73% of the patients underwent two stage operation (unilateral CEA followed by CABG) with mortality of 1.17%. 14.85% of the patients underwent three stage operation (bilateral CEA followed by CABG) with the mortality of 1.61% and 13.41% of the patients underwent simultaneous operation with mortality rate of 8.92%.

CONCLUSION: Individual assessment of each and every patient in terms of carotid and co-

ronary arteries status is imperative. We are of the opinion that surgical approach should be individualized, and that it is not good to use exclusively one or the other approach.

INT-OP-024 COMPARISON OF EVERSION CAROTID ENDARTERECTOMY AND STANDART TECHNIQUE IN CAROTID ARTERY ENDARTERECTOMY

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AIM: Stroke continues to be a very common cause of death despite the advances in prevention and management of atherosclerosis. Carotid endarterectomy (CEA) is an effective treatment modality in reducing the risk of stroke in selected patients with carotid stenosis. Although primary repair and patchplasty are popular surgical treatment options, eversion carotid endarterectomy can be safely used in experienced centers. In this prospective randomized study we aimed to compare eversion carotid endarterectomy and standart technique.

PATIENTS AND METHODS: Between December 2007 and February 2009, 53 patients underwent carotid endarterectomy. Patients were randomized into two groups. Eversion endarterectomy was performed in 29 patients(Group A) and patchplasty was performed in 24 patients (Group B). Carotid clamp time, total operation time, postoperative complications, intensive care unit and hospital stay time were compared between the groups. All the operations were performed under regional anesthesia by the same surgical team. The intraoperative use of shunt was decided according to the testing clamping.

RESULTS: The mean age was 70.3 ± 8.7 years. There was no difference in demographic parameters. The 48% of the patient were symptomatic. Clamp time was significantly lower in eversion group (24.4 ± 3.4 minutes versus 31.3 ± 3.6 minutes(p=0.0002)). There was no difference in intensive care unit and hospital stay time 1.14 ± 0.3 and 2.27± 0.4 minutes respectively).

CONCLUSION: Eversion carotid endarterectomy helps the surgeons to avoid in using patch materials and patch related complications. The clamp time is shorter than the conventional procedure and it is more physiological. Therefore it can be used safely in selected patients.

DISEASES OF PERIPHERAL ARTERIES AND VEINS: NEW THERAPEUTIC APPROACHES FOR CRITICAL PROBLEMS

OP-047 SUBFASCIAL ENDOSCOPIC PERFORATOR VEIN SURGERY (SEPS) APPROACH IN VENOUS DISORDER TREATMENT

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Cronic venous disorder(CVD)is the advanced stage of lower extremity vasculopathies which is caused by insufficient venous drainage in lower limbs. CVD treatment options are conventional tx,medical tx and surgery.Common operations are conventional surgery with linton technique and subfascial andoscopic perforator surgery(SEPS)In SEPS technique, two small incisions are made far from lesion which is around antle ,this makes CVD treatment less invasive. Recently,SEPS is preferred to conventional Linton technique for ligation of perforating veins.in Hacettepe University Medical school ,51 patients underwent SEPS.87% of these patients have showed clinical improvement.

OP-048 OUR RESULTS WITH EMBOLECTOMIES OF LATE ACUTE LOWER EXTREMITY ARTERIAL OCCLUSIONS

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BACKGROUND: We aimed to analyze the embolectomy results and complications of patients that were operated on following a diagnosis of late acute arterial occlusion of lower extremities in our clinic.

MATERIALS AND METHODS: A total of 122 patients that were operated in our clinic between 2004 and 2009 for late acute arterial occlusion were included in the study. Late arterial occlusion was defined as occlusion occurring 72 hours after initial manifestation of the patient complaints related to the effected lower extremity. Patients with ongoing ischemia in the extremity, even after embolectomy, were admitted for additional surgery.

RESULTS: The average age of the 122 patients was 54.2±16.8 years; 71 were male and 51 were female. In this cohort, 64.75% patients had cardiac pathologies, while 28.68% had extracardiac casues; 1.64% patients had catheterization, 0.81% patient had malignancy, and 2.46% patients had a history of trauma. In 1.64% of the cases, no reason for thromboembolysis could be found. Thirty-one patients (25.40%) had additional surgical operation, 14 (11.47%) had fasciotomy, and 9 (7.37%) had amputation. During and after rbdomyolosis, acute kidney failure and venous thrombosis were developed in 5 (4.09%) and 3 (2.45%) patients, respectively. Early in the postoperative phase, mortality was observed in 11 patients (9.01%).

CONCLUSION: We believe that late embolectomies of acute leg ischemia increases blood flow in the extremity and lowers the level of amputation. Additionally, we think it is advantageous to give a chance to the patient by performing embolectomy, however advanced the patient may be.

OP-049 SURGICAL APPROACH TO INTESTINAL ANGINA AND MESENTERIC SACCLAR

ANEURYSM

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A 63-year old female had admitted to our hospital with severe chest pain three years ago. After receiving the diagnosis of coronary artery disease (CAD) on coronary angiography, the patient underwent coronary artery bypass grafting (CABG) on three vessels. Two years after CABG, the patient admitted to several hospitals with the complaint of abdominal pain. After various diagnostic tests, it was found out that the celiac artery was totally occluded and there was a saccular aneurysm proximal to the superior mesenteric artery. Upon these findings, the patient admitted to our hospital. The results of the tests (urea/creatinine ratio, hepatic enzymes such as alanine transaminase and aspartate transaminase) conducted in our hospital were in normal ranges. Patient's operation history other than the CABG included a right mastectomy for breast cancer. On echocardiography, ejection fraction (EF) was found to be 25%. Conventional abdominal aortic angiography revealed a saccular aneurysm deriving from the proximal of superior mesenteric artery. Truncus coeliacus was totally obliterated and the superior mesenteric artery was running the perfusion of the Truncus coeliacus through the distal area.

Following comprehensive evaluation at our clinic, operation under general anesthesia was decided. A multidisciplinary operation consisting of cardiovascular surgery and gastroenterology surgery was planned. The patient gave her informed consent. During the operation, the patient received a saphenous vein bypass grafting between the right A. iliaca and the A. gastroepiploica dextra (Figure 1). Besides, A. mesenterica superior jejunal branch saccular aneurysm repair was successfully performed (Figure 2). The patient was monitored for postoperative 4 days at intensive care unit and she was discharged on postoperative 10. day without any problem.

Figure 1. Saphenous vein bypass grafting between the right A. iliaca and the A. gastroepiploica dextra.
Figure 2. Resection of the saccular aneurysm at A. mesenterica superior jejunal branch.



Figure 1

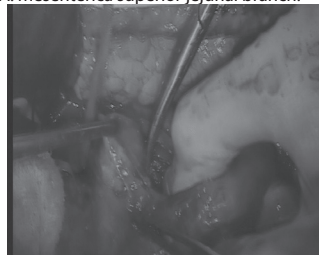


Figure 2

OP-050 REPAIR OF ARTERIOVENOUS ACCESS RELATED PSEUDOANEURYSMS WITH USING GRAFT INTERPOSITION

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AIM: This prospective observational study describes the surgical management of 4 hemodialysis patients who present with complicated arteriovenous access related pseudoaneurysms.

METHODS: The data were recorded prospectively between September 2003 to May 2009 period. Anatomy of pseudoaneurysm was evaluated preoperatively using color Doppler ultrasonography and digital subtraction angiography. Primary patency rates were followed up. Patency was evaluated using physical examination and Doppler ultrasonography.

RESULTS: Four patients who presented with pseudoaneurysms underwent revision surgery. The cases of initial access sites was all brachiocephalic fistulas. All fistulas were dysfunctional and thrombosed at presentation. Primary indications for revision were danger of pseudoaneurysm enlargement and rupture in all patients. During the surgery, all pseudoaneurysms were resected and graft (n=3 Polytetrafluoroethylene 6mm, n=1 saphenous vein) interposed between brachial and radial artery under axillary blockage or general anesthesia. Ulnar artery was ligated in all patients. All grafts were patent at postoperative 3, 6, and 12 months. The outcomes was equal in autogenous and prosthetic grafts. The infection was not seen any patients. The haematoma was determined in two patients and there was no reoperation early postoperative period.

DISCUSSION: Pseudoaneurysms are a less frequent complication of AV hemodialysis shunts. If they grow to an appreciable size, they can become painful and erode through the skin, resulting in hemorrhage. Thrombosis is also a possibility.¹ These pseudoaneurysms can usually be treated by direct interposition grafting and repair.²

CONCLUSION: Surgical revision of complicated hemodialysis access-related pseudoaneurysms reveals acceptable postintervention primary patency rate.

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OP-051 AXILLARY CANNULATION FOR THE ONSET OF CARDIOPULMONARY BYPASS IN HIGH RISK ASCENDANT AORTIC ANEURYSMS

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OBJECTIVE: Huge aneurysms of ascending aorta or reoperations for ascending aort aneurysms often requires great attention during sternotomy since an opening in aneurysm sac may lead to catastrophic complications. We aimed to present our experience on an alternative and safer approach for this group of patients.

METHODS: Between July 2008 and May 2009 eight patients underwent aort aneurysm repair using axillary approach for the onset of cardiopulmonary bypass. Seven of them were males and one female. Their ages ranged between 48-69 years. Of the eight patients six had sternotomies previously (four for aortic valve replacement, one for tetralogy of Fallot and one for acute aortic dissection) and two had a huge aneurysms which was very close to sternum. Before sternotomy axillary artery and vein are cannulated and cardiopulmonary bypass is started. Sternotomy is done once the patient is cooled down.

RESULTS: There were two (25%) in hospital mortalities, as a result of acute renal failure in one patient and graft infection in the latter. None of the aneurysms are entered during sternotomy and no complications relevant to axillary vein cannulation occurred.

CONCLUSIONS: To avoid such catastrophic complications during the opening of mediastinum in this group of patients axillary access for cardiopulmonary bypass is safe and easy to carry out. Onset of cardiopulmonary bypass before sternotomy cooling down the patient and decompression of the heart and aneurysm sac. Axillary cannulation for such purpose can be an alternative to femoral cannulation.

OP-052 OUR RESULTS OF ILOPROST THERAPY IN PERIPHERAL OCCLUSIVE ARTERIAL DISEASE

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OBJECTIVE: In patients with peripheral occlusive arterial disease Fontaine stage III-IV (resting pain and/or non-healing ulcer or necrosis) means the extremity's life is significantly in danger. Our study objective was to determine the efficiency and outcome of 15 day Iloprost therapy in patients with these stage ischemia (Fontaine III – IV), where the distal vascular bed was not acceptable for revascularization.

METHOD: This study includes 20 patients who were treated in our clinic. After giving 15 days of Iloprost (intravenous 0.5-2 ngr/kg/min) therapy, we detected the decrease in the Fontaine staging and the improvement of walking distance, ABI (ankle/brachial index) and pain level in 20 patients. Wilcoxon test was performed for statistical evaluation.

RESULTS: After average of 2 years of follow-up it was found that the pain level of patients was decreased (p<0.05), the walking distance was increased (p<0.05), ABI was increased (p<0.05) and the stage of the patients according to the Fontaine staging declined (p<0.05).

CONCLUSION: In our study it was found that in patients with inoperable distal vascular bed; 15 days of Iloprost therapy improved the walking distance and ABI, decreased the pain level. According to these findings Iloprost seems to be an important alternative in patients with peripheral occlusive arterial disease Fontaine stage III- IV and unsuitable patients for vascular reconstruction. In order to evaluate the outcome further prospective randomized studies should be done.

KEY WORDS: Peripheral arterial disease, Iloprost, Ankle-brachial index

OP-053 CHRONIC ISCHEMIA OF THE UPPER EXTREMITY: REVIEW OF 13 PATIENTS

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INTRODUCTION: Chronic ischemia of the upper limbs needing revascularization is an uncommon situation. This retrospective review was undertaken to report our clinical experience about this specific pathology excluding acute occlusions.

METHODS: To review these patients we used our vascular registry database targeting occlusive disease at upper extremities. Simple embolectomies and acute occlusions and transections were excluded. Between January 1999 to December 2006 we identified 13 patients with chronic occlusion and ischemic complaints at the extremity.

RESULTS: Their mean age was 59 years and 8(61.5%) were male. Ischemic complaints are mainly exercise intolerance and limitation of the daily activities. In 3 of the patients tissue loss was the predominant pathology. The etiology of ischemia was atherosclerosis in 8 patients. In others, etiology of the ischemia were trauma, radiotherapy and iatrogenic vascular intervention. As inflow, brachial artery was used in 8 of the patients and in remaining 5 patients we used axillary artery. Conduits used included the greater saphenous vein in 11 patients, arm vein and prosthetic graft were used in other two patients. There were no perioperative deaths.

CONCLUSIONS: Revascularization for treatment of chronic ischemia of upper extremities may be safely undertaken with excellent results. Etiology is most commonly atherosclerosis. In our opinion bypass to distal infrabachial branches may be offered to selected patients with upper extremity ischemia.

OP-054 COMBINATION OF INTERVENTIONAL RADIOLOGY AND VASCULAR SURGERY FOR MANAGING CAROTID BODY TUMOURS

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AIM: Tumors of the carotid body are rare paragangliomas originating from sympathetic fibres of the carotid bifurcation. Growth is slow and they frequently become symptomatic through

local mechanical compression of neighboring vascular and neural structures. One of the major intraoperative problems of these overvascularized tumours is bleeding. Reducing the vascularity and sizes of these tumours by embolizations may be beneficial in avoiding that complication. The aim of this study is to present the therapy and course in patients with a carotid body tumor treated at our department of the Baskent University

PATIENTS AND METHODS: Between April 2003 and March 2009, 10 patients were studied retrospectively. Carotid artery angiograms were performed in 10 patients. Embolizations were maintained with transarterial Poly Vinyl Alcohol(PVA) injection when feeding artery was detected or ultrasound guided percutaneous intratumoral lipiodol –N- butyl siyanoacrilate(NBSA) when feeding artery was not visible and operations were performed 24 hours after the embolizations.

RESULTS: In all patients the tumours were removed totally and they were evaluated histopathologically. There was not a major bleeding in any of the patients and there was no need for transfusion. There was no need for revascularization. There was also no evidence of postoperative neurological complication.

CONCLUSION: Surgery for Tumors of the carotid bodies carry the potential risks as cranial nerve damage and massive hemorrhagia. If internal carotid artery is damaged during surgery or the artery is totally surrounded by the tumour reconstruction is indicated. Another big problem is bleeding which can be massive sometimes. Devascularization and size reduction of these tumours by PVA and NBCA enables the operation without a major bleeding complication and also reducing the necessity of reconstruction even in Shamblin stage 3 tumours. As a result, transarterial or percutaneous tumour embolization before surgery is a safe procedure which reduces operative morbidity.

OP-055 IS ADVANCED AGE ASSOCIATED WITH HIGH RISK IN CAROTID SURGERY UNDER REGIONAL ANESTHESIA ?

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INTRODUCTION: Stroke continues to be a very common cause of death despite the advances in prevention and management of atherosclerosis. Embolic events originating in the extracranial carotid arteries are responsible for more than a half of all strokes. Carotid endarterectomy (CEA) is an effective treatment modality in reducing the risk of stroke in selected patients with carotid stenosis. Elderly patients are often considered as high risk patients for operation, and medical care or catheter-based carotid angioplasty and stenting are preferred for carotid disease management in many centers.

PATIENTS AND METHODS: Between June 2004 and December 2008, 90 CEA operations were performed under regional anaesthesia in 84 patients over 75 years of age. The total number of patients undergoing CEA was 165. All operations were performed by a single surgical team. Regional anesthesia was preferred in all CEA candidates, but not all patients were candidates for regional anesthesia.

RESULTS: The mean age of patients was 77.1± 1.8 (75-86) years. There were 84 patients and 90 operations during the period. The patients were either ASA physical status III or IV. There were 10 patients with contralateral occlusion. The mean operation and carotid artery clamp times were 116.9±25.2 (range: 45-150) and 31.3± 4.4 (range: 16-45) minutes, respectively. In 7 patients, a shunt was required. The median intensive care unit (ICU) and hospital stays were 1.3 days (range 1-11 days) and 2.2 days (range 2-11 days), respectively. There were no perioperative strokes. One patient died on the seventh postoperative day due to myocardial infarction. The mean follow up time was 11.3 ± 6.4 months. In the follow up period, duplex ultrasound revealed no signs of occlusion or thrombus formation in any patients. None of the patients required redo CEA for recurrent stenosis. There was also no evidence of cerebrovascular events in the follow up period.

CONCLUSION: The number of elderly patients in the general population has increased over the past decades and age continues to be an independent predictor of increased mortality and morbidity. Advanced age is associated with decreased physiologic reserve and increased incidence of comorbid conditions. Functional reserve is diminished compared with younger patients. Therefore, elderly patients are acknowledged to have a greater risk of mortality and morbidity when undergoing carotid endarterectomy. These circumstances influence recommendations for non-operative treatment and, more recently, suggestions that carotid artery stenting may be preferable to surgery. There are studies, however, reporting that non-operative treatment modalities are not as effective as carotid endarterectomy.

We conclude that carotid endarterectomy with regional anesthesia can be performed safely in elderly population with low morbidity and mortality.

ACUTE CORONARY SYNDROMES, CORONARY BYPASS GRAFT PATENCY, SURGICAL OUTCOMES

OP-056 THE EFFECT OF CLOPIDOGREL ON IN-HOSPITAL MORTALITY RATES OF PATIENTS WITH ACUTE NON-ST ELEVATION MYOCARDIAL INFARCTION IN REAL WORLD CLINICAL SETTINGS. NON-INVASIVE CENTER EXPERIENCE

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PURPOSE: To evaluate the effect of clopidogrel on short term mortality rates of patients with non-ST segment elevation myocardial infarction treated with medically in real world clinical settings.

METHODS: In the registry of 4023 patients. Patients with non-ST segment elevation myocardial infarction treated with medically were analyzed. The patients were divided two groups. In group-1, the patients treated with heparin, acetyl salicylic acid, beta blocker, nitrates and

clopidogrel were included. In group-2, the patients treated with heparin, acetyl salicylic acid, beta blocker and nitrates were included. In-hospital mortality rates of two groups were compared statistically.

RESULTS: 1326 patients with non-ST segment elevation myocardial infarction taking only medical therapies were included the analysis. 15 of 612 patients taking clopidogrel added to standard medical therapy (group-1) and 30 of 714 patients not taking (group-2) were died of cardiac causes. The mortality rates of patients in the period of hospital stay were 2.5 % in group-1 and 4.2 % in group-2 (p<.05). Clopidogrel provides significant mortality benefit in patients taking clopidogrel added to standard medical therapy.

CONCLUSIONS: This study reveals that clopidogrel provides significant in-hospital mortality benefit in patients with non-ST segment elevation myocardial infarction even if the patients are treated with only medical approaches in real world clinical settings.

OP-057 THE EFFECT OF TRIMETAZIDINE ON IN-HOSPITAL MORTALITY OF PATIENTS WITH ACUTE ST ELEVATION MYOCARDIAL INFARCTION: A SINGLE CENTER REGISTRY

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PURPOSE: To evaluate the effect of trimetazidine on short term mortality rates of patients with acute ST segment elevation myocardial infarction (STEMI) administered medical therapy in real world.

METHODS: In the registry of 4023 patients. Patients with STEMI treated with medical approaches only were analyzed. The patients were divided to four groups: Group-1 patients treated with thrombolytics, heparin, acetyl salicylic acid, beta blocker, clopidogrel and nitrates: Group-2 patients treated with thrombolytics, heparin, acetyl salicylic acid, beta blocker, clopidogrel, nitrates and trimetazidine 20 mg tid without loading: Group-3 patients treated with heparin, acetyl salicylic acid, beta blocker, clopidogrel and nitrates: Group-4 patients treated with heparin, acetyl salicylic acid, beta blocker, clopidogrel, nitrates and trimetazidine 20 mg tid without loading. In-hospital mortality of groups were compared.

RESULTS: Nine hundred-eighty seven patients were included the analysis. Thirty three of 561 patients in group-1 and 9 of 276 patients in group-2 were died of cardiac causes. The mortality of patients taking thrombolytic therapy were 5.9 % and 3.3 %, respectively, (p<.05). In-hospital mortality was significantly lower in patients taking trimetazidine together with thrombolytic. Thirty of 108 patients in group-3 and 6 of 42 patients in group-4 were died of cardiac causes. The mortality of patients taking trimetazidine but not thrombolytic were 28 % and 14 %, respectively, (p<.05). In-hospital mortality rates were also significantly lower in this groups.

CONCLUSIONS: The study reveals that trimetazidine added to standard medical therapy without loading in patients with STEMI may provide significant in-hospital mortality advantage. However, large scale trials are needed.

OP-058 A NEW TECHNIQUE FOR THE OLD ARTERIAL GRAFT: INTERNAL THORACIC ARTERY.MID TERM RESULTS.

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Cardiovascular Surgery Clinic;Turkiye Yuksek Ihtisas Hospital,Ankara,Turkey¹, Cardiovascular Surgery Clinic;Turkiye Yuksek Ihtisas², Cardiovascular Surgery Clinic;Diyarbakir Devlet Hastanesi,Diyarbakir,Turkey³, Cardiovascular Surgery Clinic; Rize Devlet Hastanesi,Rize,Turkey⁴, Department of Radiology, Turkiye Yuksek Ihtisas Hospital,Ankara,Turkey⁵, Cardiovascular Surgery,Kars Devlet Hastanesi,Kars,Turkey⁶, A New Technique for the Old Arterial, Graft: Internal Thoracic Artery.Mid term results.

ABSTRACT: Coronary artery bypass grafting with multiarterial grafts can be performed safely, and better long-term results can be expected with the use of arterial conduits, especially ITA. We describe a simple and practical technique for the left ITA grafting by dividing the ITA graft and using its proximal and distal parts in situ for the distal left anterior descending (LAD) artery and the obtuse marginal artery grafting.

SURGICAL TECHNIQUE: For the first patient,the left ITA was used for the first graft to the LAD artery below the first stenosis and distal left ITA (in other words, superior epigastric artery [SEA], distal to the second stenosis, which is below the second diagonal artery). For the second patient, we used the left ITA to the LAD and distal part of the left ITA (SEA) to the second obtuse marginal artery by lengthening it with the saphaneous vein graft as a composite graft. Radial arteries for both patients could not be used because of the positive Allen's test. Both patients had uneventful postoperative period following the operation. They were discharged from the hospital on the sixth postoperative day.They had come to regular outpatient controls, and had no complaints or angina at the sixth month of their operation. We have performed follow-up angiography at the sixth month after the surgery. Although we could visualize all grafts, which were intact even without any stenosis, the distal ITA graft, which was defined as SEA, could not be visualized because of technical impossibilities. We could not catheterize and visualize the distal ITA graft and related anastomosis. We performed a Doppler ultrasonography examination in order to investigate the flow of SEA. The results were quite interesting and surprising. In both patients, left SEA flow was turned toward the heart with different flow pattern, although the right SEA had flow toward the lower extremities with a usual pattern. Both patients were called to regular outpatient reviews by the end of the second postoperative year and CT angiograms were performed to evaluate the mid term results of graft patencies.Ct angiogram revealed patent grafts including the distal ITA grafts,which were defined as SEA(superior epigastric artery).

CONCLUSION: This new technique of using both proximal and distal parts of the ITA had advantages of using an arterial graft for the target vessels, which were easily reached, when necessary, as mentioned in these two patients, the distal part of the LAD and the second obtuse marginal arteries. Its disadvantage is difficult to visualize angiographically for the follow-up. We could only show the patency by using the Doppler ultrasonography. It should also need to explore its blood flow before the anastomoses just like the ITA graft. This new technique may

be useful for the patients when an extra arterial conduit is necessary with the above mentioned disadvantages.

OP-059 CAN TRANSIT TIME FLOW MEASUREMENT PREDICT EARLY GRAFT FAILURE INTRAOPERATIVELY?

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BACKGROUND: Success of a coronary artery bypass surgery operation is defined with the patency of the grafts used. While late graft failure is usually due to progression of the underlying disease, early graft failure can be caused by technical mistakes during manipulation of the heart and at the level of anastomoses. Methods such as intraoperative angiography, thermal angiography, probing of the anastomosis, and transit time flow measurement (TTFM) can be used intraoperatively to help identify anastomotic errors.

METHODS: From December 2007 to May 2009, a transit time flowmeter was used intraoperatively in 286 patients who underwent coronary artery bypass surgery operation with a total of 740 distal anastomoses (2.6 grafts per patient). All completed grafts were tested intraoperatively with TTFM and the decision to accept or revise any individual graft was based on a decision nomogram using key values readily available from the TTFM output such as mean flow (ml/min), pulsatile index (PI) and diastolic filling percentage (DF %).

RESULTS: Eight grafts (1,1%) were surgically revised based on unsatisfactory TTFM findings, such as decreased graft mean flow, the PI, or both. All revised grafts were found to have a significant technical error, such as an intimal flap, thrombus, conduit kinking, or dissection. There were no major complications, myocardial infarctions, or intraoperatively deaths in the graft revised patients.

CONCLUSIONS: TTFM may be a useful method to predict early graft failure. The decision to revise a graft can be made based on simple parameters easily acquired from the TTFM device. Detection of graft dysfunction intraoperatively by TTFM improves the surgical outcome.

Intraoperative TTFM findings of normal grafts

Grafts	No. of grafts	Mean flow (ml/min)	PI	DF%
LIMA-LAD	273	47	2,7	66
LIMA-Cx	1	36	2,1	57
RA-LAD	6	60	2,6	67
RA-Cx	106	47	2,7	64
RA-RCA	10	57	2,2	64
SVG-LAD	6	36	3,2	60
SVG-Diagonal artery	46	36	2,3	52
SVG-Cx	120	43	3,5	65
SVG-RCA	164	55	2,5	63

LIMA:left internal mammary artery, RA:radial artery, SVG:saphenous vein, LAD:left anterior descending artery, Cx:circumflex system, RCA:right coronary artery, PI:pulsatile index, DF%:diastolic filling percentage

Distribution of grafts

Grafts	No.	%
IMA	275	37,2
RA	125	16,9
SVG	340	45,9

IMA:internal mammary artery, RA:radial artery, SVG:saphenous vein graft

Intraoperative TTFM findings of revised grafts

Revised grafts	(1)Mean flow (ml/min)	(1)PI	(1)DF%	(2)Mean flow (ml/min)	(2)PI	(2)DF%
LIMA-LAD	10	22,0	60	23	4,6	68
RA-Cx	2	-	-	77	1,8	63
RA-Cx	2	45,0	30	84	2,1	64
RA-Cx	24	9,1	40	40	4,5	64
SVG-Diagonal artery	6	4,5	66	36	2,9	80
SVG-Diagonal artery	7	4,6	50	33	3,1	72
SVG-Cx	3	63,0	38	13	4,0	52
SVG-RCA	8	6,0	53	13	4,3	60

LIMA:left internal mammary artery, RA:radial artery, SVG:saphenous vein, LAD:left anterior descending artery, Cx:circumflex system, RCA:right coronary artery, (1):before revision, (2):after revision, PI:pulsatile index, DF%:diastolic filling percentage

OP-060 CORONARY ARTERY BYPASS SURGERY IN THE OCTOGENARIAN: EVALUATION OF RISK, COST AND OUTCOME

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KEYWORDS: Coronary artery bypass surgery, Octogenerian, Postoperative complications, Hospital morbidity and mortality.

Nationwide, cardiac surgery is being performed more frequently in patients aged 80 years and older. 156 octogenarians undergoing a variety CABG procedures were prospectively studied between 2006 and 2009 for comparison with similar patients aged 65 to 75 years (n= 702) in the Cardiovascular Department of Group of SIFA Hospitals in Izmir. Octogenarians were more likely to be of female gender, and be nondiabetic than the younger group. The 30-day mortality rate for patients aged 65 to 75 years was 1.7% (12 of 702 patients), versus 3% (2 of 156) for patients

aged 80. Complications occurring more frequently in octogenarians were severe low output state, reintubation, and atrial fibrillation. Elders experienced a longer intensive care (3.2 versus 1.3 days) and postoperative stay (9.9 versus 7.5 days), and were discharged to a skilled nursing facility more often than younger patients (47% versus 21.1%). Total direct costs were 2450TL higher in the octogenarian group. Although emergency operations and complex procedures carried high risks for the octogenarian, the majority of these patients can be offered operation with short-term morbidity, mortality, and resource use that only modestly exceeds that of younger patients.

OP-061 IMPACT OF EARLY POSTOPERATIVE STATIN THERAPY ON SERUM LEVELS OF TISSUE PLASMINOGEN ACTIVATOR AND TISSUE FACTOR PATHWAY INHIBITOR AFTER CORONARY ARTERY BYPASS GRAFTING

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OBJECTIVES: Current evidence suggests that alterations in coagulation/fibrinolytic activity may have a predictive value for early thrombosis in patients undergoing coronary artery bypass grafting (CABG). Statins have been shown to have several pleiotropic effects on systemic inflammatory response, ischemia/reperfusion injury and coagulation/fibrinolytic cascade. In this study we aimed to evaluate the impact of early statin use on serum markers of fibrinolysis vels of tissue plasminogen activator (t-PA) and tissue factor pathway inhibitor (TFPI) after CABG.

METHODS: Forty patients undergoing CABG were included. According to postoperative drug therapy, patients were prospectively grouped into two; group 1 (n=20); recieved atorvastatin (20 mg/day) therapy for two weeks after CABG and group 2 (n=20): had not recieved statin therapy. Plasma levels of plasminogen activator inhibitor (PAI), t-PA and TFPI levels were measured preoperatively (t1) and one week after operation (t2) with the use of Enzyme-Linked Immunosorbent Assay (ELISA). Findings: Early postoperative atorvastatin treatment caused a significant reduction in the serum levels of PAI-1 (preop: 17.04±0.7 ng/ml vs postop: 11.8±2.1 ng/ml, p<0,05) and TFPI (preop: 81.0±0.4 ng/ml vs postop: 31.8±4.1 ng/ml, p<0,05) in group 1 when compared to group 2. Serum levels of t-PA were found to be significantly increased in group 1 (for t-PA: preop: 110.4±0.1 ng/ml vs postop: 241.±1.2 ng/ml, p<0,05). Result: Early atorvastatin therapy causes significant alterations in fibrinolytic system after CABG. Clinical implications of these alteration should be studied in further studies.

OP-062 CASE PRESENTATION WITH CARDIAC ALLOGRAFT VASCULOPATHY

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AIM: Allograft vasculopathy occurs by atherosclerotic occlusion in donor heart. Allograft vasculopathy cause to cronic rejection and it has change to patient survive.

MATERIALS AND METHODS : Orthotopic heart transplantation was performed in 62 patient between October 1989 and March 2009 . Three patients occurred allograft vasculopathy during long term follow up . Two patients were male and one patient was a female. Their ages were 22,24 and 39. They admitted to our clinic with congestive heart failure and chronic rejection diagnosis in fourth and fifth postoperative years and significantly to coronary artery disease was identified by coronary angiography.

RESULTS: Two young patients received triple stents for 3 main coronary artery system.The female patient had acute myocardial infarction after the stent restenosis, and she died because of graft failure. The third male patient received only medical therapy for coronary artery disease.

CONCLUSION: The treatment of allograft vasculopathy is being quite difficult with appearing after the transplantation in lately term especially more often at young patient. Convasional angiographic study may not be enough at that kind of patient and vessels lumen must be often investigated with IVUS (intra vascular ultrasound). Stent implantation is more effective for this patient but restenosis could be due to mortality.

OP-063 IT'S BETTER SAPHENOUS VEIN INCISION LINE TO BE CLOSED WITH ONE COAT THAN TWO COATS

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OBJECTIVE: To examine early stage results in patients with closed incision line only along with skin and subcutaneous after removing great saphenous vein during coronary artery bypass surgery.

MATERIAL AND METHOD: 82 patients, who were operated electively between December 2008 and April 2009 in our clinic, were enrolled in the study. Patients had demographically same characteristics, closing method was applied randomly (Table 1). Three patients were excluded because of in-hospital mortality. Saphenous incision line was closed using continuous skin suture in 41 patients (Group 1), and using first continuous subcutaneous suture, then continuous skin sutures in 38 patients (Group 2). Patients were controlled every day when they were staying in hospital, at first week after being discharged, and at the end of the second month (Table 2, Table 3). Incision line was evaluated in terms of hematoma, infection, oedema, pain and anesthesia.

FINDINGS: During controls performed when staying in hospital, and at first week, infection, oedema and anesthesia was observed statistically significantly higher in Group 2; hematoma in Group 1, and pain in Group 2 were observed higher but those weren't statistically significant. In the control at second month infection, oedema, and anesthesia were statistically higher in Group2.

RESULT: In patients with saphen removed using standard method, it's sufficient incision line to be closed only with skin suture.

Table 1

	Group 1 (n=41)	Group 2 (n=38)	p
Age (year)	63.1±11	63.7±9.6	0.8
Gender (M/F)	31/10	28/10	0.5
Body Surface Area (m ²)	1.77±0.2	1.84±0.1	0.2
Number of bypass (n, avg.)	3.2±0.8	3.2±0.5	0.8
Hospital stay period	7.3±3	8±2	0.2
Diabetes mellitus (n)	22	16	0.2
Euroscore	2.5±1.8	2.1±1.5	0.3
Below the knee	18	12	0.1
Above the knee	23	26	0.1

Patients' demographic and operational characteristics. P>0.05: Not statistically significant.

Table 2

	Group 1 (n=41)	Group 2 (n=38)	p
Hematoma	6(14%)	2(5.2%)	0.1
Infection	2(4.8%)	8(21%)	0.033*
Pain	6(14%)	8(21%)	0.3
Oedema	3(7%)	10(26%)	0.023*
Anesthesia	2(4.8%)	12(31.5%)	0.002*

Data obtained from controls in hospital stay period and at first week. P>0.05: Not statistically significant.

Table 3

	Group 1 (n=41)	Group 2 (n=38)	p
Hematoma	0	0	-
Infection	0	2(5.2%)	0.05*
Pain	1(2.4%)	4(10.4%)	0.1
Oedema	1(2.4%)	6(15.7%)	0.04*
Anesthesia	0	10(26%)	0.001*

Results obtained from controls at second month.* Statistically significant. P>0.05: Not statistically significant.

NEW SURGICAL THERAPEUTIC OPTIONS FOR MITRAL VALVE DISEASE

INT-OP-025 MINIMAL ACCESS MITRAL VALVE REPLACEMENT

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BACKGROUND: A variety of techniques including Mini-sternotomy, right anterior mini-thoracotomy, parasternal incision, Port Access approach (Heartport), indirect endoscopic techniques (Chitwood) and robotic techniques have been described to reduce surgical access in mitral valve surgery. The last three procedures are costly, involve a relatively long training curve and leave the patient with multiple scars. We used a right antero-lateral mini-thoracotomy technique for mitral valve patients and compared our results with the conventional technique.

METHODS: We randomized 100 consecutive patients presenting to our hospital for mitral valve surgery between two groups. The first group (test group) consisted of 50 patients in which mitral valve surgery was performed via mini-right anterolateral thoracotomy approach. The control group (50 patients) underwent classical mitral valve surgery through median sternotomy. Standard aortic and bicaval cannulation with antegrade blood cardioplegia was adopted in both groups.

RESULTS: There was no statistical difference between the two groups preoperatively regarding their age, pathology, LV function and male/female ratio. All patients had valve replacement. The incision in the test group was 12-15 cm long in the right submammary groove. Direct aortic cannulation using elongated aortic canula, clamping and cardioplegia administration was achieved in all patients easily. The mean bypass time was slightly longer in the test group however the cross-clamp time was shorter in the test group. There was no hospital mortality in both groups and there was morbidity in the form of sternal infection in ten patients of control group. In test group the blood loss was less, intubation time was shorter, earlier discharge, decreased postoperative pain, and a smaller, cosmetically more acceptable postoperative scar.

CONCLUSION: The cosmetic appearance in the test group was excellent that rivals that of robotically assisted techniques and the patients' wounds were scarcely apparent in the female patients. The study demonstrates the efficacy and safety of this older technique, with excellent cosmetic results and no additional cost or risk to the patients.

INT-OP-026 "CUT AND TRANSFER" BASAL CHORD, PAPILLARY MUSCLE RELOCATION AND "TRUE SIZE" RING FOR FUNCTIONAL ISCHEMIC MITRAL REGURGITATION

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BACKGROUND: Functional ischemic mitral regurgitation (FIMR) broadly denotes abnormal function of normal leaflets in the context of LV dysfunction and remodeling. The optimal surgical treatment of CIMR is controversial. The current incomplete treatment is revascularization combined with undersizing annuloplasty affected by high persistent/recurrent MR rate.

OBJECTIVE: Describe original surgical treatment of asymmetric tethering (at) Chronic Ischemic Mitral Regurgitation (CIMR) after infero-posterior / lateral MI. The first clinical application of "Cut and Transfer" Basal Chord, Papillary Muscle Relocation and "True size" Ring to treat a cohort of moderate-to-severe atCIMR patients (follow up 6 - 18 months) is described. Intraoperative post CPB quality control by TEE during dynamic load testing as an essential component of durable

repair is underlined.

METHODS: In addition to CABG, a balanced combination of subvalvular procedures aiming to concurrently reduce mitral valve deformation due to increased tethering forces is performed through left atrial roof access: POSTERIOR PAPILLARY MUSCLE RELOCATION ; CUT AND TRANSFER of basal Anterior Mitral Leaflet strut chordae and transferring them onto A2 free margin; POSTERO-BASAL LV ANEURISM PPLICATION ; TRUE-SIZING COMPLETE RING ANNULOPLASTY (MEMO3D; 30.3±1.4). Both mitral leaflets regain adequate motility after this balanced subvalvular procedure, markedly reducing the mitral valve deformation (tenting phenomenon) due to the increased tethering forces operating in FIMR. Main goal to assure durability of repair is to create an adequate coaptation reserve > 8 mm.

RESULTS: 42 (28M/14F; 61 ± 9yrs) moderate-to-severe atCIMR patients (MR grade 2.94 ± 0.42; midsystolic-4CH Tenting Height 8.8 ± 1.9 mm) treated from 01.2007 to 06.2008 (CPB time: 133 ± 24 min.; AXC time: 109 ± 12 min.) were followed up (6-18 months). There was one postoperative non cardiac death (2.38%, ARDS). Pre-discharge TTE results: 36/41 (87.80%) no/trace MR; 5/41 (12.20%) mild MR (VCw < 3 mm); MR grade 0.15±0.36. None was lost to follow up. NYHA class, EF, LVEDVI and LVESVI improved in every patient (favourable LV reverse remodeling). Follow up TTE evaluation showed durable repair: 35/41 (85.36%) no/trace MR, 6/41 (14.64%) mild MR with VCw < 3 mm.

CONCLUSION: A cohort of FIMR patients has been treated with favourable pre-discharge and short-term results, including durable repair and favourable LV reverse remodeling. Our balanced subvalvular "untenting" procedure completed by true-sizing annuloplasty should likely yield long-term durable repair of FIMR.

INT-OP-027 LONG TERM FOLLOW-UP OF MITRAL VALVE REPAIR VS REPLACEMENT IN ISCHEMIC MITRAL VALVE REGURGITATION

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OBJECTIVES: This study was undertaken to evaluate the impact of mitral valve repair with the "undersizing mitral annuloplasty technique" versus mitral replacement as treatment for ischemic mitral regurgitation in presence of left ventricular dilatation.

METHODS: From 2000 through 2001, a total of 67 patients with ischemic mitral regurgitation underwent to mitral valve surgery with the "undersizing mitral annuloplasty technique". In all cases the undersizing mitral annuloplasty was the technique of choice and the annuloplasty size was 26 mm. A second homogeneous group with the same patients number, risk factors, characteristics, variables and statistical parameters underwent to mitral valve replacement with mechanical prosthesis by the same surgical equipe is considered as comparison group. The pre and perioperative variables were used for multivariate analysis.

RESULTS: No patient died during the procedure. 1 patient with mitral valve repair failure was treated with mitral valve replacement. The survival rate after mitral valve repair and replacement was 100% at one year follow-up. Freedom from repair failure at one year was 100%.

CONCLUSIONS: Mitral valve repair with the under sizing mitral annuloplasty is effective in the treatment of ischemic mitral regurgitation. The midterm good results in terms of survival rate and repair failure would be conserved to extend use also in emergency status.

KEYWORDS: Ischemic mitral valve - mitral valve repair

RESULTS

	Valve Repair	Valve Replacement
Age	67,9 + 13,4	64,8 + 9,2
Male	51	56
Female	16	11
NYHA FC I	3	4
NYHA FC II	14	12
NYHA FC III	44	47
NYHA FC IV	6	4
Mitral Regurgitation	2,89 + 0,73	2,75 + 0,52
EF	32,65 + 5,26	35,12 + 8,19
Emergency	22	19
Grafts/Patient	2,2	2,4
Mitral Regurgitation at 1 year	0,67 + 0,3	0
NYHA FC at 1 year	0,83 + 0,39	0,91 + 0,48
Total	67	67

INT-OP-028 RETROGRADE CARDIOPLEGIA FOR ISOLATED MITRAL VALVE REPLACEMENT

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Institute of Cardio-Vascular Surgery named after Amosov¹

Institute of Cardio-Vascular Surgery named after Amosov 2 Modify²

OBJECTIVE: To present analysis of retrograde cardioplegia during isolated mitral valve replacement (MVR).

MATERIALS AND METHODS: During 2000 - 2007 yy 1574 patients (pts) with pathology of mitral valve (MV) were operated in Institute. There were 579 (36,8%) males, 995 (63,2%) females. Patients' age was 18 - 73 years (mean 54,8±12,6 yy). NYHA class in all group were followings: II class - 21 (1,3%), III class - 397 (25,2%), IVclass - 1156 (73,5%) pts. The reasons of MV were: rheumatism, lipoidoses, atherosclerosis and others. Following methods of surgical treatment were used: MVR (n = 1251), MVR + correction of tricuspid valve (n = 323). Concomitant CABG was performed in 57 (3,6%) pts. 245 (15,6%) operations were performed after previous closed mitral commissurotomy. Systemic hypothermia 27-34 C., CPB, St Thomas cardioplegic solution were occurred in all pts. In 1254 cases myocardial protection was achieved with the use of antero- retrograde St. Thomas cardioplegia (group A), in 247 pts only retrograde way of supply St. Tho-

was cardioplegia was used (group C). In group B (n= 73 pts) also retrograde way at the St. Thomas cardioplegia was used with mixed with perfortan for better myocardial protection in doses 200-300 ml. Perfortan was added by 100 ml to 300 ml of St.Thomas cardioplegic solution.

RESULTS: At whole group hospital mortality was 4,1% (n=64/1574). Respectively group A - 4,7% (n=59/1254), group B - 1,2% (n=3/247) group C - 2,7% (n=2/73) (p<0,05). The reasons of deaths: heart failure (n = 43), brain damage (n = 7), bleeding (n = 5) pneumonia (n = 4), others (n = 5). Lethal heart failure wasn't marked in group B and C only in group A (3,4% - n= 43/1254).

CONCLUSION: Improved myocardial protection by using only retrograde cardioplegia (group B-C) lead to better results and low risk of postoperative heart failure than in group A.

INT-OP-029 MITRAL VALVE REPAIR – 19 YEARS SINGLE CENTER EXPERIENCE

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OBJECTIVES: Mitral valve repair (MVRp) for mitral regurgitation (MR) has many advantages over mitral valve replacement (MVR). The aim of the present retrospective study was to analyze the experience of our center with MVRp.

METHODS: From 1989 to 2008 – 420 patients underwent MVRp for MR. The average age of the patients was 59.1 years (from 11 to 83 years). In 361 patients (85.95%) preoperative NYHA class was III or IV. The ejection fraction (EF) was poor (<35%) in 111 patients (26.43%). The etiology of the MR was ischemic in 221 (52.61%), rheumatic in 77 (18.33%), degenerative in 109 (25.95%) and endocarditis in 13 patients (3.1%). MVRp was achieved with different methods: anuloplasty ring, resection of posterior mitral leaflet, Key technique, artificial chordae and Alfieri technique.

RESULTS: Hospital mortality was 5.7% (24 patients), while the follow-up mortality was 2.38% (10 patients). The in-hospital mortality was significantly higher in ischemic versus non-ischemic patients (8.6% versus 2.5%; p<0.05%), patients with poor EF versus patients normal EF (9.0% versus 4.5%; p<0.05%) and patients who underwent emergency or urgent versus elective operation (28.3% versus 3.2%; p<0.05). The postoperative results were excellent in 341 patients (81.2%), good in 46 patients (10.95%) and bad in 4 patient (0.95%). Only thirteen patients (3.09%) underwent subsequent MVR. The reoperations were more common in patients, who did not receive an anuloplasty ring (8.03 versus 1.3 %; p<0.05%).

CONCLUSIONS: MVRp for MR should be considered as a procedure of choice, because it shows low mortality, few complications, good functional result and low rate of reoperations.

INT-OP-030 MANAGEMENT OF MITRAL STENOSIS WITH EXTREME DEGREES OF PULMONARY HYPERTENSION

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Many of our patients with mitral stenosis come with severe degrees of pulmonary hypertension. We have devised a method of dealing with these patients to decrease hospital mortality and morbidity, consisting of a fast operative procedure, and use of a vasodilator (Nitroprusside) in combination with Inotropes (mainly Dobutamine) injected in a drip method through a Swan Ganz catheter intra-and immediately postoperatively.

We had a total of 96 patients (55 female, mean age 30.7) who came in with pulmonary systolic pressures of 100 or more mmHg from March 1994 to Feb 2005. Some complained of hemoptysis and some had peripheral cyanosis in addition to the classical symptoms and signs. Fifty three per cent had pure stenosis and 47% combined stenosis and insufficiency. About 30% had additional tricuspid insufficiency. Forty five per cent had atrial fibrillation, and 26% had reversed pulmonary venous pattern on X-ray.

Operations included mitral commissurotomy with or without repair in 48%, and mitral valve replacement in 52%. Eighteen per cent had tricuspid repair and 2% coronary revascularization in addition. Microwave ablation was applied in 15% of patients.

The results were fair to excellent in 96.8% of patients. Hospital mortality was 4.2% and late mortality 6.3%.

We believe that extreme degrees of pulmonary hypertension associated with mitral stenosis do not constitute a contra indication to operation.

INT-OP-031 EIGHT YEARS RESULTS IN HOMOGRAFT REPLACEMENT OF THE MITRAL VALVE

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OBJECTIVE: The objective of this study was to assess whether the mitral homograft represents a valuable alternative for complete or partial mitral valve replacement.

METHODS: Since 1993, 104 patients underwent mitral homograft replacement surgery. The mean age was 38 ± 15 years. The aetiology of mitral valve disease was: rheumatic disease (n=76), infective endocarditis (n=24) and others (n=4). Sixty five of these procedures were total homografts while 39 were partial homografts.

RESULTS: The mean follow up was 52 months + 35 months (maximum:117 months). Overall peri-operative mortality was 4/104 (3.8%) and was 2.5% versus 8.7% for non-endocarditis and endocarditis patients respectively (p<0.19). There were nine late deaths (cardiac: 4 non cardiac:5). There have been 5 early (<3 months) and 10 late reoperations. Of the remaining 77 patients, NYHA class was: I (n=61), II (n=14) and III (n=2). Four patients suffered endocarditis and 5 had an ischemic or haemorrhagic event. Reoperation free survival was 71 + 6% at 8 years (partial: 81% vs total 63% p<0.19). Among patients with a total homograft, reoperation free survival was

61+9% and 85+8% in patients below and above 40 years of age respectively (p=0.09)

CONCLUSION: Early reoperations were most frequently secondary to a mismatch between the homograft and the recipient's valve. Beyond that stage, the mitral homograft carries a risk of early failure, however overall eight year results are comparable to those of bioprostheses in the same age group. The durability could be further improved by respecting the contraindications which have now been identified and by changing the sizing technique.

KEYWORDS: homograft - mitral valve

INT-OP-032 SURGICAL PROCEDURES AND ECHOCARDIOGRAPHIC EVALUATION OF MITRAL STENOSIS

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OBJECTIVES: Mitral valve repair (MVP) can be one of the therapeutic options for rheumatic mitral stenosis (MS), and several techniques are used to overcome the structural difficulties accompanying the repair of a rheumatic mitral valve. We aimed to explore the relationship between surgical procedures and echocardiographic measurements.

METHOD: In 7 patients who underwent MVP for MS by a specific surgeon, we compared the echocardiographic measurements before and after MVP. To analyze the outcome of mitral repair, we used analysis of variance with the surgical procedures as factors, and the change ratio of echocardiographic measurements before and after surgical repair as dependent variables.

RESULTS: There were no major complications or mortality. Ring anuloplasty and slicing of anterior mitral leaflets were performed in all patients. Furthermore, additional commissurotomy, decalcification, chordal resection, or division of papillary muscles was performed in the procedure on the basis of judge by the surgeon. For these additional procedures, analysis of variance revealed that the change ratio of displacement angle of PML between before and after MVP was significantly associated with the outcome, with the division of the papillary muscles being a factor (the change ratio = 2.3, range 0.6–9.0, P = 0.04). Relationships between other measurements and other procedures were not significant in this study.

CONCLUSION: The division of papillary muscles may contribute to improving the movement of the posterior leaflet.

INT-OP-033 STENTLESS IN COMPARISON TO CONVENTIONAL MITRAL VALVE REPLACEMENT OR REPAIR: TEN YEARS FOLLOW UP

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OBJECTIVE: To evaluate the clinical results after stentless (SMV) in comparison to conventional mitral valve replacement (MVR) or mitral valve repair (MV-rep) at ten years.

METHODS: From 08/97 onwards 155 patients with degenerative mitral valve (MV) disease received a SMV (n=53, 68±8yrs, 37 female), MVR (n=51, 69±9yrs, 32 female) or MV-rep (n=51, 66±9yrs, 32 female). The underlying MV disease was stenosis in 14/4/0, incompetence in 12/30/51 and combined lesion in 27/17/0 patients, respectively. NYHA functional class was 3.1±0.6/2.9±0.5/2.9±0.6; Euroscore 4.7±2.1/4.4±1.9/4.2±2.6; EF 64±12%/63±16%/61±14% and cardiac index 2.1±0.8/2±0.7/2±0.8 l/min/m². Follow-up includes 85.3±43(11-138) months.

RESULTS: Surgery was performed via conventional sternotomy (32/20/34) or right anterolateral minithoracotomy (21/31/17). Crossclamp duration was 81±33/58±24/54±23 min.(p<0.05). In hospital mortality was 1/4/2 patients. Mean pressure gradients were 4.8±1.9/4.3±1.4/2.9±1.2 mmHg and valve opening areas 2.9±0.7/3.2±0.8/3.3±0.8 cm², respectively. During follow-up repeat surgical interventions were required in 80.9±6.0%/92.0±3.8%/89.6±4.4%(p=n.s). Ten year survival was 43.5±8.0%/45.0±7.3%/63.9±6.9%(p=n.s).

CONCLUSION: At ten years the stentless mitral valve compares favorably to conventional standards when taking the patients risk profile into account. The SMV with its reliable functional and hemodynamic outcome may be the mitral prosthesis of choice in future.

INT-OP-034 PULMONARY ISCHEMIA-REPERFUSION PARAMETERS DURING CONVENTIONAL AND NORMOTHERMIC ON-PUMP BEATING HEART VALVE SURGERY

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Pulmonary dysfunction following cardiopulmonary bypass (CPB) usually develops secondary to inflammatory process with contact activation of the complement system, hypothermia, operative trauma, collapse and altered mechanical properties of the lung during CPB, pleural disruption and endotoxemia. As cross clamp is applied to the aorta with the pulmonary arteries blood is diverted from the pulmonary arteries causing pulmonary ischemia and reperfusion. Many strategies used to deal with ischemia-reperfusion injury. In this study, Conventional cardioplegic, hypothermic arrest technique (N=23, group 1) and low volume ventilation (200 cc) and lung perfusion during normothermic beating heart valve surgery technique (N=20, group 2) were compared. Blood samples were collected from the right superior pulmonary vein before the institution and just before the termination of CPB in all patients. Malondialdehyde (MDA), lactic acid (lactate), platelet activating factor (PAF), and myeloperoxidase (MPO) were studied as an ischemia-reperfusion parameters. Operation time, CPB time, and cross-clamp time were longer in group 1 because of the cooling and rewarming period. MDA, MPO and lactate values were significantly lower in the group 2 compared to the control group just before the termination of cardiopulmonary bypass period (p<0.05). No difference was observed between the two groups regarding PAF values. There is no significant difference between two techniques according to clinical parameters. But ischemia-reperfusion parameters were higher in conventional hypothermic arrested heart technique.

CONGENITAL HEART DISEASES: ARE PERCUTANEOUS INTERVENTIONS REPLACING SURGERY?

OP-064 EFFECTIVENESS OF OCCLUDER DEVICES FOR CLOSURE OF PATENT FORAMEN OVALE

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BACKGROUND: A patent foramen ovale (PFO) has been reported to be significantly more frequent in young stroke patients than in matched control subjects. The suggested mechanism of stroke is paradoxical embolism. The aim of our study is to evaluate the effectiveness and safety of the PFO occluder devices in the treatment of PFO.

METHODS: Retrospective cohort study was conducted between May 2004 and July 2009 involving 56 PFO transcatheter occlusion procedures in our institution. The patients were less than 74 years old with at least two episodes of transient ischemic attack (TIA) or stroke, or with multiple ischemic gliotic lesions showed by cranial MRI. All other causes of TIA or stroke were excluded, and the patients were shown to have PFO by transesophageal echocardiography.

RESULTS: Eighty three patients (n=83) were enrolled in the study (43 Males, 40 females; age between 19-74 ages). All interventions were successfully completed without any complications. The patients were followed and there were any recurrent cerebrovascular accidents (CVA) encountered in this medium-term follow-up period, but only one patient had bilateral renal embolic event.

CONCLUSION: Transcatheter closure of PFOs by PFO occluder devices may be a feasible, safe, and effective treatment for the prevention of CVA recurrence.

OP-065 EFFECTIVENESS OF OCCLUDER DEVICES FOR CLOSURE OF ATRIAL SEPTAL DEFECTS

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OBJECTIVE: Transcatheter septal occluder devices (SOD) for closure of atrial septal defects (ASDs) has been known to be a treatment modality alternative to surgery. The aim of our study is to evaluate the effectiveness and safety of the SOD in the treatment of ostium secundum ASD.

METHODS: Retrospective cohort study was conducted between May 2004 and July 2009 involving 70 ostium secundum ASD transcatheter occlusion procedures in our institution. The patients with ASD were evaluated with transoesophageal echocardiography (TEE) before the procedure. Ostium secundum ASDs with the size of 32 mm in the largest radius, and with enough rim length for device attachment were considered to be suitable for transcatheter occlusion. All procedures were conducted in the hemodynamic laboratory under general anesthesia with the guidance of TEE.

RESULTS: Ninety eight patients (n=98) were enrolled in the study (41 Males, 57 females; age between 17-78 years). All interventions were successfully completed without complications except in one case, in which the device dropped into the left atrium, and then went into the abdominal aorta. The device was extracted with the help of snare from the femoral artery, and the ASD was occluded with a larger device. In another case, two SODs were used for two separate ASDs. The patients were followed and there were no any complications encountered in this medium-term follow-up period. In two cases, after implantation of devices, thrombus formation was shown and treated with unfractionated heparin.

CONCLUSION: Transcatheter closure of ASDs by SOD may be a feasible, safe, and effective alternative to surgery whenever the size and the location of ASD is suitable.

OP-066 THE SURGERY FOR A VERY RARE CASE OF CORONARY ARTERY ARTERIOVENOUS FISTULA WITH CORONARY BYPASS SURGERY: TWO CASE REPORT

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OBJECTIVES: A congenital coronary arteriovenous fistula is a direct communication between a coronary artery and the lumen of any one of the four cardiac chambers, the coronary sinus or tributary veins, or the superior vena cava, pulmonary artery or the pulmonary vein. The right coronary artery or its branches site of the fistula in %50 – 55 of cases. We have two cases at one year time and we want to share these rare cases.

CASE I: A 62 years old male patient. Main symptoms were dyspnea, fatigue, angina and till last 6 months he has Class III NYHA functional capacity. His EF was %30, 65 mmHg pulmonary artery pressure, LVESD was 52mm and the LVEDD was 65mm, 3-4⁺ mitral regurgitation and 2-3⁺ tricuspid regurgitation. There was a fistula tract between the main right coronary artery and the pulmonary artery at the coronary angiogram. We have performed CABG * 2 + mitral repair (triangular resection, sliding plasty and flexible band annuloplasty) + tricuspid band annuloplasty + SIRFA + closure from within the pulmonary artery and the fistula tract was closed by running suture to its right coronary artery end. At the end of the first year his NYHA is class I and his EF is %45, no MR and TR, PAP is 40 mmHg.

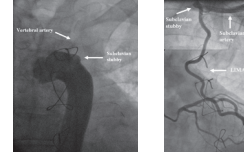
CASE II: A 56 years old male patient and the same symptoms were present. NYHA was Class III and EF was %40, 1-2⁺ MR, PAP was 55 mmHg. He has three vessel coronary artery disease and a fistula between right main coronary artery and pulmonary artery. He has no symptom at the sixth month control and the EF is now %55 and no MR and PAP is 35mmHg.

CONCLUSION: Giant aneurysm and the complicated with myocardial infarction and valve anomalies and the malign pulmonary hypertension are the main causes of the hospital mortality.

OP-067 CORONARY-SUBCLAVIAN STEAL SYNDROME MAY BE CAUSE OF CARDIAC ARREST

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Subclavian steal syndrome (SSS) is a relatively uncommon disease which may be symptomatic. Complaints of this disease are precipitated by exercise of involved upper extremity. In this case, we presented a 43-year-old case with coronary-subclavian steal syndrome who was admitted to our hospital due to cardiopulmonary arrest without myocardial ischemia. Patient was undergone CABG-op (saphen vein graft to right coronary artery and left internal mammary graft to left anterior descending artery) ten years ago. In his new coronary angiography, LAD-LIMA and RCA-saphen vein grafts were patent and there was non-critical lesion in proximal LAD. However, proximal subclavian artery had total occlusion in arteriography. Stress test with myocardial Tc-99m metaiodobenzylguanidine (MIBI) imaging study was performed and assessed as normally. After discharge from hospital, patient was followed in outpatient's clinic for 1 year, during the follow-up he was asymptomatic. Presentation of a case not previously described in the literature to our knowledge.



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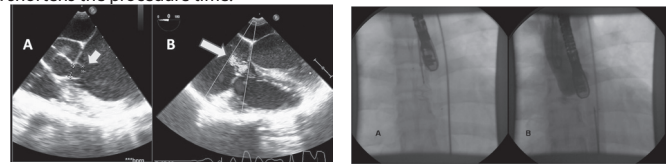
OP-068 PERCUTANEOUS CLOSURE OF A RUPTURED SINUS VALSALVA ANEURYSM VIA RETROGRADE APPROACH

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PURPOSE: Sinus valsalva aneurysm rupture (SVAR) is a relatively rare condition with a poor prognosis. Although surgery is the traditional method for the management of SVAR, transcatheter closure is being used more frequently. We, herein, present a case in which SVAR was closed percutaneously via retrograde approach under the guidance of 3D transesophageal echocardiography (TEE) guidance.

CASE: An 18-year-old male having palpitations and easy fatigability was admitted to our clinic. We detected a continuous murmur at the lower left sternal border. Transthoracic echocardiographic examination revealed a SVAR (Picture 1-A) leaking into right atrium with Qp/Qs ratio of 2,1 (Picture 1-B). After informed consent was taken from the patient, we decided to proceed with transcatheter closure of the defect. The procedure was performed under general anesthesia and continuous 3D TEE guidance. We measured the width of aneurysm neck as 9mm, the opening of rupture site to right atrium as 4mm and distance from right coronary artery as 12 mm. Right femoral artery was used for vascular access. A 0.035 inch floppy wire was used for passing the rupture site, and then, a multipurpose catheter was positioned at right atrium. We detected a supraventricular arrhythmia probably induced by catheter at that time which was corrected with cardioversion because of concomitant hypotension. Floppy-wire and multipurpose catheter exchanged with a super-stiff wire and a delivery sheath, respectively. Thereafter, a PFO occluder device (Occlutech, Jena Germany) was advanced into the right atrium and left atrial disk (16 mm) was released. Following delivery sheath retrieval, we opened right disk (18 mm) in the left atrium (Picture 2-A). We continuously followed all these maneuvers with the guidance of Live 3D TEE and fluoroscopy. We also confirmed the correct positioning of the device, the presence of aortic regurgitation and residual shunt with echocardiography. Finally, we released the device. The rupture totally disappeared, with no disturbance in terms of aortic regurgitation (Picture 2-B) and coronary flow. 3D TEE showed the proper positioning of the device and opening of the discs (Picture 3). Total fluoroscopy time was 7.3 min.

DISCUSSION: Antegrade route has been used successfully in majority of cases with SVAR. It is based on creating an arteriovenous loop by using a snare. However, it is associated with long delivery time. Retrograde route, as in our case, is a viable option in percutaneous closure of SVAR as it does not necessitate snaring and constructing a wire loop, and which is cost effective and shortens the procedure time.



Picture 1

Picture 2



Picture 3

OP-069 PERCUTANEOUS TRANSCATHETER CLOSURE OF PATENT DUCTUS ARTERIOSUS WITH AMPLATZER DUCTAL OCCLUDER (ADO) DEVICE USING RETROGRADE WIRE-GUIDED TECHNIQUE

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Percutaneous transcatheter approach has been used extensively as a outstanding treatment modality with great success rate. Antegrade approach in which passing through the pulmonary artery into the aorta is used traditionally. Because of the larger size of the distal disc, the present PDA devices have to be opened in descending aorta. The sizes of proximal and distal disc are equal to each other in new development ADO II devices, so this feature has enabled to use the retrograde wire-guided technique.

The study included 12 patients (11 men, 1 woman) with PDA size ≤ 6 mm. Age at intervention ranged from 20 years to 45 years (mean age 26.7 ± 2.7 years). Informed consent was obtained from all patients. Access is gained via the right femoral artery under local anesthesia. PDA was demonstrated by descending aortogram and the size of PDA was measured. 0.0035" glide wire passed through the aorta into the pulmonary artery with the guidance of 6 F right Amplatz II diagnostic catheter. Subsequently, glide wire was exchanged with extra stiff wire. The delivery system was advanced over extra stiff wire into the pulmonary artery. The distal disc of ADO II device was opened in pulmonary artery, the system was withdrawn under control and the proximal disc opened in the aorta, respectively. Subsequently, the device was released (Figure 1). A control descending aortogram was recorded 10 minutes after implantation to check for residual shunts (Figure 2).

Delivery of the device was successful in all patients. There was a trivial residual shunt through the device in 2 cases, whereas there was not any residual shunt in the other 10 cases. In these two cases, it was detected that residual shunt had been closed completely at the control angiogram on day 7 after implantation. All patients were discharged with the medication of acetyl salisilic acid at a recommended daily dosage of 100 mg and recommended prophylaxis against infective endocarditis for 6 months.

Percutaneous closure of PDA using retrograde wire-guided technique is simple and effective. Success rates are comparatively higher. Complete closure was achieved in all cases without any complication. In this technique, only femoral artery access is sufficient and there is no necessary to puncture the femoral vein. Also, the position of device could be checked with opaque fluids via the delivery catheter during the procedure. So, the procedure period has been diminished and vascular complication rates have been decreased.

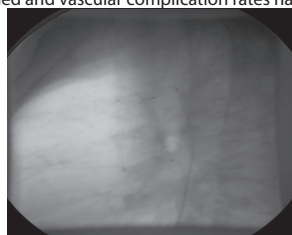


Figure 1: ADO device is placed in the PDA.

ADO:Amplatz Ductal Occluder, PDA: Patent Ductus Arteriosus



Figure 2: A control angiogram recorded 10 minutes after implantation is not showing any residual shunt.

OP-070 THE EFFICACY AND SAFETY OF EARLY EXTUBATION AFTER PEDIATRIC CARDIAC SURGERY

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OBJECTIVE: Early extubation after congenital heart surgery has been described; however, prolonged postoperative mechanical ventilation in the intensive care unit (ICU) remains common practice in many centers.

This study was undertaken to determine the feasibility of early extubation of the children after surgical repair of congenital heart lesions.

METHODS: We performed a prospective study of 100 patients aged 0-16 years (median 5.5 years) who underwent congenital heart surgery. All patients were managed as potential candidates for early extubation. 50 patients were extubated within 6 hours (Group I) and 50 patients were extubated between 7-24 hours after the surgery (Group II). The criteria for extubation were adequate spontaneous ventilation, hemodynamic stability, normothermia and adequate hemostasis. Two groups were compared by patient age, weight, status on arrival in the pediatric ICU (including hemodynamics, pH, PaCO₂, SaO₂, base excess, hematocrit and lactate level at 0, 6th, and 12th hours). Mann Whitney U test was used for statistical analysis ($p < 0.05$).

RESULTS: Patients extubated late, were younger (52.36 ± 50.22 vs 80.91 ± 42.43 months, $p < 0.01$) and smaller (16.00 ± 11.43 vs 22.33 ± 12.47 kg, $p < 0.05$). There were no significant differences on hemodynamics between two groups. In early extubation group, cardiopulmonary bypass (CPB) time (70.62 ± 42.50 vs 94.46 ± 57.11 min) and aortic cross-clamp time (48.04 ± 33.81 vs 65.06 ± 45.89 min) was shorter ($p < 0.05$). Use of inotropic agents was lower in group I ($p < 0.01$). PaCO₂ after extubation was higher in early extubation group (39.18 ± 6.26 vs 35.24 ± 5.62 mmHg), and pH was lower (7.36 ± 0.04 vs 7.39 ± 0.04), ($p < 0.01$). This mild-to moderate respiratory acidosis was transient and no required specific treatment. One patient required reintubation in group I. The length of ICU stay (27.97 ± 10.40 vs 48.38 ± 32.27 hours) and hospital stay (6.51 ± 1.08 vs 9.14 ± 3.76 days) for early extubation group were significantly shorter ($p < 0.01$).

CONCLUSIONS: This study supports that in selected pediatric cardiac patients, early extubation can be performed safely with a low rate of failed extubation. This technique reduces ICU and hospital stay without increasing postoperative complications. Strongest independent risk factors for failure of this strategy included younger age, smaller weight, longer CPB and aortic cross-clamp time.

CORONARY ARTERY DISEASE: VIEWS FROM CARDIOLOGISTS AND CARDIOVASCULAR SURGEONS

OP-071 SERUM CHOLINE LEVELS IN PATIENTS WITH STABLE CORONARY ARTERY DISEASE AND ACUTE CORONARY SYNDROMES AND ASSOCIATIONS WITH SEVERITY OF CORONARY ARTERY DISEASE

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BACKGROUND: No studies have measured serum choline across the entire spectrum of patients with coronary artery disease (CAD). The aim of the study was to compare serum choline levels across the entire spectrum of CAD, to assess the associations of serum choline levels and severity of CAD.

METHODS: Forty three patients with ACS (27 patients non-ST-segment elevation acute coronary syndromes [NSTEMI], 16 patients with ST-segment elevation acute myocardial infarction [STEMI]), 25 patients with stable angina pectoris (SAP) and 18 controls were included in the study. Serum choline level was measured at admission, 24th and at 48th hour in patients with ACS. Serum choline level was measured using high-performance-liquid-chromatography mass spectrometry. The severity of CAD was assessed by Gensini scoring.

RESULTS: The clinical characteristics of the study population are summarized in Table I. The patients with SAP had a higher incidence of hiperlipidemia and male sex and increased body mass index. The patient with STEMI had a higher incidence of smoking and increased levels of total and LDL cholesterol. Table II shows serum choline levels in SAP, ACS and control patients. Patients with ACS exhibited higher serum choline levels compared with SAP patients and the control. Compared with the controls, serum choline levels were higher in each patient group ($p < 0.01$). Serum choline levels did not differ significantly in STEMI, non-ST ACS, and SAP patients ($p > 0.05$). The percent changes in serum choline levels were similar across the ACS spectrum ($p > 0.05$). No significant correlation was detected between serum choline levels at admission, 24th and at 48th hour, and presence of coronary artery disease in patients with ACS ($p = 0.78$) and SAP ($p = 0.93$). There was no correlation was observed between serum choline levels and CK-MB, troponin I levels at admission ($p = 0.95$ and $p = 0.50$, respectively) and 24th hour ($p = 0.98$ and $p = 0.22$, respectively).

CONCLUSIONS: Serum choline level is elevated in patients with stable angina pectoris and ACS compared with controls. The is no correlation with serum choline levels and severity of CAD in patients these patients.

Table I. Patient characteristics

	SAP (n:25)	Non ST ACS (n:27)	STEMI (n:16)	Controls (n:18)	P value
Age (years)	56±13.8	62±10.4	58.5±12.8	52.1±12.6	<0.01
Sex (male/female)	18/7	24/3	12/4	13/5	0.03
Hypertension n (%)	15 (60%)	16 (59.2%)	9 (56.2%)		NS
Diabetes n (%)	8 (32%)	10 (37%)	6 (37.5%)		NS
Hyperlipidemia n (%)	18 (72%)	16 (59.2%)	10 (62.5%)		0.03
Smoking n (%)	10 (40%)	10 (37%)	12 (75%)	3 (16.6%)	<0.01
Family history n (%)	7 (28%)	6 (22.2%)	5 (31.2%)	4 (22.2%)	0.04
Body mass index (kg/m ²)	27.5±5.2	24.7±1.97	23.9±0.7	24.5±2.6	0.006
Total cholesterol (mg/dl)	183.6±34.1	182.9±36.9	206±46	182.8±38.5	<0.01
LDL cholesterol (mg/dl)	114.3±27.7	111±37.6	146.9±43.9	113.1±28.5	<0.01
HDL cholesterol (mg/dl)	41.7±9.2	36.2±7.83	35±6.2	42.8±11	<0.01
Triglycerides (mg/dl)	132±72	155.5±70.6	117.3±43.9	140±69.8	0.017
Troponin I admission (ng/dl)		9.65±14.1	15.6±31.3		NS
Troponin I at 24th hour (ng/dl)		16.2±22.5	58.7±31.2		<0.01
CK-MB at admission (IU/L)		35.2±21.1	55.5±57.5		NS
CK-MB at 24th hour (IU/L)		39.7±19.6	108.8±62.4		<0.01

NS: nonsignificant

Table II. Serum choline levels in SAP, ACS and control patients

	SAP (n:25)	Non ST ACS (n:27)	STEMI (n:16)	Controls (n:18)	P value
Choline at admission (nmol/ml)	7.72±4.13	8.01±3.42	10.8±5.85	3.81±0.99	<0.01
Choline at 24th hour (nmol/ml)		8.59±6.26	8.85±5.29		
Choline at 48th hour (nmol/ml)		7.45±4.18	9.03±8.77		

SAP: Stable angina pectoris, ACS: Acute coronary syndrome, STEMI: ST elevation myocardial infarction

OP-072 ENDOSCOPIC RADIAL ARTERY AND SAPHENOUS VEIN HARVESTING FOR CORONARY ARTERY BYPASS SURGERY

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BACKGROUND: Internal mammary artery, radial artery and saphenous vein are the major grafts in coronary artery bypass grafting operations. Wound complications and pain from saphenous vein and radial artery harvesting are common, and sometimes severe. In order to reduce the morbidity of this procedure, a technique of endoscopic graft harvesting can be used. The aim of this study was to investigate whether endoscopic graft harvesting can be applied efficiently and successfully.

METHODS: Twenty patients underwent an endoscopic saphenous vein and five patients underwent endoscopic radial artery harvesting. Harvest time was measured from initial leg incision to aortic cross-clamping. Leg wound complications were evaluated on the basis of progressive severity.

RESULTS: Total length of the saphenous vein was 40,67 cm and radial artery was 18,70 cm. Harvest and procedural time was 40,33 minutes for saphenous vein and 52,45 minutes for radial

artery. For one cm incision, the length of the saphenous vein was 1/15,99 cm and the length of the radial artery was 1/18,7. In the follow-up, no significant complications has occurred, pain and leg edema were significantly less.

CONCLUSIONS: Endoscopic radial artery and saphenous vein harvesting can be applied efficiently, successfully, and with satisfactory speed through minimal incisions and significant reduction of postoperative pain and wound complications.

OP-073 HARVESTING OF THE RADIAL ARTERY FOR CORONARY ARTERY BYPASS GRAFTING: COMPARISON OF CARBON DIOXIDE GAS INSUFFLATION WITH THE CONVENTIONAL TECHNIQUE

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OBJECTIVES: Radial artery (RA) as a conduit for coronary artery bypass grafting (CABG) was introduced in 1973 by Carpentier. The reason for early RA's graft failure became clear in the late 1980s and it was its propensity for vasospasm. In recent years in conjunction with availability of antispasm agents and less invasive harvesting techniques, the RA is increasingly used for CABG. Actuality of the problem of applying the RA for CABG is determined by the proven advantage of arterial grafts versus vein grafts in myocardial revascularization. Today the RA ranks second in frequency of using the arterial graft subsequently to the internal thoracic artery (ITA). In order to avoid graft traumatization less invasive techniques have been introduced lately.

METHODS: Radial artery harvesting technique using carbon dioxide gas Insufflation without electrocautery, (C1; 22 patients) was compared with the conventional technique (Hemostatic clips and electrocautery ; 32 patients). To avoid spasm, the radial artery was not skeletonized and stored in a solution containing diltiazem, nityroglycerin until used.

RESULTS: Compared to the conventional technique, radial artery harvesting using the C1 has a shorter harvesting time (25.5 ± 4.7 minutes vs. 31.5 ± 4.9 minutes, p < 0.001). In situ free blood flow was higher in C1 group (75.0 ± 13.2 mL/min vs. 39.5 ± 11.3 mL/min, p < 0.001).

CONCLUSION: Moreover, the C1 has a positive effect on increased free blood flow of the radial artery. C1 usage in RA harvesting causes less trauma and thermal injury to adjacent tissues and RA, the RA harvesting time and the need of hemostatic clips decreases. We examined that the use of a harmonic scalpel for radial artery harvesting is safer and faster than the routine technique.

OP-074 IS CARDIOPULMONARY BYPASS A REASON FOR ASPIRIN RESISTANCE AFTER ISOLATED CORONARY ARTERY BYPASS GRAFTING ?

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Coronary artery bypass graft surgery is still a very effective method for relieving symptoms and improved survival. The success of coronary artery bypass graft surgery depends mainly on the patency of the graft vessels. Platelets play a crucial role in the pathophysiology of the graft thrombosis and aspirin is the primary antiplatelet drug that has been shown to improve vein graft patency. Nevertheless a significant number of grafts still occlude in the early postoperative period despite aspirin treatment.

Aspirin resistance is a new era and has not been completely defined yet. This ambiguity persists about the prevalence of aspirin resistance since the results are varying 5.5% and 61%. Some patients suffer cardiovascular events in spite of taking therapeutic dosages of daily aspirin. This may be titled as clinical aspirin resistance. Another indicator of aspirin resistance is the inadequate inhibition of thrombocyte functions in vitro and this may be titled as laboratory or biochemical aspirin resistance.

In our study we investigate antiplatelet effect of aspirin after off-pump coronary artery bypass grafting in comparison with conventional on-pump surgery by using Platelet Function Analyzer-100(PFA-100). PFA-100 is a new, rapid, simple platelet function test and can be repeated easily. It is used to decide in vitro quantitative platelet aggregation. PFA-100 is used with collagen/ADP and collagen/epinephrine kits. In our study we studied with these kits and closure times were measured. We used cEPI and decided closure times shorter than 170 seconds as aspirin resistance. Forty patients with similar demographic datas were included and divided into two groups equally. One was conventional on-pump group and the other one was off-pump group. Aspirin was administered to all patients beginning at day 1 after surgery and no additional antithrombotic drugs were given after surgery. Samples of venous blood were collected at 5 days after surgery for measuring cEPI closure times. Also platelet counts were determined daily.

Results showed that 14 of 20 patients in the on-pump had aspirin resistance whereas only 5 of 20 patients in the off-pump group had aspirin resistance. This result had gained more meaning after statistical analysis. When we analyzed the results deeper, use of cardiopulmonary bypass increased the risc of aspirin resistance 46,8 fold.

As a conclusion our study showed that cardiopulmonary bypass increases the risc of aspirin resistance among patients undergoing coronary artery bypass graft surgery. Since the tests for aspirin resistance are not standardised and expensive, this phenomenon still has a lot of unknowns and underestimated among the medical community. Cheaper methods should be developed and thanks to that, patients should be monitorised closer about this phenomenon and alternative treatment methods should be used for aspirin resistance.

OP-075 THE EFFECT OF CLOPIDOGREL ON IN-HOSPITAL MORTALITY RATES OF PATIENTS WITH ACUTE ST ELEVATION MYOCARDIAL INFARCTION IN REAL WORLD CLINICAL SETTINGS. NON-INVASIVE CENTER EXPERIENCE

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PURPOSE: To evaluate the effect of clopidogrel on short term mortality rates of patients with ST segment elevation myocardial infarction treated with medical approaches only in real world clinical settings.

METHODS: In the registry of 4023 patients. Patients with ST-segment elevation myocardial infarction treated with medically were analyzed. The patients were divided four groups. In group-1, the patients treated with thrombolytic, heparin, acetyl salicylic acid, beta blocker, nitrates and clopidogrel were included. In group-2, the patients treated with thrombolytic, heparin, acetyl salicylic acid, beta blocker and nitrates were included. In group-3, the patients treated with heparin, acetyl salicylic acid, beta blocker, nitrates and clopidogrel were included. In group-4, the patients treated with heparin, acetyl salicylic acid, beta blocker and nitrates were included. In-hospital mortality rates of four groups were compared statistically.

RESULTS: 987 patients were included the analysis. 12 of 324 patients in group-1 and 30 of 513 patients group-2 were died of cardiac causes in hospital stay periods. The mortality rates of patients taking thrombolytic therapy were 3.7 % and 5.8 %, respectively, (p>.05). In-hospital mortality rates were lower in patients taking clopidogrel together with thrombolytic therapy although it is not statistically significant. 9 of 78 patients in group-3 and 27 of 72 patients in group-4 were died of cardiac causes in hospital stay period. The mortality rates of patients not taking thrombolytic therapy were 11.5 % and 37.5 %, respectively, (p<.001). In-hospital mortality rates were significantly lower especially in patients taking clopidogrel in the groups not taking thrombolytic.

CONCLUSIONS: This analysis reveals that clopidogrel added to standard medical therapy in patients with ST segment elevation myocardial infarction treated with only medical approaches provides significant in-hospital mortality advantage especially in patients with not taking thrombolytic therapy.

OP-076 THE EFFECT OF CLOPIDOGREL ON IN-HOSPITAL MORTALITY RATES OF PATIENTS WITH UNSTABLE ANGINA PECTORIS IN REAL WORLD CLINICAL SETTINGS. NON-INVASIVE CENTER EXPERIENCE

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PURPOSE: To evaluate the effect of clopidogrel on short term cardiac mortality rates of patients with unstable angina pectoris treated with medically in real world clinical settings.

METHODS: In the registry of 4023 patients. Patients with unstable angina pectoris treated with medical therapy were analyzed. The patients were divided two groups. In group-1, the patients treated with heparin, acetyl salicylic acid, beta blocker, nitrates and clopidogrel were included. In group-2, the patients treated with heparin, acetyl salicylic acid, beta blocker and nitrates were included. In-hospital mortality rates of two groups were compared statistically.

RESULTS: 711 patients with unstable angina pectoris taking medical therapy alone were included in the analysis. 4 of 279 patients taking clopidogrel (group-1) and 10 of 432 patients not taking (group-2) were died of cardiac causes. In-hospital mortality rates were found 1.4 % and 2.3 %, respectively, (p>.05). The results, although, were better in clopidogrel arm, were not able to reveal any statistical significance.

CONCLUSIONS: The analysis comparing the data of before and after clopidogrel era reveals that there is no significant in-hospital mortality advantage of clopidogrel in patients with unstable angina pectoris treated with only medical therapy. The results may also support the opinion that the mortality benefit of clopidogrel may clearly appear together with interventional therapy in patients with unstable angina pectoris.

OP-077 HEMOGLOBİN A1C LEVELS BEFORE AND AFTER CORONARY BYPASS SURGERY

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OBJECTIVES: Hemoglobin A1c is used to evaluate regulation of blood glucose during the follow-up of diabetes mellitus. Twenty to sixty percentage of patients hospitalized for coronary bypass surgery have hyperglycemia. Determination of hemoglobin A1c levels in these patients is important for the management of hyperglycemia during in-hospital stay and at discharge. Hemoglobin A1c levels are affected by changes like bleeding, transfusions and hemoglobin abnormalities. The aim of this study was to determine the change in hemoglobin A1c levels after coronary bypass surgery and determine the relationship of this change with the changes in hemoglobin levels and the number of transfusions.

METHODS: Twenty –seven patients (mean age 57.5 ± 10.2 yrs, F/M: 9/18) hospitalized for coronary bypass surgery at Kartal Kosuyolu Heart Education and Research Hospital were included. Hemoglobin A1c and hemoglobin levels were determined preoperatively and within one week following the operation. Number of transfusions patients recieved preoperatively were recorded.

FINDINGS: Preoperative hemoglobin A1c levels of the patients were 8.9% ± 2.1% and decreased significantly postoperatively (7.1% ± 1.4%, p<0.005). Preoperative hemoglobin levels (12.9 ± 1.7) also decreased postoperatively (10.8 ± 1.4, p<0.0001). While the change in A1c levels (1.8 ± 1.5) was correlated positively with the number of transfusions (3.0 ± 1.5) (r=0.50, p=0.008), it was not correlated with the change in hemoglobin levels (2.1 ± 1.9).

RESULTS: Hemoglobin A1c levels are decreased significantly after coronary bypass surgery compared to baseline. This decrease is influenced by the number of transfusions patients receive at the perioperative period. Regarding that most patients receive more than one transfusions, A1c levels prior to surgery should be taken into consideration while planning the management of hyperglycemic patients.

OP-078 ELEVATED GLUCOSE LEVEL IS BETTER RISK FACTOR THAN HBA1C FOR EARLY MORTALITY AFTER CORONARY ARTERY BYPASS SURGERY.Deniz Göksedef¹, Suat Nail Ömeroğlu¹, Emine Şeyma Denli Yalvaç¹, Macit Bitargil¹, Ozan Balkanay¹, Burç Deşer¹, Gökhan İpek¹İ.Ü. Cerrahpaşa Tıp Fakültesi Kalp Ve Damar Cerrahisi AD¹

INTRODUCTION: The incidence of diabetes is increasing markedly and the World Health Organization estimates that by 2025, 5.4% of the world population would have diabetes. Patients with diabetes represent a high-risk group for early and late cardiovascular surgical morbidity and mortality. Coronary revascularization prevalence is increasing up to 38% in these group of patients. In this study our aim was to compare the effect of perioperative glucose and HbA1c levels on short term results following CABG surgery.

MATERIAL AND METHOD: In this study we prospectively collected data from our CABG candidates after IRB approval, and informed consent from every patient. HbA1c levels were studied. During perioperative period, glucose levels were monitored with Portland protocol as mentioned in literature. First 150 patients undergoing on-pump CABG procedure were included in our study. Data were collected between April 2007 to December 2007. During the same period 254 adult patients were operated in our clinic

STUDY ENDPOINT: Perioperative death, within a time period of 30 days following CABG operation. In hospital mortality is defined as the death of a patient after operation before discharge regardless of 30 day.

OUTCOMES: The primary aim of this study was to evaluate the effect of HbA1c on short term results following CABG surgery. Synchronous variables were collected as well to use them as risk modifiers in statistical analysis in short term analysis on mortality and morbidity.

RESULTS: Patients were divided into 2 groups and 2 subgroups. Main groups were designated in terms of HbA1c and perioperative glucose levels. Group A1 has normal HbA1c levels and group A2 has elevated HbA1c levels. Group B1 has normal perioperative glucose levels and group B2 has elevated perioperative glucose levels. Variables were compared in terms of statistical significance of <0.05. The only difference was the peripheral vascular disease prevalence as a preoperative risk factor between two groups of HbA1c level. There was no statistical difference in terms of discharge, local and deep sternal wound infection. Early mortality rate was 4.3% in the patients who had normal HbA1c levels and 3.5% in elevated HbA1c levels which shows no statistical difference as well. Long term complications that might affect early morbidities such as renal insufficiency, local and deep sternal wound infection, postoperative atrial fibrillation, low cardiac output syndrome, perioperative myocardial infarction did not show any statistical significance between HbA1c groups.

As the patients grouped in terms of mean perioperative glucose levels with a border of 126 mg/dL, there were more risk factors in high mean glucose group. Body mass index was significantly higher in group B2 (p: 0.029). Preoperative and postoperative renal function indexes were also worse in group B2. Postoperative mortality was 7.5 % in group 4 and 1.5 % in group 3 (p:0.04)

DISCUSSION: As a conclusion, the patients with chronic hyperglycemic states can be operated with a similar short term outcomes as normoglycemic patients with better perioperative glucose management. Short term outcomes after CABG surgery are significantly related to mean glucose levels, not to HbA1c levels.

SURGICAL SOLUTIONS IN HEART DISEASES: FROM NEW BORN TO ADULT**INT-OP-035 TODAY'S CONGENITAL CARDIAC SURGERY PROGRAM : WHERE ARE WE, WHERE WE HAVE TO BE ?**Sertac Haydin¹, Scott M. Bradley¹Pediatric Cardiac Surgery, Medical University of South Carolina, Charleston, South Carolina, USA¹

PURPOSE: Today, complex cases are being successfully operated with decreasing mortality and morbidity in congenital cardiac surgery. Congenital cardiac surgery has become a "program", no longer features the individuality and the program's success has come to the fore. The purpose of our study is to put forth an example of a successful program with examining of previous stages and to compare with data from Turkey.

METHOD: Stages of congenital cardiac surgery program in Medical University of South Carolina, Children's Hospital, which was started in 1995, were examined. This program has the lowest hospital mortality in United States (U.S.). Numerical data of Turkey was obtained from the "Main Principles of the National Heart Health Policy" which was released by Society of Turkish Cardiology in 2006. US data was based on the "Directory" which was published by the American Academy of Pediatrics in 2006.

RESULTS: The basic elements of the success of the program were pediatric heart surgeon, intensive care, blended pediatric cardiologist, maximum patient monitoring, quarterback (pediatric cardiologist intensivist), population in care, advanced practice nurse, clinical research, knowing of limitations and team work. As of 2006, with the population of 70 million people in Turkey, there were 74 pediatric cardiologists in 46 hospitals which means that 1.6 cardiologists per hospital, 1 pediatric cardiologist was serving to about 1 million people. There were 25 pediatric cardiology fellows in the same year. That same year, 2006, with the population of 280 million people in the U.S., 1880 pediatric cardiologists were serving at 120 hospitals that provide services to 15 per hospital. And the ratio according to population was 1 for 160 thousand people. The number of "Pediatric cardiologist cardiac intensivist" was 30 in the U.S., such a branch does not exist in Turkey. In the same year, 454 heart surgeons were serving at 125 hospitals in Turkey. The title of "Congenital cardiac surgeon" does not exist in Turkey, beside of that the number of surgeons who perform cardiac surgery in children is not certain. In the U.S., 244 congenital cardiac surgeons were working at 120 pediatric cardiac centers which most of them were children's hospitals. The number of children's hospitals is few in Turkey, as well as a children's hospital within cardiac surgery is not available.

CONCLUSION: In light of comparative data and findings of a successful program, main reasons of absence of pediatric cardiac program in Turkey were determined as the insufficient number of pe-

diatric cardiologists and nonattendance of pediatric cardiology to all fields of surgery. Pediatric cardiology should be actively participating in and the number of pediatric cardiologists should be increased in line with this objective. Pediatric cardiac surgery should be a division, separated from the adult cardiac surgery and children's hospitals within congenital cardiac surgery should be opened.

INT-OP-036 FEEDING DYSFUNCTION FOLLOWING AORTIC ARCH SURGERY IN NEONATESSertac Haydin¹, Scott M. Bradley¹Pediatric Cardiac Surgery, Medical University of South Carolina, Charleston, South Carolina, USA¹

PURPOSE: Swallowing dysfunction may be seen depending on left recurrent laryngeal nerve (LRLN) injury after Norwood procedure or biventricular repair with aortic arch reconstruction in neonates. The aims of this presentation are to evaluate the incidence and clinical impact of recurrent laryngeal nerve injury and swallowing dysfunction following aortic arch surgery in neonates.

METHOD: From April 2003 to December 2008, 116 neonates underwent aortic arch reconstruction. Norwood procedure was performed in 67 patients, biventricular repair with aortic arch reconstruction was done in 44 patients and 5 patients underwent Hybrid Norwood procedure. Postoperatively, direct fiberoptic laryngoscopy was used to evaluate recurrent laryngeal nerve function and modified barium swallow studies (MBSS) were used to evaluate swallowing function. All Norwood patients and all biventricular repair patients underwent these studies in the postoperative period. Swallow function was assessed with barium aspiration and laryngeal penetration.

RESULTS: During the study period, hospital survival for patients undergoing a Norwood procedure was 88% (67/76) and for biventricular arch repairs was 100% (44/44). For Norwood patients, modified barium swallow was abnormal in 38 or 57%, showing frank aspiration in 16 or 24% and left true vocal fold paralysis (LTVFP) was seen in 10 or 15%. For biventricular arch repair patients, modified barium swallow was abnormal in 30 or 68%, showing frank aspiration in 16 or 36% and LTVFP was seen in 13 or 30%. Half of the patients with vocal fold paralysis did aspirate. Among the combined 23 patients with vocal fold paralysis, 13 have had follow-up laryngoscopy, from 1 month to 4 years after surgery. The follow up exam was showed persistent vocal fold paralysis in 6. Among the combined 34 patients with aspiration, 29 have had a follow-up swallow, from 1 week to 3 years after surgery. The swallow was abnormal in 11 patients. Feeding gastrostomy tubes were placed in 22 or 33% of Norwood patients and in 10 or 22% of biventricular arch repair patients prior to hospital discharge. There have been 5 (7%) sudden interstage deaths following discharge for Norwood procedures.

CONCLUSIONS: Systematic evaluation of swallowing function after aortic arch surgery allows appropriate tailoring of feeding regimens, and gastrostomy tube placement, and may contribute to decreased hospital and interstage mortality. Incidence of dysfunction is higher after aortic arch biventricular repair. Furthermore it is important to evaluate for and counsel patients regarding persistent vocal fold paralysis as this places patients at increased risk for future airway compromise. Postoperative aspiration generally resolves over time, while half of vocal fold paralysis does not.

INT-OP-037 SURGICAL OUTCOME OF CONGENITAL HEART DEFECTS WITH PULMONARY HYPERTENSION IN INFANTSKhurshid Saitazizov¹, Khabibulla Akilov², Young Hwan Park³Tashkent Pediatric Medical Institute, Dpt. Of Pediatric Cardiac Surgery¹, Tashkent Institute Of Postgraduate Medical Education, Dpt. Of Surgery², Yonsei University Cardiovascular Center, Dpt. Of Cardiac Surgery³

BACKGROUND: Congenital heart diseases with large left-to-right shunt often have signs of pulmonary artery hypertension. It is an important determinant of morbidity and mortality in patients without educate surgical treatment especially in infants.

METHODS: Ninety patients with congenital cardiac septal defects and pulmonary arterial hypertension had operation to close their septal defects. All the patients have been checked by Chest X-ray, EchoCG, ECG, selectively performed the cardiac catheterization and lung biopsy. Before and after surgery the PA pressure was compared to systemic by needle puncture measurement.

RESULTS: Twenty patients died in the hospital after operation and there were no later deaths in follow-up. Hemodynamic changes after operation included a significant decrease in pulmonary artery pressure (mean pulmonary artery pressure, 28.3± 2.4 mm Hg versus 58.45± 1.69 mm Hg before repair). The follow-up period was from 3 months to 4 years (mean 1.3 ± 0.6 years).

CONCLUSION: Studies from developed countries have shown that in term infants, young age is not a risk factor for adverse postoperative outcome after surgical closure of septal left-to-right defects. The data presented in this study shows that operations to close cardiac septal defects in the presence of severe pulmonary hypertension are effective, but must be done during first 6 month.

INT-OP-038 PALLIATION OF INFANTS WITH NON-HYPOPLASTIC LEFT HEART SYNDROME UNIVENTRICULAR HEARTS OR BIVENTRICULAR HEARTS AND INADEQUATE PULMONARY BLOOD FLOW : MODIFIED BLALOCK-TAUSSIG SHUNT, RIGHT VENTRICLE TO PULMONARY ARTERY SHUNTSertac Haydin¹, Scott M. Bradley¹Pediatric Cardiac Surgery, Medical University of South Carolina, Charleston, South Carolina, USA¹

PURPOSE: Traditional palliation of infants with non-hypoplastic left heart syndrome (HLHS) univentricular hearts or biventricular hearts and inadequate pulmonary blood flow is modified Blalock-Taussig(MBT)shunt. Right ventricular to pulmonary artery (RV-PA) shunt is a new method for the same purpose which were being used frequently in recent years. The aim of our study is to compare both methods in non-HLHS patients.

METHODS: Between August 2004 and May 2008, 41 infants with non-HLHS univentricular hearts or biventricular hearts and inadequate pulmonary blood flow underwent palliation with MBT shunt or RV-PA shunt. 26 patients have had MBT shunt and 15 patients have had RV-PA shunt. Median age was 7.5 days (range 1 to 190), weight was 3 kilograms (kg) (1.9 to 4.8) for MBT shunt group. 6 patients were under 2.5 kg. Median age for RV-PA shunt was 9 days (range 4 to 117), weight was 2.8 kg (1.7 to 5). 6 patients were less than 2.5 kg. Non-valved Gore-Tex tube

grafts (WL Gore-Assoc, Flagstaff, AZ) were used for shunts. Shunt sizes were 5 mm (n = 2), 4 mm (n = 12), 3.5 mm (n = 12) for MBT shunt, 6 mm (n = 7), and 5 mm (n = 8) for RV-PA shunt.

RESULTS: Hospital mortality was 3 for MBT shunt, and none for RV-PA shunt. While no early shunt revision for MBT shunt, 1 RV-PA shunt revision was made. Median oxygen saturation at discharge was 87% (80 to 97) for MBT shunt, 93% (84 to 98) for RV-PA shunt. In 1 patient, MBT shunt was partially narrowed with a metal clip and underwent balloon dilatation 6 months after shunt. Median 6.3 months (4 to 13) after MBT shunt, 16 patients underwent single ventricle repair, 3 patients underwent biventricular repair. Median 8.5 months (5 to 17) after RV-PA shunt 14 patients underwent biventricular repair. At the time of the second surgery oxygen saturation was 80 ± 6% and weight was 6.7% ± 1.1 kg for MBT shunt, oxygen saturation was 82 ± 5% and weight was 7.9 ± 1.5 kg for RV-PA shunt. In patients who underwent biventricular repair transannular patch or RV-PA conduit were used. Mortality between shunt and second surgery was 3 for MBT shunt and 1 for RV-PA shunt.

CONCLUSIONS: The results of RV-PA shunt are successful in patients with inadequate pulmonary blood flow who will undergo biventricular repair. Especially in low birth weight infants, it allows significant growth with protection of oxygen saturation prior to complete repair. In patients with non-HLHS single ventricle hearts, results of MBT shunt are satisfactory. Also, theoretically, avoiding systemic ventriculotomy might be an advantage for MBT shunt in comparison with RV-PA conduit.

INT-OP-039 A NEWLY DESIGNED THORAX SUPPORT VEST PREVENTS STERNUM RELATED COMPLICTIONS AFTER STERNOTOMY IN A PROSPECTIVE RANDOMIZED MULTICENTER STUDY

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OBJECTIVE: Sternum instability with and without mediastinitis are the major causes of morbidity and mortality in cardiac surgery. The aim of this analysis is to proof the effect of a newly designed thorax support vest after sternotomy.

METHODS: 1009 cases were included in a multicenter prospective randomized study. Patients were randomized as follows: 402 patients were treated with the Posthorax[®] support vest (group A) and 505 received a flexible bandage postoperatively (group B). 102 patients refusing the support vest, were analyzed separately (group C).

RESULTS: Patients' characteristics were well matched and similar in all groups. The mean age was 68 years (range: 34-87), 68.8% male (A: 68.7%, B: 70.6%, C: 61.8%). Diabetes was observed in 29.1% (p=0.42), COPD in 16.2% (p=0.3) and the body mass index was 27 (p=0.1). The median linear Euroscore revealed 5 ± 2.8 SD, the STS infection risk score 8 ± 5 SD, and the NYHA classification was median 3 ± 0.75 SD in all groups. The median hospital stay was 14 ± 11.8 days (A: 14 ± 8.5, B: 14 ± 11.9, C: 14 ± 18.9) (p=0.24).

Operative and peri-operative details reached no statistical significance including ventilation hours, concomitant surgery (e.g. valve and coronary artery bypass grafting), perfusion time and length of hospital stay.

Sternum wound complications necessitating reoperation in a 90-days follow up period were observed in 4.16%. In group A only 0.5% required reoperation comparing to 4.6% in group B and 16.7% in group C (p=0.016).

CONCLUSION: The use of the Posthorax[®] sternum vest shows a favourable outcome to prevent sternum instability after cardiac surgery. Especially in the 90 days follow up period the significant difference was observed.



INT-OP-040 SLOW REWARMING BETTER PRESERVES BRAIN FUNCTION THAN RAPID REWARMING IN ADULT PATIENTS UNDERGOING OPEN HEART SURGERY

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INTRODUCTION AND AIM OF THE WORK: A debate has appeared in the recent literature about the optimum rewarming strategy (Slow vs. rapid) for the best brain function. This study was designed to compare the effect of slow versus rapid rewarming on jugular bulb oxygen saturation and Mini-Mental State Examination (MMSE) and Western Perioperative Neurological Scale (WPNS) in adult patients undergoing open heart surgery.

METHODS: Eighty patients undergoing valve and adult congenital heart surgery were randomly allocated equally to rapid (1°C.min⁻¹) and slow rewarming (1°C.3min⁻¹) groups. Jugular bulb sampling was taken before, during and after surgery. MMSE and WPNS were performed one day before surgery, and one week and eight weeks after surgery. By pass temperature was 28-30°C.

RESULTS: Significant differences were observed in the number of the desaturated patients (SjO₂ ≤ 50%) between the two groups; 14 in rapid rewarming vs. 6 in the slow rewarming group; p = 0.035.

Despite there was no significant difference in mean MMSE and WPNS between both groups at any of the studied periods. However, significant differences were observed in the number of the patients with cognitive impairment (a score equal to or less than 23 points or a decrease of more than 5 points from baseline level in a patient indicates cognitive impairment) between rapid and slow rewarming groups. The number of patients who had postoperative cognitive impairment was 20 patients in rapid rewarming vs. 11 in the slow rewarming group; p = 0.037

at one week, while 16 vs. 8 in both groups respectively; p = 0.035 at 8 weeks by Fisher's Exact test.

CONCLUSION: Our study supports the use of slow rewarming technique in adult patients undergoing open heart surgery as brain function appears to be more preserved.

INT-OP-041 "RAMA - VALVULOPLASTY - RING": 5 YEARS PITIÉ SALPETRIERE EXPERIENCE WITH A NEW COMPLETELY FLEXIBLE RING FOR MITRAL ANNULOPLASTY

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BACKGROUND: The objective of this study was to analyze the effects about use of a new completely flexible ring for mitral annuloplasty, the "Rama-Valvuloplasty-Ring"

METHODS: From 1998 to 2003, 182 patients with mitral valve incompetence underwent mitral reconstructive surgery with the "Rama-Valvuloplasty-Ring". This group was made up of 117 men (64,3%) and 65 women (35,7%). Mean age was 62,51±8,2 years (range 19-87). Mean NYHA FC was 2,9±1,7: 65 patients in I-II FC (35,72%), 104 patients in FC III (57,14%), 13 patients in FC IV (7,14%). The preoperative Echography has shown a MR degree II (46.15% n.84), degree III (29,12%, n.53), 24,72% (45 patients) degree 4. Mean EF: 42,8±9,7%, EDLVD: 57,7±9,7 mm. The causes of mitral valve insufficiency were degenerative disease (141 patients, 77,47%), post-ischemic disease (n 21, 11,53 %), rheumatic aetiology (11 patients, 6,05%) and 9 patients (4,95 %) had infectious endocarditis. Ring sizes most commonly used were 30 mm and 32 mm, respectively in 92 patients (50,55%) and 41 patients (22,54%), followed by 28 mm (43 patients, 23,62%), 34 mm (5 patients, 2,74%), 36 mm (1 patient, 0,55%). The surgical act was valve quadrangular resection in 103 patients (56,60%), triangular resection in 57 patients (31,32%) and no valve resection in 22 pt (12,08%). In 89 patients (48,90%) was necessary associated intervention: 44 patients (24,18%) had ischemic cardiomyopathy, so it was necessary coronary revascularization: 18 patients (9,89%) were operated with single by-pass, 21 patients (11,54%) with double by-pass, 5 cases with triple by-pass (2,75%); aortic valve replacement in 42 cases (23,07%) and aorta repair in 3 patient (1,65%)

RESULTS: Early postoperative mortality was 2,19% (4 patients). Early postoperative echocardiographic control shows MR grade 0 in 142 patients (79,78%) and grade I in 36 (20,22%) with mean grade 0,4±0,12 and no patients with grade III or IV. So, there was not mitral annuloplasty failure that necessitated MVR. During follow-up there were 12 late deaths (12 patients, 6,74%). Only 1 death was valve related (thrombosis) and the others 11 patients non cardiac death correlated (subdural frontal haematoma, septic shocks). Postoperative transthoracic echocardiogram data were available in 166 patients at 5 years: the presence of postoperative MR was evaluated and severity was graded as mild in 33 patients (19,88%), moderate in 18 patients (10,84%), severe in 3 (1,81%) patients. There was nothing MR in the others 112 patients (67,47%); EDLVD was 49,4±6,5 mm, EF was 51,8±4,3 %. Mean NYHA FC was 0,8±0,4. Only one patient was reoperated during the follow-up for mitral annuloplasty failure with MVR.

CONCLUSION: Mid-term 5-years follow up is good for patients operated with the new completely flexible Rama-Valvuloplasty-Ring for mitral annuloplasty. This study has also verified the advantage about the Rama-Valvuloplasty-Ring use in the preservation of native valve apparatus.

KEYWORDS: mitral annuloplasty - flexible ring

INT-OP-042 ADJUSTABLE SEGMENTAL TRICUSPID ANNULOPLASTY: TECHNICAL ADVANTAGES AND MID-TERM RESULTS.

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BACKGROUND: Adjustable segmental tricuspid annuloplasty is a new recently-published procedure. The purpose of this prospective study was to present the technical advantages of this new tricuspid annuloplasty and analyze its early and mid-term results.

METHODS: Between January 2004 and December 2006, 17 patients who had moderate or severe pure functional tricuspid regurgitation (TR) underwent adjustable segmental tricuspid annuloplasty. The mean age of patients was 64.3 ± 10.4 years and the majority were female (94%). All patients had recent preoperative transthoracic echocardiography (TTE). Three postoperative TTE were performed: (I) before the hospital discharge, (II) between 3 and 6 months after surgery, and (III) at a mean 30.4 ± 13.8 months of follow-up. We studied the tricuspid valve, right ventricle and left ventricle.

RESULTS: No hospital mortality was reported. A progressive overall clinical improvement was observed. The serial postoperative TTE revealed (1) thirteen patients had ≤ mild TR, one patient had residual moderate TR, one patient had early moderate TR related to poor left ventricular function, and one patient had late severe TR due to transvenous pacemaker lead; (2) the indexed tricuspid annulus diameter normalized in all patients; (3) pulmonary hypertension gradually regressed; and (4) the right ventricular end-diastolic diameter and inferior vena cava diameter gradually decreased throughout the study.

CONCLUSIONS: Adjustable segmental tricuspid annuloplasty is an improved and efficient procedure for functional TR because it is segmental, commissural, more selective, more adjustable and more resistant. It may be adversely influenced by poor left ventricular function and by presence of pacemaker lead.

CORONARY ARTERY DISEASE : CHALLENGING INTERVENTIONS IN SURGICAL TECHNIQUES

OP-079 OUR EXTRAANATOMİC BYPASS EXPERİENCES OF 2 YEARS

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ABSTRACT: The aim of this article is to report our two years experiences with extra-anatomic bypasses.

METHODS: 10 patients who underwent extraanatomic bypasses between June 2007 and May 2009 were retrospectively analysed. Four axillobifemoral , two axillofemoral, three femorofemoral and one carotico-subclavian bypasses were performed. Except two patients, including carotico-subclavian bypass, all operations were performed for critical limb ischemia. The other had severe intraabdominal adhesions and he underwent extraanatomic bypass.

RESULTS: Only one patient having three vessel coronary artery disease (RCA %100, Cx %100, LAD %40) and severe COPD died 3 days after axillobifemoral and bilateral femoropopliteal bypass after acute anterior myocardial infarction. 6 of the 9 patients are on their follow ups without any problem.

CONCLUSION: Axillofemoral and axillobifemoral bypass procedures are preferred in case of infected aortic grafts, aortoduodenal fistulas, prior colostomy and ileostomy procedures. Also acute myocardial infarction, congestive heart failure, creatinin clearance below 40 ml/hr, dialysis dependent renal failure, oxygen dependency and forced expiratory volume (FEV) smaller than 1 liter/second are the other relative indications for extraanatomic bypass procedures. These procedures are the preferred methods for high risk patients and can be performed with low mortality and morbidity risks.

OP-080 MINIMALLY INVASIVE BEATING HEART AXILLOCORONARY BYPASS; MIDTERM RESULTS

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OBJECTIVE: The purpose of the study was to evaluate our experience and midterm results with single vessel axillocoronary bypass grafting.

METHODS: Five operations were carried out via left anterior minithoracotomy, making it a typical axillocoronary bypass procedure. The axillocoronary bypass grafting was performed in patients with significant coronary artery disease who exhibited a severely atherosclerotic ascending aorta, severe chronic obstructive pulmonary disease, serious walk (orthopedics) disorder and low cardiac ejection fraction.

RESULTS: Axillocoronary bypass grafting was carefully performed and any technical problems were not encountered intraoperatively in all five patients. The mean postoperative stay in the intensive care unit was 22,75±0,95 hours, and mean hospital stay was 7,25±0,95 days. No cases of brachial plexus injury, neurologic deficit or wound infection occurred. No cases were used to vasopressor or intraaortic balloon pump. Hospital mortality was performed one case. Graft patency since surgery was 24,00±9,41 months and the actuarial patients' survivals were 60% mean two years.

CONCLUSION: In conclusion, although we have reported our small series, because of low graft patency is performed midterm result, we think that this surgical method not to look promising for use.

KEYWORDS: Axillocoronary bypass; Beating heart; MIDCAB; Graft patency

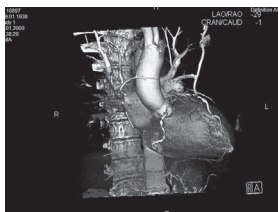


Figure 1

OP-081 IS RENAL FUNCTION ASSOCIATED WITH THE SEVERITY OF CORONARY ARTERY DISEASE?

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OBJECTIVE: We aimed to examine the impact of renal impairment on the severity of atherosclerosis in patients with coronary artery disease without severe renal dysfunction.

METHOD: 96 patients referred for elective coronary angiography in our department were included in the study after documentation of atherosclerotic coronary artery disease. Glomerular filtration rate was calculated by the MDRD (Modification of Diet in Renal Disease) formulae. Atherosclerotic risk burden was evaluated by using Framingham risk scoring system and the severity of coronary artery disease was evaluated by the Gensini score.

RESULTS: 53 men and 43 women documented to have atherosclerotic coronary artery disease on angiographic study were evaluated. 55.2% were hyperlipidemic and 62.5% were hypertensive on proper medical treatment. Impaired fasting glucose levels were found in 15.6% of the

patients. Mean Framingham risk score was found to be 14.75 ± 4.46. Mean Gensini score was 34.12. Mean creatinine clearance calculated by MDRD formulae was 100.12 ± 22.14 mL/min. Renal function was not significantly associated with Framingham risk score, impaired fasting glucose state, hypertension and hyperlipidemia (p>0.05, r:-0.15). However renal impairment was significantly correlated to the severity of coronary artery disease and glomerular filtration rate was found to be lower in patients with high Gensini scores (p: 0.002, r:-0.31).

CONCLUSION: Renal impairment is an important predictor of atherosclerotic coronary artery disease and can be taken as a risk factor affecting and aggravating the atherosclerotic process all through the vascular bed including the coronaries. Therefore preventive measures against renal impairment must be taken as an important step at every stage of atherosclerotic coronary artery disease. The mechanism how renal impairment contribute to the development of atherosclerosis should have to be explained in further studies.

KEYWORDS: Framingham risk score, Gensini, glomerular filtration rate, MDRD

OP-082 PERCUTANEOUS CLOSURE OF CORONARY ARTERY FISTULAS IN ADULTS; A SINGLE CENTER EXPERIENCE

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BACKGROUND: Coronary artery fistulas (CAF) are a rare group of abnormalities characterized by a connection between coronary arteries and cardiac cavities or great vessels. When CAF are associated with symptoms, treatment of those abnormalities can be required. In this manuscript, we aimed to review our experience in the closure of CAF with several percutaneous devices in our center.

METHODS: Eight patients who admitted to our cardiology department having the complaints of chest pain and dyspnea with CAF were involved in the study. In all patients, diagnosis of CAF was proven with conventional coronary angiography despite prior diagnosis with noninvasive methods.

RESULTS: Among eight patients who underwent transcatheter closure of CAF, five patients were male and age was 58,3±13,3 (mean±standart deviation). Six of the CAF's were draining into pulmonary artery and two of them were draining into right atrium. Closure of CAF was done with coil embolization in six patients, with detachable balloon in one patient and glue in one patient. At the immediate follow up, only one patient had atrial fibrillation immediately after the closure procedure and other patients discharged from hospital uneventfully.

CONCLUSION: Transcatheter closure of CAF with coils, detachable balloon and glue are safe methods and can be performed in case of symptoms attributable to CAF.

OP-083 EXAMINATION OF INTERNAL THORACIC ARTERY BY TRANSMİSİON ELECTRON MICROSCOPE IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

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OBJECTIVES: The internal thoracic artery (ITA) has an excellent patency rate in coronary artery bypass grafting. However, early graft failure due to occlusion or spasm is still the problem after coronary artery bypass surgery. We researched histopathologic findings of the clipped ITA in patients undergoing coronary artery bypass grafting using the transmission electron microscope (TEM).

METHODS: 60 patients were randomly selected. The ITA was harvested in a standart fashion. Its distal end was cut prior to bifurcation and clipped. 1 mm length of ITA ring was cut and saved in 2,5% Glutaraldehyde solution. One blinded anatomopathologist examined all specimens and described the endothelial integrity according to the score system proposed by Fischlein et al. using the following criteria: (a) completely confluent endothelium; (b) partially confluent endothelium; (c) loosely netted endothelium; (d) islands of endothelium; and (e) no endothelium.

RESULTS: In ten cases (17,5%) different degree of histopathologic findings (endothelial cells, intercellular space or adventitial) were recorded. The most important histopathologic findings of ITA were as follows: endothelial vacuolisation, intimal thickening and/or intimal separation, subendothelial edema, swelling of cytoplasm and mitochondria.

CONCLUSION: In previous studies, the rate of histopathologic changes of ITA have been shown to be between 1-1,8%. The number of studies have been reported with the use of light microscopic examination. Ultrastructural changes of ITA has been reported with the use of electron microscope in a limited number of studies. Our study results indicate that there are nearly ten fold more histopathological changes of ITA than the percentage of previously reported cases.

OP-084 INNOMİNATE ARTERY: A SAFE SITE FOR PROXIMAL ANASTOMOSIS FOR CABG IN PATIENTS WITH ATHEROSCLEROTIC CALCİFİC AORTA

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OBJECTIVES: Atheromatous plaques on the ascending aorta are one of the most important risk factors for mortality and neurologic morbidity for CABG (coronary artery bypass grafting) surgery. We have retrospectively reviewed the results of the operations on patients who were found to have calcific atheromatous plaques on the ascending aorta intraoperatively and with a change in the operation strategy who were operated for OPCAB (off-pump coronary artery bypass) with proximal anastomosis performed on the innominate artery.

METHODS: We have operated 17 patients from November 2002 to June 2009. After LİMA (left internal mammary) was harvested and pericardiectomy was made, we have diagnosed

the atheromatous calcific plaques on the ascending aorta with palpation. The innominate artery was explored and was chosen for the site of proximal anastomosis unless it has atheromatous disease. The perioperative patient data were collected from the hospital records. Fourteen patients were male and 3 were female (M:F=4,7). the average age of the patients was 64,4±5,6 years(ranged, 53-73).

FINDINGS AND RESULTS: In the operations, the average number of revascularized coronary arteries was 3,4±0,7 (ranged, 2-5, median 3). One or two proximal anastomosis were made on the innominate artery. The LIMA graft was not used in one patient (5,9%). Sequential anastomosis were made with SVG (saphenous vein graft) in 8 (47,1%) and with LIMA in 3 (17,6%) patients. in-hospital mortality occurred in two patients (11,8%). These patients did not wake up postoperatively and the mortalities were related to the cerebrovascular events. No other mortality nor neurologic morbidity was seen postoperatively in other 15 patients (88,2%). Four patients who chronic renal failure preoperatively had transient increases in urea and creatinine levels which returned to the preoperative levels in the postoperative follow-up. No other morbidities occurred.

CONCLUSION: Innominate artery can be safely used for an alternative site for proximal anastomosis in patients with calcific atherosclerotic aorta. The postoperative neurologic morbidity is lower than similar patients who had conventional CABG operations in other series.

OP-085 USING THERMOREACTIVE CLIPS IN THE REPAIR OF STERNAL DEHISCENCE

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OBJECTIVE: Healing complications after sternotomy closure such as dehiscence, osteomyelitis, mediastinitis, and superficial wound infection or fistula may occur. Sternal dehiscence is usually treated with reoperation using sternal wires. In this study we used thermoreactive clips (nickel-titanium) in sternal dehiscence patients without any sign of infection, instead of using regular steel wire.

METHOD: Thermoreactive clips were used for the sternal stability at reoperation in 4 patients who had only sternal dehiscence without infection findings. We describe an alternative technique for sternal dehiscence closure using semirigid fixation with thermoreactive clips in patients without wound infection. Electrocautery is used to create a hole through the intercostal space to insert the clip, and care should be used to avoid any injury to the internal thoracic arteries. When the two parts of the sternum are approximated, the distance between the holes are measured. The clip size, should be 0,5 to 1 cm smaller than the measured size. The clip is then cooled with ice during 30 seconds. Cooling makes the clip very malleable and easy to fit into the intercostal space. After being fit into the intercostal space, the clip is heated with warm water for nearly 30 seconds.

RESULTS: We had no 30 days mortality; wound healing was successfully achieved in all patients. The patients were followed for 12,6 ± 4,8 months, during their follow up no dehiscence or wound infection was detected.

CONCLUSION: The advantage of this technique is that the posterior face of the sternum does not have to be dissected from the mediastinal structures. This technique minimizes the risk of damage to the mediastinal structures and also decreases the complication rate. After our early experience with this technique and material, we recommend using thermoreactive clips in sternal dehiscence patients without infection.

KEY WORDS: Cardiac surgery; Sternal wound infection; Sternal dehiscence; Thermoreactive clips

OP-086 COMPLETE MYOCARDIAL REVASCLARIZATION ON THE BEATING HEART

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S. B. Dışkapı Yıldırım Beyazıt Eğitim Ve Araştırma Hastanesi¹

Completeness of revascularization is crucial for the early and late success of coronary artery bypass grafting (CABG). Despite demonstration of the advantages of off-pump CABG in high risk patients, the prejudice of limitation of this technique to LAD and right coronary artery locations created the the belief of its unsuitability to multivessel disease. Between September 2008-May 2009 40 high risk patients with comorbidities like advanced age, severe lung disease and poor left ventricular function was underwent to multivessel off-pump CABG. The mean age was 64.4 (41-88), female-male ratio was 3 : 5, and mean number of distal anastomoses was 3.6 (3 - 5). None of them needed to convert to on-pump CABG. Complete revascularization was accomplished in all of the patients. Hospital mortality was 5%. None of the patients had perioperative myocardial infarction and low cardiac output syndrome. The results of this retrospective study demonstrated that in high risk multivessel disease, off pump technique is safe and complete revascularization is possible. We believe off-pump technique should not be restricted to LAD and Right Coronary areas.

OP-087 THE GREATER SAPHENOUS VEIN HARVESTING WITH ENDOSCOPIC TECHNIQUE

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Fatih Üniv.Tıp Fakültesi Hast.Kardiyovasküler Cerrahi ABD.¹

INTRODUCTION: Open saphenous vein harvesting can be associated with wound complications, incision pain, prolonged convalescence, and poor cosmetic results. Endoscopic vein harvesting has been widely used for prevention of these problems.

METHODS: From September 2008 to April 2009, we used an endoscopic technique to harvest the greater saphenous vein in 21 patients who underwent aortocoronary artery bypass grafting. The technique of Endoscopic Saphenectomy was performed without CO2 insufflation

(Gasless) with "Storz tunnel dissector device (Karl Storz Endoskope, Tuttlingen, Germany)". Thirteen patients were male and eight patients were female, aged from 45 to 74 years old, with the median age of 60,7 years old.

RESULTS: Twelve of the patients had an increased risk for wound complications due to pre-existing diabetes, obesity or peripheral vascular disease. The average duration of the procedure was 53,4 minutes(range, 30 to 100 minutes). We made an average of 2,14 incisions per patient (range, 2 to 3 incisions). No patients required conversion to open technique. Postoperative complications included 1 hematoma(4,76%), 2 minor erythema(9,56%) at the incision site. The most common problem, ecchymosis, was seen in 4 patients (19,04%). None required repeat hospitalization or reoperation for complications. In our study, the endoscopic approach yielded superior cosmetic results, and reduced complications and discomfort. After gaining expertise with this minimally invasive method of vein harvesting, a surgeon can safely remove the saphenous vein in 30 to 50 minutes.

CONCLUSIONS: We conclude that endoscopic vein harvesting reduces leg wound infections, is safe and reliable, and should be the standard of care when venous conduits are required for coronary artery bypass grafting and vascular procedures.



Peroperative endoscopic saphenous vein harvesting

ISHCEMIC AND NONISHCEMIC ORIGINS OF HEART FAILURE : FROM GENE TO BEDSIDE

INT-OP-043 PHENOTYPE-GENOTYPE CORRELATION IN RUSSIAN IDIOPATHIC DCM FAMILIES

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Dilated cardiomyopathy (DCM) is a myocardial disorder characterized by ventricular dilatation and impaired systolic function leading to heart failure and sudden death. The prevalence of DCM in general population is estimated as 38:10 000 but this data can be understated. At least 30-40% of all cases have clear genetic background. To date 11 known genes and 10 chromosomal loci are associated with DCM. Autosomal recessive forms average about 16% among idiopathic dilated cardiomyopathies, X- linkes forms present is 2-5% cases.

Autosomal dominant forms occurs most frequently and exhibits both clinical variability and genetic heterogeneity. Autosomal dominant forms of DCM also have two main clinical forms: "pure" DCM and DCM associated with cardiac conduction disease (CCD). There is also genetic heterogeneity of each above-mentioned form. By now, more than 10 chromosomal loci are known associated with idiopathic DCM: 1q32, 2q24.3, 2q31, 2q35, 4q12, 5q33, 9q13-22, 10q22, 14q11, 15q2, 15q14.

The most common form of DCM with conduction defects is DCM 1A, caused by mutations in LMNA which amount about 25-30% of this form. In addition to conduction system disease the DCM caused by mutations in LMNA gene can be accompanied by variable skeletal muscles involvement. Moreover, mutations in this gene lead to at least 8 distinct clinical types of diseases. The phenotypic spectrum from CCD to Emery-Dreifuss muscular dystrophy (EDMD) and Hutchinson-Gilford progeria appears continuous. However, the mechanism by which LMNA mutations cause cardiac and/or skeletal muscle disease is still unclear. Recently new genetic form of DCM with arrhythmias, DCM 1E, caused by mutations in SCN5A genes had been described.

We had performed molecular genetic investigations of DNA samples from 60 unrelated Russian DCM probands after detailed clinical examination. Probands were subdivided into two clinical groups: 40 "pure" DCM patients (including 10 proband younger 3 years old) and 20 DCM patients with atrial or ventricular arrhythmias and/or conduction block. Genomic DNA sample was isolated from EDTA venous blood by standard methods. For mutation screening, original intronic primers were developed that encompassed the complete coding sequence, the splice sites, and the adjacent areas. Screening of the LMNA and SCN5A mutations was performed using PCR-SSCP analysis with direct automatic sequencing of abnormal conformers. We identified 5 LMNA gene mutations in 5 unrelated families (DCM, 1A; 15 patients) and 1 SCN5A mutation in 1 family (DCM 1E; 2 patients). The clinical course of diseases was similar in patients with mutations in DCM 1A and DCM 1E genes. Most of the patients (93%) had various rhythm and conduction defects except one 2-years-old patient. The prevalence and intensity of arrhythmias were age-dependent and had increased with age. The various degrees of conduction defects were observed in 87%, atrial fibrillation in 59%, PM or ICD were implanted in 57%; ventricular arrhythmias in 34%. All ascertained arrhythmias were stably resistant for drug treatment and about 28% patients died suddenly despite medication. Dilated cardiomyopathy caused by mutations in LMNA and SCN5A genes characterized by high risk of life-threatening supra-ventricular and ventricular arrhythmias. Patients with mutations in these genes are resistant for anti-arrhythmic drugs and could be rate as candidate for interventional treatment. We suppose that molecular genetics methods could be reasonable for differential, confirmative and pre-symptomatic diagnostics with following medical genetic counseling in patients with combination of DCM and conduction system diseases. Analysis of the LMNA and SCN5A genes as routine diagnostic procedure for "pure" DCM patients seems controversial.

INT-OP-044 THE EFFECTS OF LEVOSIMENDAN INFUSION ON INTACT PARATHYROID HORMONE AND BRAIN NATRIURETIC PEPTIDE LEVELS

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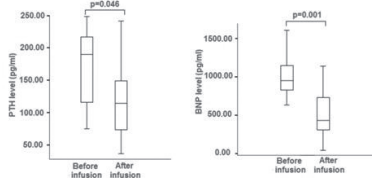
OBJECTIVE: Elevated plasma intact parathyroid hormone (PTH) levels is related with the systemic effects of oxidative stress. Brain natriuretic peptide (BNP) levels correlated with both the severity of symptoms and the prognosis in congestive heart failure. The aim of the study is to evaluate the effects of levosimendan therapy on PTH and BNP levels in the setting of decompensated heart failure.

METHODS: We studied 42 patients (mean age: 64.1±12.9, 32 male/10 female) with chronic systolic left ventricular dysfunction hospitalized for New York Heart Association class III or IV symptoms of heart failure due either to coronary artery disease (n = 29) or to dilated cardiomyopathy (n = 13). All patients were under treatment of Renin-Angiotensin-Aldosterone System (RAS) inhibitors and diuretics and all had documented ejection fractions of ≤30%. Some of them were also treated with β blockers, aldosterone antagonist, amiodarone, and digoxin. Patients with recent myocardial infarctions (<8 weeks) or active ischemia, atrial fibrillation, paced rhythm, hepatic or renal impairment (GFR <30 ml/min), and supine systolic blood pressure of <90 mm Hg were excluded. The protocol was conducted after an initial phase of patient stabilization to minimize the need for changes in drug dosing (i.e., increases in diuretic use) during levosimendan administration. PTH and BNP were assessed before and 1 week after the levosimendan infusion. Paired samples t-test was used for determining statistical significance.

RESULTS: Plasma PTH (189.3±88.1 vs 117.8±55.0, p=0.046) levels and BNP (989.8±442.7 vs 489.2±232.1, p=0.001) levels were significantly decreased after levosimendan infusion. Before and after the levosimendan infusion, there was no difference regarding with dosage of furosemide (mean dosage = 133.5±38.1mg vs 138.1±41.0mg, p=0.257). Plasma calcium (9.8±0.67 vs 9.03±0.53, p=0.297) and phosphate (4.1±1.6 vs 3.8±0.75, p=0.340) levels was similar before and after the levosimendan infusion.

CONCLUSIONS: Levosimendan infusion decreases plasma PTH and BNP levels significantly in patients with decompensated heart failure.

KEY WORDS: Decompensated heart failure, Brain natriuretic peptide, Levosimendan, Parathyroid hormone



INT-OP-045 RESULTS OF THE CORONARY ARTERY BYPASS GRAFTING ALONE AND COMBINED WITH SURGICAL VENTRICULAR RECONSTRUCTION FOR ISCHEMIC HEART FAILURE

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OBJECTIVE: To compare the results of the coronary artery bypass grafting (CABG) alone and combined with surgical ventricular reconstruction (SVR) in patients with ischemic heart failure.

METHODS: In this study we included 236 patients with ischemic heart failure who underwent surgical treatment. There were 217 men and 19 - women, with a mean age 56±8, whom had prior one or more myocardium infarction, with 3-4 NYHA functional class, and EF less than 35%. Patients were blindly randomized in two groups. There were 116 patients who underwent CABG with SVR and in 120 patients was performed CABG alone. With echocardiography study we estimated left ventricular and mitral valve dysfunction before and after surgery. There was no difference in preoperative status in patients of both groups.

RESULTS: The hospital mortality rate was 5.8% after isolated CABG and 3.5% after CABG combined with SVR. All surviving patients had postoperative study from 1 month to 3 year. The mean NYHA functional class decreased from 3.1±0.7 to 2.1±0.6 after CABG and from 3.2±0.5 to 2.0±0.4 after CABG with SVR. We revealed that left ventricular reconstruction significantly decreased EDV from 241±64 to 166±36 and increased EF from 30±6 to 38±4 accordingly. However after isolated CABG EF did not increase significantly (31±5 and 33±7 respectively). Three-year survival rate was 78% after CABG with SVR and 73% after CABG alone.

CONCLUSIONS: Despite on the more aggressive surgical strategy left ventricular reconstruction did not increase operative mortality and early results were significantly effective compare with coronary artery bypass grafting alone.

INT-OP-0046 GEOMETRY OF LEFT VENTRICLE AND MITRAL VALVE APPARATUS AFTER SURGICAL TREATMENT OF ISCHEMIC HEART FAILURE

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BACKGROUND: To evaluate the geometry of left ventricle and mitral valve apparatus in patients with ischemic heart disease complicated of left ventricular dysfunction and mitral insufficiency before and after surgical treatment.

METHODS: From January 2003 to December 2007, 52 patients underwent surgical treatment. There were 48 men and 4 - women, with a mean age 56±8, whom had prior one or more myocardium infarction, with 3-4 NYHA functional class, EF less than 35%, and 3-4 grade of mitral regurgitation.

To estimate mitral valve function we used 3-D echocardiography and analyzed the following

parameters: grade of mitral regurgitation, localization and direction of regurgitation jet, sizes of mitral annulus, leaflets motion, depth and length of leaflets coaptation, MV tenting area, MV tethering distance, papillary-annulus distance, papillary-papillary distance, papillary-septum distance, diastolic flow in pulmonary veins, sizes of left atrium, pulmonary pressure, function and geometry of LV. For determine the necessity of surgical ventricular restoration we used preoperative modeling of "new" LV. Based on the data of complex estimation of anatomy and function of MV apparatus and LV we choose the optimal method of surgical treatment of ischemic heart failure.

Myocardial revascularization was performed in all patients, and also mitral valve repair was performed in 43 patients (83%) and mitral valve replacement - in 9 patients (17%). Surgical correction of coronary and mitral incompetence combined with left ventricular reconstruction in 25 patients (48%).

RESULTS: The total hospital mortality rate was 9.6%. The mean NYHA functional class decreased from 3.4±0.6 to 2.1±0.7 postoperatively. We revealed that after mitral valve repair with left ventricular reconstruction significantly decreased EDV from 293±38 to 195±41 and increased EF accordingly from 27±3 to 36±4. However after isolated mitral valve repair EF did not increase significantly (from 28±5 to 29±6 postoperatively). Grade of MR decreased more significantly after combined treatment (1.2±0.4 versus 1.6±0.6 respectively). Surgical ventricular reconstruction decreased end-diastolic diameter, as well as papillary-septum distance and papillary-annulus distance, so improvement geometry of LV leads to changes of chordo-papillary dislocation.

CONCLUSIONS: Surgical correction of mitral insufficiency in patients with severe LV dysfunction must include not only mitral annulus reduction, but also left ventricular reconstruction, which helps exclude main reasons of ischemic mitral regurgitation.

INT-OP-0047 PREOPERATIVE PREDICTION OF MYOCARDIAL VIABILITY BY DOBUTAMINE STRESS ECHOCARDIOGRAPHY IN PATIENTS WITH ISCHEMIC CARDIOMYOPATHY

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BACKGROUND: We aim to evaluate the role of dobutamine stress echocardiography (DSE) in assessment of myocardial viability in patients with ischemia cardiomyopathy and to predict their prognosis after surgical revascularization.

METHODS: We adapted DSE prospectively to assess the myocardial viability and contractile reserve in patients with ischemic cardiomyopathy (left ventricular ejection fraction [LVEF] ≤30%) since September 2006. From September 2006 to September 2008, 21 consecutive cases with positive response to DSE received surgical revascularization were enrolled in this study. The patients with dilated cardiomyopathy, acute myocardial infarction or LVEF>30% were excluded. The patient's preoperative characteristics, results of DSE, surgical mortality, short-term survival and functional status were obtained.

RESULTS: There were 20 men and one woman enrolled in this study. Their age was 59.9±10.3 years. The preoperative LVEF was 24.5±5.6%, function class was 3.3±0.5, Euro Score was 8.4±2.6, and predict Euro Score mortality was 16.3±11.2% respectively. The DSE showed 7 cases with biphasic response, 6 cases with sustained improving contractivity, 4 cases with sustained worsening contractivity, and 4 cases with static response. All cases received coronary bypass grafting surgery, and ten of them received concomitant valvular procedures. The number of distal anastomosis was 3.8±1.0, and cardiopulmonary bypass time was 173.0±59.6 minutes. There was no surgical mortality, hospital mortality, or follow-up mortality. Their postoperative LVEF was 33.4±9.8% and functional class was 1.7±0.7. The mean episodes of postoperative cardiac events were 0.2±0.4. The sensitivity of DSE was 93.8%, and the specificity was 60% respectively.

CONCLUSION: The DSE is a useful tool to evaluate patient's myocardial viability and contractile reserve. Through careful patient selection, intra-operative management, and postoperative care, surgical revascularization may offer encouraging survival and improve life quality in patients with ischemic cardiomyopathy.

INT-OP-048 USE OF PORTABLE ECHOCARDIOGRAPHY PREVENTS REJECTION OF A DONOR HEART OFFER

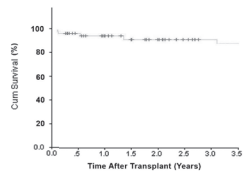
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SYNOPSIS: Unavailability of echocardiography (ECHO) at a remote donor hospital results in rejection of a potentially good donor heart over the phone by many transplant centers. In an environment where ECHO is nonexistent, our procurement team has performed a portable ECHO at bedside to assess the donor heart function. Objectives: We report our experience with portable ECHO in donor heart evaluation and its influence on the heart transplant activity.

METHODS: Seventeen donor hearts were evaluated with portable ECHO between January 2005 and December 2008. Portable ECHO, done by a technician, was read by a cardiologist. Total of 45 consecutive patients underwent cardiac transplant operation. Excluded were 50 heart transplants, performed between July 1989 and December 2004, due to incomplete data. Pre- and post-transplant data was collected according to ISHLT format. Primary endpoints were annual heart transplant rate, complications, mortality (30-day and late), and 1 year-survival.

FINDINGS: Portable ECHO was performed in 34% of donor hearts (17/50) at remote hospitals. Based on ECHO findings, 70% (12/17) donor hearts were successfully transplanted. In 5, donor hearts were rejected due to severe ventricular dysfunction (EF≤30%). Annual heart transplant rate between 2005-2008 (12/yr) was 3.6-fold higher than between 1989-2004 (3.3/yr). Of 45, 35 (78%) were men; 10 (22%) women with a mean age of 33 years (range=13 to 55 yrs). Idiopathic cardiomyopathy was the cause of end-stage heart disease in 30 patients (67%). Average waiting list time was 58 days (range= 1 to 262 days). Complications included rejection (3); infection (10); reoperation for hemorrhage (2); and sternal infection (1). The 30-day mortality was 4.4% (2/45) and late mortality 6.6% (3/45). Overall 1-year survival was 96%.

RESULTS: The lack of ECHO capability at remote donor hospitals should not be a reason to decline a donor heart offer. Portable ECHO increases donor heart procurement rate and it is an excellent tool to assess the donor heart function just before the procurement.



Heart transplant survival

INT-OP-049 CARDIAC MYXOMAS: 11 YEARS OF EXPERIENCE IN 33 PATIENTS

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BACKGROUND: Cardiac myxoma is the most common benign cardiac tumors. The aim of this study is to review our heart center's 11-year experience with intracardiac myxoma.

METHODS: Between March 1997 and March 2009, 33 patients (16 men and 17 women) between the ages of 11 to 81 years (mean age, 47 years) were operated on for cardiac myxoma. The tumor was located in the left atrium in 28 patients (84.8%), in the right atrium in 2 patients (6.1%), in the right ventricle in 2 patients (6.1%), and left ventricle in 1 patient (3%). The average time from onset of symptoms to diagnosis was 6 months. The most frequently observed symptoms were associated with mitral valve obstruction. Three patients underwent concomitant coronary artery bypass and four patient underwent mitral valve replacement or repair.

RESULTS: There was 1 early death (3%) due to postoperative cerebral embolization. The mean follow-up was 56.4±38.8 months. There was not late death. No recurrence of cardiac myxoma was observed during the follow-up and 27 patients (90%) are in NYHA functional class I and 3 patients (10%) are in NYHA class II. The follow-up was complete in 93.9% of the patients. The actuarial survival was 90.9%.

CONCLUSIONS: At present, the diagnosis of cardiac myxoma is easy to make and two dimensional echocardiography play a major role in this field, so a high index of clinical suspicion is important for its early diagnosis and surgical excision of intracardiac myxoma is curative with low mortality and good long-term outcome.

KEYWORDS: Tumor, Myxoma, Cardiac surgery

INT-OP-050 SURGICAL TREATMENT OF LEFT SIDED HEART TUMORS

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OBJECTIVE: To analyse surgical treatment of left sided heart tumors (LSHT) and recommend optimum technique of LSHTI based on these results.

METHODS: 426 consecutive patients (pts) with primary tumor of the LSHT were operated from 01.01.1984 till 01.01.2007 yy. Tumors based at the left atrium (LA)(n = 415 pts), left ventricle (LV) (n = 11 pts). Malignant forms were in 10 (2,4%) pts: LA (n=9), LV (n=1). In other cases myxomas were marked in 97,6% (416): LA (406), LV (10). Mean age of pts was 54,4±6,4 year (range 8 - 78 yy). Females - 331 (77,7%), males - 95 (22,3%). In the most of pts (98,2 %) the bottom of the myxoma was based on any part of interatrial septum (frequently at fossae ovale). In 287 (69,5%) pts myxoma was in capsule and in 130 (30,5%) pts without one. Episodes of emboli before operation were occurred in 21 (4,4%) pts. Maternal basement was removed by wide resection of the interatrial septum (n = 259 pts) (group A) and without broad resection of the septum (n = 148 pts) (group B). Malignant tumor of the LA was removed with LA's wall and replaced this part of the LA with the autopericardial patch. All operations were performed with CPB and moderate hypothermia. At the last 5 years modified biatrial approach to LA's myxoma was used.

RESULTS: During last 6 years hospital mortality (HM) in the group with LA' tumors was 2,4% (205/5). HM for malignant tumors was 20,0% (10/2): LA (n = 9/2), LV (n = 1/0) and for other forms - 7,9% (n = 416/33): LA (n = 406/31- 7,6%), LV (n = 10/2) The main reasons of HM were heart failure and brain damage because pts had entered to clinic with heart failure (as a rule, giant myxoma) and with previous episodes of emboli (absence of myxoma's capsule). At the late period 314 (93,8%) pts with myxomas were observed during 1 till 19 years after correction. There were 7 (1,9%) recurrences of myxoma (all left atrium). Four were successful reoperated. All pts belonged to group B.

CONCLUSION: Myxomas were occurred frequently in female age more than 45 years old. The late result of myxoma's correction should be successful in cases with broad resection of maternal bottom (interatrial septum) and replacement one with autopericardial patch.

**EVALUATION OF VENTRICULAR FUNCTION :
 NEW ECHOCARDIOGRAPHIC TECHNIQUES**

OP-088 THE IMPACT OF PRIMARY PERCUTANEOUS CORONARY INTERVENTION ON REGIONAL MYOCARDIAL DEFORMATION IN INFERIOR ACUTE MYOCARDIAL INFARCTION PATIENTS.

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Objective: Tissue Doppler-derived longitudinal strain (S)/strain rate (Sr) reflects intrinsic regional myocardial deformation. The aim of this study was to evaluate the impact of primary percutaneous coronary intervention (PCI) on regional myocardial deformation in inferior acute myocardial infarction (AMI) patients.

Methods: The study included 25 control subjects who had normal coronary angiogram (57±8 years) and 28 consecutive patients (59±10 years) within the first 6 hours of inferior AMI undergoing successful primary PCI. Patients with previous coronary ischemic event, myocardial disease, atrial fibrillation and bundle branch block were excluded. Echocardiographic recordings were performed just before PCI, at the 1st week and the 1st month. Longitudinal myocardial peak systolic S/Sr, interrogated by using apical views were post-processed from basal, mid and apical segments, supplied totally or partially by the right coronary artery (RCA).

Results: S/Sr indices of basal and mid inferior segments in the patients were significantly lower than controls, in pre-PCI period. The S/Sr measurements were found as increased after successful intervention in these segments. These segments were showed significant differences at the initial, 1st week and the 1st month, in an increasing manner. Apical inferior segments S/Sr indices did not change before and after PCI in patients and no differences between controls. There were no differences in other segments supplied by RCA, except inferior segments (Table 1 and 2).

Conclusion: Inferior AMI resulted in the reduction of S/Sr indices in inferior basal and mid segments for pre-PCI period. Discontinuation and prevention of the course of deterioration in regional myocardial deformation parameters were established by successful intervention in inferior AMI patients. The impact of primary PCI that improved S/Sr values was completed in one week and did not reveal any change in one month.

Table 1. The impact of PCI on Strain.

Strain (%)	Control	Initial	1st week	1st month
Basal Inferior	20.0±3.4	11.3 ±3.5 *,a,b	14.6±4.1 *,c	16.2±3.0 *
Mid Inferior	20.9±3.6	14.0±3.8 *,a,b	16.6±3.01 μ	17.7±2.2 μ
Apical Inferior	21.1±3.7	20.1±4.0	20.4±3.06	21.1±2.4
Basal Posterior	18.7±2.6	18.1±4.5	18.2±2.6	18.4±3.0
Mid Posterior	18.4±2.3	18.2±4.0	17.8±2.4	18.2±2.6
Apical Posterior	18.7±2.7	18.7±3.8	18.8±3.4	19.2±4.0
Basal Lateral	21.6±3.1	20.2±3.6	20.3±4.0	20.8±3.4
Mid Lateral	21.9±2.8	20.0±3.6	20.4±3.2	20.1±2.7
Apical Lateral	20.7±3.6	19.6±2.6	19.2±3.4	20.0±4.3

* ; vs. control p<0.001, μ; vs. control p<0.05 a ; initial vs. 1st week p<0.05, b ; initial vs. 1st month p<0.001, c 1st week vs. 1st month p<0.05,

Table 2. The impact of PCI on Strain Rate.

Strain Rate (s-1)	Control	Initial	1st week	1st month
Basal Inferior	1.5±0.2	1.1±0.2 *,a,b	1.3±0.2 μ,c	1.3±0.2 μ
Mid Inferior	1.5±0.2	1.1±0.2 *,a,b	1.4±0.2	1.4±0.2
Apical Inferior	1.4±0.2	1.4±0.3	1.5±0.2	1.5±0.2
Basal Posterior	1.5±0.1	1.4±0.2	1.4±0.1	1.5±0.1
Mid Posterior	1.4±0.2	1.3±0.2	1.4±0.2	1.5±0.2
Apical Posterior	1.5±0.2	1.4±0.2	1.4±0.2	1.5±0.2
Basal Lateral	1.6±0.2	1.6±0.2	1.5±0.2	1.5±0.2
Mid Lateral	1.7±0.3	1.5±0.2	1.6±0.2	1.7±0.2
Apical Lateral	1.6±0.4	1.6±0.2	1.5±0.2	1.5±0.2

* ; vs. control p<0.001, μ; vs. control p<0.05 a ; initial vs. 1st week p<0.001, b ; initial vs. 1st month p<0.001, c; 1st week vs. 1st month p<0.05

OP-089 RIGHT VENTRICULAR STRAIN AND STRAIN RATE IS LOWER IN DIFFUSE TYPE SYSTEMIC SCLEROSIS

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OBJECTIVE: Cardiac involvement is one of the major problems in systemic sclerosis (SSc). Subclinical cardiac involvement has a higher frequency than thought previously. Aim of the present study was to evaluate subclinical cardiac involvement which was detected by using echocardiographic strain imaging between limited (LSSc) and diffuse (DSSc) subgroups of Systemic Sclerosis (SSc).

METHODS: Twenty-seven LSSc and 15 DSSc patients were enrolled. All patients were under clinical examination, serological tests, HRCT of thorax, standard two dimensional and Doppler echocardiography; myocardial tissue Doppler and strain echocardiographic imaging.

RESULTS: There was no difference with respect to age (43.9±11.7 years in LSSc vs. 46.9±13.8 years in DSSc), sex (2 M/25 F in LSSc vs. 2 M/15 F in DSSc), mean blood pressure (84.5±4.2mmHg in LSSc vs. 82.2±3.3mmHg in DSSc), heart rate (78.4±7.9 bpm in LSSc vs. 76.9±10.2bpm in DSSc), six minute walking distance (448.1±105,4m vs 424.3±98,4m), DLCO/VA (98.4±14.4 vs 96.3±13.04), ejection fraction (EF: 64.2±4.3 vs 65.3±4.2) and systolic pulmonary artery pressure (SPAP: 29.4±9.1 vs 28.3±7.9). Basal right ventricular strain, mid right ventricular strain and basal right ventricular strain rate is lower in DSSc than LSSc. There was no statistically significant difference between other parameters.

Conclusions: Right ventricular strain and strain rate is lower in DSSc than LSSc which might be due to more right ventricular subclinical involvement in DSSc

Parameters	LSSc	DSSc	p value
Basal lateral strain (%)	-22.51 ± 5.04	-23.66 ± 6.84	ns
Mid lateral strain (%)	-20.62 ± 6.03	-21.64 ± 5.60	ns
Basal septal strain (%)	-21.50 ± 6.02	-23.80 ± 5.65	ns
Mid septal strain (%)	-23.46 ± 5.77	-26.12 ± 5.37	ns
Basal right ventricular strain (%)	-27.22 ± 9.38	-20.10 ± 8.34	<0.05
Mid right ventricular strain (%)	-33.19 ± 8.48	-29.12 ± 7.60	<0.05
Basal lateral strain rate	-2.51 ± 0.61	-2.33 ± 0.48	ns
Mid lateral strain rate (s-1)	-2.01 ± 0.67	-1.88 ± 0.68	ns
Basal septal strain rate (s-1)	-2.03 ± 0.54	-2.10 ± 0.60	ns
Mid septal strain rate (s-1)	-2.17 ± 0.51	-2.29 ± 0.52	ns
Basal right ventricular strain rate (s-1)	-3.41 ± 0.75	-2.79 ± 0.65	<0.05
Mid right ventricular strain rate (s-1)	-2.45 ± 0.54	-2.32 ± 0.51	ns

ns: not significant

OP-090 RIGHT VENTRICULAR DIASTOLIC DYSFUNCTION DETERMINED BY COLOR TISSUE DOPPLER ECHOCARDIOGRAPHY IN PATIENTS WITH CIRRHOSIS

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BACKGROUND: Liver cirrhosis is associated with several structural and functional cardiovascular abnormalities. However little is known about the effects of cirrhosis on right ventricular diastolic function.

METHODS: Forty patients with cirrhosis (mean age 46±10 years, 12 women) without clinical coronary artery disease and twenty six age- and sex-matched control subjects were studied. Color tissue Doppler imaging (TDI) from the tricuspid annulus was performed from the apical 4-chamber view and, Ea and Aa velocities were measured. Tricuspid early (E) and late (A) inflow velocities were measured by conventional Doppler echocardiography.

RESULTS: Mean systolic and diastolic blood pressures were significantly lower in patients with cirrhosis when compared with the control group (109±11 vs. 118±8 mmHg, p=0.003; and 68±6.6 vs. 72±8 mmHg, p=0.002, respectively). There were no significant differences regarding the heart rate and LV ejection fractions between the groups. Tricuspid E and tricuspid E/A ratio was not significantly different between the groups (59±11 cm/s vs. 55±7 cm/s, p NS; and 1.1±0.2 vs. 1.2±0.2, p NS respectively). Ea velocity and Ea/Aa ratio were significantly lower in patients with cirrhosis when compared with the control group (6.0±2.1 cm/s vs. 7.5±1.5 cm/s, p=0.004; and 1.0±0.6 vs. 1.5±0.5, p=0.003 respectively). E/Ea ratio was higher in patients with cirrhosis as compared with controls (11.8±6.5 vs. 7.7±2.2, p=0.005).

CONCLUSION: Our findings suggest impaired diastolic RV function and increased RV filling pressure in patients with cirrhosis.

OP-091 THE CHARACTERISTICS OF LEFT VENTRICULAR FUNCTION IN ISCHEMIC AND DILATED CARDIOMYOPATHY

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Ischemic cardiomyopathy and idiopathic dilated cardiomyopathy have similar clinical features. The aim of the study was to compare conventional and tissue echocardiographic parameters in ischemic and dilated cardiomyopathy with advanced heart failure.

A total of 45 patients having acute decompensated HF with ischemic and dilated cardiomyopathy and LV ejection fraction (LVEF) < 35% were included in the study. The patients were divided into two groups: Group 1; ischemic cardiomyopathy, group 2; dilated cardiomyopathy. All the patients underwent standard two-dimensional and tissue Doppler echocardiography before and after intravenous positive inotropic therapy. Tissue Doppler imaging was performed from lateral mitral annulus. For the mitral valve, the ratios (E/E') between the early diastolic inflow velocity by pulsed Doppler (E) and the early diastolic annular velocity by DTI (E') were obtained.

No significant differences all the echocardiographic parameters were observed between the two groups (p>0.05; Table).

In conclusion, echocardiographic parameters did not differ by heart failure etiology in the advanced heart failure.

Table

	Ischemic cardiomyopathy	Dilated cardiomyopathy	P
Age(year)	68±7	65±13	NS
LVEF (%)	25±5	23,4±6	NS
PAPmax (mmHg)	48±13	49±10	NS
Mitral E	0,82±0,21	0,96±0,2	NS
Mitral A	0,56±0,23	0,59±0,25	NS
Mitral E/A	1,76±0,77	1,83±0,7	NS
Tissue mitral E	6,01±1,68	6,37±1,74	NS
Tissue mitral A	7,4±2,3	6,5±1,7	NS
Tissue mitral S	6,5±1,3	6,05±0,95	NS
Mitral E/E'	14,9±6	15,7±4,3	NS
Tissue MPI	90±13	92±16	NS
IVRT	83,8±17,4	80,8±17,8	NS

OP-092 ISOVOLVUMIC ACCELERATION TIME IS IMPAIRED IN DIFFUSE TYPE SYSTEMIC SCLEROSIS

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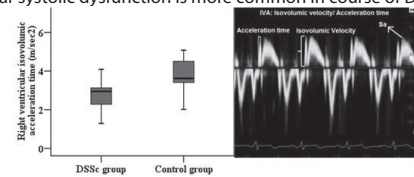
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OBJECTIVE: Tissue Doppler-derived index of myocardial acceleration during isovolumic contraction (IVA) has been shown to be a reliable and relatively load-independent measure of RV systolic function. The aim of the study was to investigate right ventricular function and IVA in patients with diffuse type systemic sclerosis (DSSc).

METHODS: A total of 15 patients with DSSc were enrolled. All patients were underwent clinical examination, serological tests, HRCT of thorax. Standart two-dimensional and Doppler echocardiography was performed. Additionally, tricuspid anular plane systolic excursion (TAPSE) and Tissue Doppler Imaging (TDI) derived systolic velocities of the tricuspid annulus (IVA, peak myocardial velocity during isovolumic contraction - IVV, peak systolic velocity during ejection period-Sa) were recorded. The results were compared with results of 15 age and sex matched healthy controls.

RESULTS: Age (46.9±13.8 vs 49.8±12.4), gender (M/F= 2/13 vs M/F=3/13), left ventricular ejection fraction (64.2±4.3% vs 65.3±4.2%), systolic pulmonary artery pressure (SPAP= 22.4±9.1 vs 21.3±7.9), TAPSE (20.6±4.1 vs 19.6±2.6, p=0.414), IVV (0.19±0.06 vs 0.21±0.04, p=0.345) were similar in both DSSc and control groups, respectively. In DSSc group; Sa (0.18±0.04 vs 0.23±0.05, p=0.04) and IVA (2.75±1.03 vs 3.91±1.11, p=0.001) were significantly lower than control group.

CONCLUSIONS: DSSc was associated with lower right ventricular IVA and Sa which supports that right ventricular systolic dysfunction is more common in course of DSSc



OP-093 LEFT VENTRICULAR DIASTOLIC DYSFUNCTION DETERMINED BY TISSUE DOPPLER ECHOCARDIOGRAPHY IN PATIENTS WITH CIRRHOSIS

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BACKGROUND: Tissue Doppler echocardiography has been introduced as a useful tool to assess diastolic myocardial function. Liver cirrhosis is associated with several structural and functional cardiovascular abnormalities. In this study we sought to compare patients with cirrhosis and control subjects with regard to tissue Doppler parameters.

METHODS: Forty one patients with cirrhosis (mean age 43±8 years, 12 women) without clinical coronary artery disease and twenty seven age- and sex-matched control subjects were studied. Conventional 2-dimensional parameters were recorded for all patients. Tissue Doppler imaging from the septal and lateral mitral annuli was performed from the apical 4-chamber view. Mitral early (E) and late (A) inflow velocities were measured and E/A ratio was calculated by conventional Doppler echocardiography. Em and Am velocities were obtained, Em/Am ratio was calculated from both annular sites and averaged.

RESULTS: Mean systolic and diastolic blood pressures were significantly lower in patients with cirrhosis when compared with the control group (108±11 vs 118±9 mmHg, p=0.001; and 73±11 vs 76±5 mmHg, p<0.001, respectively). There were no significant differences regarding the heart rate and ejection fractions between the groups. Mitral E wave and mitral E/A ratio were not significantly different between the groups. Deceleration time of E velocity and isovolumic relaxation time were not either different between the groups. Em velocity and Em/Am ratio were significantly lower in patients with cirrhosis when compared with the control group (15.6±2.9 cm/s vs. 7.9±2.2 cm/s, p=0.0001; and 1.1±0.2 vs. 1.2±0.2, p=0.01 respectively). E/Em ratio as a means of left ventricular diastolic pressure was higher in patients with cirrhosis as compared with control (5.5±1.4 vs. 4.7±0.8, p=0.01).

CONCLUSION: Diastolic indices of tissue Doppler echocardiography point out some impairment in LV diastolic function in patients with cirrhosis. However this impairment cannot be detected by conventional Doppler possibly due to increased preload in these patients.

OP-094 REVERSE REMODELING AND IMPROVED LEFT VENTRICULAR FUNCTION AFTER REPAIR OF LEFT VENTRICULAR ANEURYSM

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INTRODUCTION: Linear ventriculoplasty(LV) and endoventricular circular patchplasty (Dor procedure)(DP) procedures were performed by the same surgical team in 35 patients with left ventricular aneurysm in two centers. The methods were chosen according to the location, size and extent of aneurysm. The reverse remodeling and change intramyocardial function were assessed by echocardiography one year after the procedure.

METHODS: 35 patients with left ventricular aneurysm among 470 open heart surgery patients were operated in two centers between January 2008 and January 2009. 18 patients had coronary artery bypass surgery (CABG) and LV, 4 patients had CABG, LV and mitral ring implantation(MRI), 1 patient had CABG, LV, MRI, aortic valve replacement(AVR) and supracoronary graft transposition, 9 patients had CABG and DP, 1 patient had CABG, DP and MRI and 1 patient had DP alone. All patients had echocardiographical evaluation prior surgery and at the 6th month follow-up except for one patient who died at postoperative 4th month due to chronic renal insufficiency and respiratory complications. Preoperative and postoperative 6th

month follow up end-diastolic volume(EDV) and diameter(EDD), end-systolic volume(ESV) and diameter(ESD), left ventricular ejection(LVEF) fraction were compared.

RESULTS: 1 patient with CABG and LV (2.86%) died at postoperative 6th month due to non cardiac reasons. LVEF showed improvement after surgery. Decrease EDV,ESV,EDD and ESD were noted. At six months postoperatively, 31 patients out of 34 patients who were preoperatively in New York Heart Association (NYHA) Functional Classes III and IV improved to class II while 3 patients improved to class I.

CONCLUSION: In our experience both LV and DP restore left ventricle volume and geometry. DP significantly reduces left ventricular volume. Unlike LV, left ventricular volume changes seem stable. The ejection fraction is improved, and left ventricular function (stroke volume and the Starling relationship) is maintained. Left ventricle reconstruction, considering the function of residual myocardium, has a significant effect on prognosis.

OP-095 THE ASSESSMENT OF MYOCARDIAL ISCHEMIA BY COMBINATION OF TISSUE SYNCHRONIZATION IMAGING AND DOBUTAMINE STRESS ECHOCARDIOGRAPHY

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OBJECTIVE: Dobutamine stress echocardiography (DSE) frequently used non invasive imaging method for evaluating ischemic coronary events. But subjective assessment limited this technics' spesitivity and sensitivity. The aim of this study was to assessment of myocardial ischemia by combination of tissue synchronization imaging (TSI) and DSE.

METHOD: We included 30 patients in our study who received to our policlinics with chest pain and who took indication for DSE, who could not make exercise because of some reasons (orthopedic problems, prior stroke, obstructive pulmonary disease etc.) In 15 patients DSE founded positive for ischemia accepted group 1 (age: 51.47±8.8 years) and in 15 patients DSE founded negative accepted as group 2 (age: 53.3±8.6 years). Exclusion criterias were determined as decompensated heart failure, acute coronary syndrome, aritmia, uncontrolled hypertension and significant aortic stenosis. Echocardiographic images were taken with ECG and noninvasive blood pressure monitorisation in left side position. Dobutamine infused intravenously with increasing doses as 5, 10, 20, 30 and 40 mcg/kg/min in 3 minute intervals. Color tissue Doppler myocardial imaging records have taken from standart apical images for TSI. From these records we measured at lateral (L), septal (S), anterior (A) and inferior (I) walls' mid (M) and basal (B) segments positive time to peak systolic velocity (Ts). Ts were corrected for heart rate with Bazzet's formula ($Ts_{cor} = Ts / \sqrt{R-R}$). Intra-ventricular dyssynchrony (IVSD) was accepted as the difference between Tscor in the reciprocal segments [anterior-inferior (AI) and lateral-septal (LS)]. All measurements were made at rest and during stress.

RESULTS: There were no differences about demographic features, left vetricular dimensions and functions between groups. In group 1 according to group 2 we reached much more wall motion scores with less dobutamine doses (25.6±11.1 vs. 36.6±6.1, p<0.05) and less maximal heart rates (120.5±27.7 vs. 148.8±6.6, p<0.001). There were significantly differences in whole segments of group 1 and in whole segments without basal segments of group 2 for Tscor measurements at rest and peak stress (p<0.05) (Table 1). There were significant differences in B-LS and M-AI segments of group 1 for IVSD (respectively; 10.8 vs. 7.8; 12.7 vs. 22.6; both of them p<0.05). There were no differences in the group 2 and the other segments of group 1 for IVSD. There were no differences observed in all segments between the groups for IVSD (Table 2).

CONCLUSION: Dobutamine-induced stress did not create any significant difference over the IVSD however it prolonged time to peak systolic velocity at the segmenter level. By this study we showed that tissue synchronisation imaging did not enhance any new quantitative value over dobutamine stress echocardiography for detecting ischemia.

Table 1. Tscor measurements of group 1 and 2 patients at rest and during peak stress

	Group 1	Group 1	Group 2	Group 2
	Rest	Peak stress	Rest	Peak stress
BL (ms)	98.1±19.0	129.4±35.0*	117.1±32.4	146.7±36.4¥
BS (ms)	99.3±14.3	128.6±30.7*	116.8±29.7	147.8±33.3¥
ML (ms)	99.7±16.0	125.3±34.6*	117.7±30.8	141.7±34.4¥
MS (ms)	95.4±11.3	130.6±30.6*	116.3±29.4	144.9±31.2¥
BA (ms)	131.6±29.5	143.9±36.2	129.0±20.9	152.9±26.1¥
BI (ms)	127.6±28.9	141.9±36.5	134.5±31.1	171.9±35.1¥
MA (ms)	128.2±31.7	155.1±41.4*	126.7±28.4	155.8±28.4¥
MI (ms)	126.9±26.4	150.0±41.1*	130.2±29.5	179.3±28.2¥

B; basal, M; mid, L; lateral, S; septum, A; anterior, I; inferior, ms; milisecond, *, rest vs. peak stress difference in group 1, p<0.05, ¥; rest vs. peak stress difference in group 2, p<0.05,

Table 2. IVSD measurements of group 1 and 2 patients

	Group 1	Group 2	P
B-AI (ms)	13.2	14.6	NS
M-AI (ms)	19.0	13.7	NS
B-LS (ms)	4.6	6.9	NS
M-LS (ms)	4.4	3.9	NS

B; bazal, M; mid, L; lateral, S; septum, A; anterior, I; inferior, ms; milisecond, NS; not significant

AORTIC VALVE SURGERY : WHICH OPTION FOR WHOM ?

INT-OP-051 EIGHT - YEARS RESULTS FOR HOMOGRRAFT REPLACEMENT OF THE AORTIC VALVE

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OBJECTIVE: The objective of this study is to assess whether the aortic homograft represents a valuable advantage for aortic valve replacement in aortic valve incompetence.

METHODS: Since 1992 to 1997, 112 patients underwent aortic homograft replacement surgery for aortic valve incompetence. Mean age was 38,34± 16,53 years (14-78 y), 83 men (74,1 %) and 29 women (25,9 %). The cause of aortic valve incompetence was complex infective endocarditis involving the aortic valve and the root in 42 patients (37,5 %), in this group 18 patients had active endocarditis at the time of operation and 24 patients had non active endocarditis; in the others, 56 patients (50 %) had rheumatic disease, dystrophic disease in 9 (8,03 %) and aortic valve bicuspid disease in the last 5 cases (4,46 %); 11 patients (9,82 %) underwent homo-AVR in non-native valve (redux aortic valve replacement). All the patients had severe aortic valve regurgitation (mean 3,46 ± 0,83) and NYHA FC was 3,26 ± 0,74. 13 patients (11,6 %) also presents mitral valve disease with regurgitation (mean 2,07 ± 0,64) that need surgical treatment. The EDLVD was 69.84 + 10.23 mm The procedure was mini-root replacement in 61 patients (54,46 %) and subcoronary reimplantation (free hand technique) in 51 patients (45,53 %).

RESULTS: The mean follow-up is 8 years. Overall hospital mortality was 4 patients (3,57 %). There was 1 late death (0,89 %) but for non cardiac events. There wasn't early reoperation (< 1 months) but 8 late reoperations (7,14 %) whom 1 patient two times. Early postoperative aortic regurgitation by transthoracic echocardiographic control was 0,48 ± 0,16, without homograft failure. There were 11 early complications (9,82 %): 6 patients (5,35 %) had low cardiac output, 4 patients (3,57 %) had pulmonary infection and 1 patient (0,89 %) bleeding. There were homograft late complications correlated in 5 patients (4,46 %): 4 patients (3,57 %) had endocarditis with prosthetic infection, whom 1 operated during active endocarditis, and 1 patient (0,89 %) had homograft dysfunction; the mechanism of homograft failure was leaflet rupture and calcifications. In these five patients aortic valve replacement was performed by 1 homograft, 3 mechanical prostheses and 1 Bentall operation. At 8 years-follow up by transthoracic echocardiographic control, mean peak pressure gradient is 18,33 ± 9,37, homograft regurgitation grade is 1,15 ± 0,8 and EDLVD is 52,76 ± 4,9 mm. Freedom from major cardiac events is 100% and NYHA FC is 0.94 ± 0.49; 3 patients (2,67 %) had TIA.

CONCLUSION: Our work shows good late results for aortic valve replacement with homograft and risk of valve-related death, recurrent endocarditis or others complications is low at long term follow up.

KEYWORDS: Homograft - Aortic Valve

INT-OP-052 AORTIC VALVE REPLACEMENT WITH EJECTION FRACTION OF LEFT VENTRICLE < 0,3: PROBLEMS SOLVED AND UNSOLVED

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OBJECTIVE: To study peculiarities of surgical treatment in patients with aortic valve disease (AVD) with low contractility of left ventricle.

MATERIALS AND METHODS: During 01.01.2000 – 01.08. 2006 yy 1511 pts with isolated pathology of AVD in National Amosov's Institute of Cardiovascular Surgery was operated. 61 (4,0%) of them had ejection fraction (EF) of left ventricle (LV) < 0,3. There were 57 (93,4%), males, 4 (6,6%) females. Patients' age was 21 – 69 years (mean 44,6±5,8 yy). Predominant AVD was aortic stenosis - (n= 49) (group A) in opposite to combined aortic valve disease without prevalance (n=9) (group B) or aortic insufficiency (n=3) (group C). All patient were in IV NYHA class. Left ventricle mass index (g/m²) in group A was 279,4±32,8, in group B - 342,4±46,8 and in group C - 325,4±27,4 (p <0.05). End-systolic index (ESV /S)(ml/sq m) of LV in group A was 82,4±9,8, in group B - 119,4±14,2 and in group C -131,2±14,3 (p<0.05). All operations were performed with moderate hypothermia (27-30° C) and combined ante-retrograde cardioplegia, including 35 patients with addition of perforane of 200-300 ml.

RESULTS: Hospital mortality was 1,6% (n=1/61). There were no correlation between frequency of complications and EF LV, left ventricle mass index, time of anoxia. Increase of EF of LV on 9-11 day after operation was in group A + 39,6%, in group B +11,5% and in group C + 1,1% (p< 0.05). In group A higher increase of EF LV was marked with ESV/S < 98 ml/m² + 51,2%, than with ESV/S > 99 ml/m² + 39,4% (p<0.05). In patients with mass index of LV > 398 g/m² EFLV was increased + 32,9%, than in patients with mass index of LV < 398 g/m² + 57,4% (p<0.05). Only in 2 (3,3%) cases EF LV returned to the normal (0,59 and 0,67) (all in group A).

CONCLUSION: Correction of AVD with EF LV < 0,3 is not accompanied with high risk at the hospital period. Normalization of EF LV is better in group A, than in group B and C, that is why operation in these groups must be performed earlier, when EF LV is not low – in II-III NYHA class.

INT-OP-053 EVOLUTION OF THE ROSS AVR IN 220 PATIENTS AT A SINGLE INSTITUTION OVER 15 YRS.

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The Ross operation offers excellent hemodynamic and clinical outcome in selected patients undergoing aortic valve replacement. We reviewed our institutional experience for over 15 years evolution of technique and results for the root replacement modifications of Ross procedure. From 1993 to 2009; 220 patients have undergone modified Ross procedure with a mean age of 24.2 +/- 15.6 (age ranging from 1 month to 67 years). Actuarial survival was 98% at 15 years. At 15 years, freedom from autograft dysfunction was 91%, freedom from reoperation on autograft was 89%, freedom from autograft replacement was 96% and freedom from RVOT replacement was 95%. This presentation will be including video clips; discussing the evolution of techniques for prevention of complications.

INT-OP-054 RATIONALE FOR EXTENDED USE OF PERICARDIAL PURE STENTLESS AORTIC XENOGRAPTS: EARLY OUTCOME AND MEDIUM-TERM RESULTS AFTER 200 CONSECUTIVE IMPLANTS

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OBJECTIVES: Aim of this study was to investigate the durability and the hemodynamic behaviour of the Sorin Freedom Stentless aortic xenograft at rest and after short exercise.

METHODS: Between March 2003 and November 2008, 200 consecutive, non selected patients received a Sorin Freedom bioprosthesis as an aortic valve substitute at our institution, by a single surgeon. Age ranged between 17 and 89 years (mean: 68,7), with 16% of patients older than 80. ten patients had an acute bacterial endocarditis. Ninety-seven patients received associate procedures. Valve size ranged between 19 and 29, with only less than 9% of patients having an implant smaller than 23. A valve at least two sizes bigger than the calculated value was routinely employed. After accurate trimming in order to reduce the prosthetic extra-tissue, a classic sub-coronary, continuous double line suture implant was performed. Patients were followed for complications and haemodynamics. Eco controls were obtained at discharge and during follow-up, at rest and after a 6-minutes-walking-test. Univariate statistical analysis of the data was carried out with $p < 0,05$ as level of significance.

RESULTS: we had three in-hospital deaths, all for non-valve related causes. Five non cardiac late deaths had occurred. At follow-up (1-64 months), 80% of the survivors were in NYHA class I. Freedom from reoperation, and/or structural valve deterioration or malfunction was 100% at 5 years. The mean pressure gradient of the series, measured at rest by echo, was $10,1 \pm 3,6$ mmHg at discharge, and dropped to $8,6 \pm 4,6$ mmHg at the time of follow-up. After 6-minutes-walking-test, the mean pressure gradient rose to $9,2 \pm 3,6$ mmHg. Indexed mean LV mass regression was 27% at 6 months.

CONCLUSION: Early results of our experience confirmed favourable haemodynamic behaviour and durability of the Sorin Freedom aortic prosthesis and endorsed its routine use as first choice aortic valve substitute. The accuracy of the implant remains a crucial factor for durable and satisfactory performances.

INT-OP-055 AORTIC VALVE REPLACEMENT AFTER PREVIOUS CORONARY ARTERY BYPASS GRAFTING: WITCH TIMING?

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AIM: The aim of this study was to assess operative risks following aortic valve replacement after previous coronary artery bypass grafting and to determinate if some criteria from the first procedure could select patients at risk for redo surgery.

METHOD: Between January 2001 and December 2008, a consecutive series of 48 patients (mean age 73.6 ± 1.7 years) underwent aortic valve replacement after previous coronary artery bypass grafting (mean time interval 7.9 ± 1.1 years, range 4 - 16 years). In 3 malades (6.2 %) the aortic valve surgery was for aortic incompetence and in 45 for aortic stenosis (93.8 %). 29 patients (60.4 %) was in FC NYHA III or IV and 7 (14.6 %) with EF < 40 %.

RESULTS: There was 1 death (2.1 %) in the hospital period. Postoperative complications were: low cardiac output in 5 patients (10.4 %) treated with prolonged inotropic support, 3 TIA (6.2 %), 2 prolonged ventilation > 48 h (4.2 %) and 1 severe renal failure (2.1 %) treated with temporary dialysis. The retrospective echocardiographic study of the first operation time proves a damaged aortic valve and a mean gradient > 10 mmHg in 18 patients (37.5 %); this group underwent aortic valve replacement sooner than the others (5 ± 1.8 years vs 9 ± 2.3 years, $p < 0.05$).

CONCLUSION: We can conclude that, though the mortality and the morbidity in these patients are very low, it's allowed to use more elastic and flexible principles of prophylactic aortic valve replacement at the same time of coronary artery bypass grafting.

KEYWORDS: Redo surgery - Aortic valve replacement - Coronary artery bypass grafting

INT-OP-056 COMBINED MITRAL-AORTIC VALVE DISEASES: RISK-FACTORS OF SURGERY

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OBJECTIVE: To analyze risk-factors in surgery of combined mitral and aortic valve diseases (CMAVD).

MATERIALS: 1297 adult patients (pts) with CMAVD were consecutive operated from 01.01.1981 till 01.01.2006 yy in Institute. Predominant genesis of CMAVD was rheumatism. 31 pts (2,4%) were in II NYHA class, 317 (24,4 %) pts were in III class and 949 (73,2%) pts in IV. The average age was $46,4 \pm 8,1$ (14 - 69) yy. The following procedures were performed: MVAR (n = 903), MVR + plastic procedure on AV (n = 194), AVR + plastic procedure on MV (n = 173), plastic procedure on both valves (n = 27). Previous closed mitral commissurotomy (CMC) was marked in 110 (8,5 %) pts, constrictive pericarditis in 101 (7,8 %), thromboses of LA in 75 (5,8%) pts. Only mechanical valves were used in any position: in the most cases are monodisc, at the last period - bileaflet. Concomitant tricuspid valve disease was corrected by De Vega (plus tricuspid commissurotomy in organic disease) in 258 (19,8%) pts. Preservation of MV's apparatus during MVR was in all cases of mitral incompetence, especially with ESVI >75 ml/m.q.. All operations were performed with CPB, moderate hypothermia (28-32 C), combined ante-retrograde St. Thomas crystalloid cardioplegia.

RESULTS: The hospital mortality (HM) at the last 6 years (2000-2005 yy) was 7,1%. HM was higher for double valve replacement than in cases with plastic procedure on one valve. The

value of HM depends of following main factors: IV NYHA class, small cavity of LV - end-systolic volume index of left ventricle (ESVI) < 15 ml/m.q. (especially for combined MS + AS and using prostheses 29 mm), LV's ejection fraction < 0,35, systolic pressure in pulmonary artery > 90 mm.Hg, massive thromboses of LA (thrombotic masses more than 1/3 of volume), constrictive pericarditis, previous CMC, calcification on both valves + 3, ESVI > 110 ml/m.q. (especially for combined MI +AI), organic tricuspid valve diseases, triple stenoses, cross-clamping time of aorta more than 180 minutes.

CONCLUSION: Preferably to perform correction of CMAVD without complicated forms - in II or III NYHA class with bileaflet mechanical valve. The combination of desribed risk-factors increases value of HM.

INT-OP-057 THE EFFECT OF PREOPERATIVE PULMONARY OEDEMA ON THE HOSPITAL OUTCOME IN PATIENTS REFERRED FOR AORTIC VALVE REPLACEMENT

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INTRODUCTION: Preoperative pulmonary oedema (PPO) is a life threatening event, which can occur in the natural course of aortic valve degeneration. The effect of this event on the 30-day outcome after aortic valve replacement (AVR) is the focus of this investigation.

PATIENTS & METHODS: Retrospective file study of 1000 consecutive patients who underwent AVR with a Carpentier-Edwards valve. 216 patients survived PPO. The median age was 75(71-77) years. In 610, a CABG was also performed. The effect of PPO on the classical complications was investigated with a Fisher-exact test. For which complication PPO was a predictor was tested with a logistic regression.

RESULTS: 1) The complications were thrombo-embolism (n=27), bleeding (n=20), congestive heart failure (n=36), conduction defects (n=101), ventricular arrhythmia (n=37), non-cardiac complications (n=207) and mortality (n=37). More than one complication can occur in a patient. 2) PPO had an effect on postoperative mortality (20/781 v. 16/216; $p=0.002$) and congestive heart failure (21/776 v. 12/215, $p=0.036$). PPO had no effects on other postoperative complications. 3) PPO could not be identified as a predictor for any postoperative complication.

CONCLUSIONS: Patients with aortic valve disease, who survive PPO have an increased risk for postoperative mortality and congestive heart failure after AVR, but only in an univariate analysis. PPO, although not an independent predictor for any complication, might serve as marker for advanced heart disease.

INT-OP-058 IS HOMOGRAFT THE BEST CHOICE IN COMPLEX AORTIC VALVE ENDOCARDITIS? 8-YEARS FOLLOW-UP

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OBJECTIVE: Aim of this study is to evaluate the results at 8 years in aortic endocarditis treatment on native valves and on prosthetic devices with aortic homografts for aortic valve replacement (AVR).

METHODS: 42 patients AVR operated for aortic incompetence (AI). Mean age 41.41 ± 17.94 years, 31 M (73,8%) and 11 F (26,2%); in 32 cases (76,2%) endocarditis were on native aortic valve and in 10 cases (23,8%) was endocarditis on prosthetic valve; in 19 patients (45,3%) the hemoculture at the operation time was positive and pathogen agent was St. Aureus (n.7, 16,6%), Streptococcus (n.3, 7,1%), St. Bovis (n.1, 2,4%), 1 St. Alactoly, 1 Enterococcus, 1 Pneumococcus, 1 Aspergillus, 1 St. Gordonnii, 1 St. Faecalis, 1 St. Epidermidis, 1 Enterococcus faecalis, in 23 cases (54,7%) hemoculture was negative. Mean NYHA functional class was 2.34 ± 0.85 , mean grade of AI was 3.63 ± 0.48 with a mean gradient of 18.37 ± 10.23 mmHg. EF $56.15 \pm 12.7\%$, EDLVD 62.44 ± 8.67 mm, ESLVD 39.41 ± 9.47 mm, Ascending Aorta 36.93 ± 6.91 mm, an associated MI grade 2.07 ± 0.64 , which requested surgical treatment in 11 cases (26,19%); in 13 patients (30,95%) an abscess of aortic annulus was found. Surgical treatment was mini root technique (n.24, 57,14%) and free hand technique in 18 (42,85%); aortic homograft size was 19 mm (n.3, 7,14%), 20 mm in 1 (2,4%), 21 mm in 9 (9,42%), 22 mm in 6 (14,28%), 23 mm in 6 (14,28%), 24 mm in 3 (7,14%), 25 mm in 7 (7,66%), 26 mm in 3 (7,14%) and 27 mm in 3 (7,14%). CEC mean time was 133.83 ± 58.11 min; 105.84 ± 32.79 min the mean cross-clamping time.

RESULTS: Immediate results in operative room were satisfying with residual AI of 0.48 ± 0.16 and no need to convert to AVR with prosthesis. Thirty day long mortality was 7,14 % (3 patients). Six (14,28%) transitory low output syndrome, reverted only with medical treatment; 1 (2,4%) reoperation for bleeding; 4 (9,52%) prolonged respiratory assistance ($12 > h > 24$). First follow-up at 5 years shown an AI grade 1.03 ± 0.64 , mean gradient 15.55 ± 6.42 mmHg, EF $58.5 \pm 8.4\%$, EDLVD 54.94 ± 7.02 mm showing an optimal ventricular remodelling. Eight years follow-up shown an AI grade 0.91 ± 0.48 , mean gradient 18.33 ± 9.37 mmHg, EF $62.8 \pm 7.7\%$, EDLVD 52.76 ± 4.9 mm. Four (9,52%) reoperation for replacement of the aortic homograft: in 3 cases (7,14%) it was due to relapse of endocarditic process and 2 (4,76%) for detachment of homograft at 2.8 ± 2.6 years distance after the first intervention: 1 surgery other 2 times, the first and the second time he received an homograft, the third time a Bentall operation was performed.

CONCLUSIONS: AVR with homograft presents an undoubted advantage in patients affected by infective endocarditis. Aortic homograft is the best choice on native valve and on prostheses, even in patients with an associated pathology mitral valve, in terms of early mortality and long term follow-up at 8 years.

KEYWORDS: Homograft - Aortic valve - Endocarditis

INT-OP-059 IS AGE OVER 80 THE MOST DOMINANT FACTOR FOR 30-DAY ADVERSE EVENTS AFTER AORTIC VALVE REPLACEMENT?

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INTRODUCTION: Patients over 80 with asymptomatic aortic valve disease are increasingly referred for aortic valve replacement (AVR). If, however, high age is the dominant predictor for postoperative 30-day events, postoperative results will worsen.

PATIENTS & METHODS: Retrospective file study of 1000 consecutive patients undergoing AVR with a Carpentier-Edwards pericardial valve. The median age is 75(71-77) years; 186 patients were over 80 years and 610 patients received also CABG. The adverse events are listed in the table. Logistic regression analysis was performed to identify the independent predictors.

CONCLUSION: Need for urgent surgery is by far the most important predictor for mortality and congestive heart failure. Age over 80 is an independent predictor for mortality and postoperative impairment of renal function, but is never the most important factor. Avoiding AVR becoming urgent is the best measure to improve postoperative results, even in the very elderly.

independent predictors for common postoperative complications

postoperative event	number	dominant preoperative predictor	odds ratio (95%CI)	age over 80 odds ratio (95%CI)
mortality	37	urgent AVR	10.4(3.2-33.9)	3.0(1.4-6.5)
congestive heart failure	36	urgent AVR	10.5(3.6-38.6)	not significant
thrombo-embolism	27	left ventricular EF	2.5(1.1-5.7)	not significant
bleeding	20	concomitant CABG	3.6(1.0-12.5)	not significant
ventricular arrhythmia	37	myocardial infarction	2.4(1.1-5.0)	not significant
pulmonary complication	57	pacemaker implant	4.4(1.8-11.2)	not significant
worsening renal function impairment	53	renal function impairment	5.5(2.9-10.4)	2.2(1.2-4.1)

column 1: postoperative event under scrutiny column 2: number column 3: dominant preoperative predictor column 4: odds ratio and 95% confidence interval for dominant predictor column 5: OR and 95%CI for age over 80

INT-OP-060 THE SURGICAL TREATMENT AND EARLY TERM RESULTS IN PROXIMAL AORTIC DISSECTIONS

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OBJECTIVE: The purpose of this study is to present the surgical techniques and early term results of proximal aortic dissections.

MATERIAL AND METHODS: Between 1996 and 2009, 72 patients operated due to proximal aortic dissection by same surgical team were reported. forty-seven of the patients were male, whereas were 25 female, with the mean age of 57.1. The dissection type in 43 patients was Type I, in 29 was Type II. Operations were performed without cross clamp in 67 patient and under cross clamp in 5 patients. In 56 patients were used femoral cannulation, axillary or subclavian cannulation in 16 patients. Supracoronary ascending aortic replacement was made in 56 patients. Compozide graft replacement with Bentall was performed in 16 patients.

RESULTS: Twenty-one patients died in postoperative early term, Five patients died in the first following year. Stroke occurred in 3 patients in postoperative early term. One of these patients was lost in 54 th day. Aortic root replacement was made due to severe aortic regurgitation in one patient who had undergone ascending aortic replacement before 8 months. For the same patient an operation was needed because of pseudoaneurysm originating from coronary buton anastomozis after 4.5 years of the operation.

CONCLUSION: We considered that aortic dissections may be operated with acceptable risk by using deep hypothermic circulatory arrest and cerebral perfusion techniques. Furthermore, if aortic root replacement is needed, flanged composite graft should be preferred, because it has more appropriate effects related to hemostasis and hemodynamic.

INT-OP-061 AORTIC ROOT REPLACEMENT WITH CARBO-SEAL COMPOSITE VALVE GRAFT IN AORTIC PATHOLOGIES

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BACKGROUND: Aortic root replacement with composite valve graft is an accepted therapeutic modality in various aortic pathologies affecting the ascending aorta and the aortic root or valve. The aim of our study was to evaluate our clinical outcomes with the Carbo-seal composite valve graft in patients undergoing the Bentall procedures.

METHODS: Between May 2002 and April 2009, 24 patients (17 M, 7F) underwent aortic root replacement with the Carbo-seal composite conduit (Carbomedics Carbo-Seal® Ascending Aortic Prosthesis, Sorin Biomedica Cardio srl, Saluggia, Italy). The mean age of patients was 52.0±12.7 years (range, 28–69 years).

Fourteen patients (58.3%) had ascending aortic aneurysm, 8(33.3%) acute type A dissection, 1(4.1%) annulo-aortic ectasia occurring after aortic dissection repair, and 1(4.1%) post-stenotic dilatation. In all patients, the right axillary artery was used directly as the arterial inflow site for perfusion and the modified Bentall technique was performed for coronary artery re-

implantation. Concomitant procedures included mitral valve replacement in 2 patients and planned coronary artery bypass grafting in 1 patient.

RESULTS: There were no complications related to the technique of direct axillary cannulation. No patient had a new postoperative stroke. As postoperative complication, one patient had pericardial effusion resolving with medical treatment. The mean follow-up was 26.1±24.5 months (range; 2-75 months). Hospital mortality was 4.1 % (1 patient). Cause of death was multiorgan failure in a patient with complicated acute aortic dissection on postoperative day 15. At postoperative 2 years follow-up, there was no morbidity and mortality in all patients (excluding hospital mortality).

CONCLUSIONS: We conclude that aortic root replacement with the Carbo-Seal composite valve graft may be performed relatively low early morbidity and mortality. This procedure is effective and durable in elective and emergent aortic pathologic situations.

MOLECULAR AND EXPERIMENTAL HORIZONS IN CURRENT CARDIOVASCULAR PRACTICE

OP-096 DERIVATION OF CARDIOMYOCYTES FROM HUMAN EMBRYONIC STEM CELLS

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The heart tissue has a very limited regenerative capacity, and as a result, loss of cardiac cells due to infarction or other diseases often leads to heart failure. Stem cell-based therapies to replace and repair damaged myocardial tissues hold great promise to address this problem. One of the challenges associated with such therapies is the availability of autologous cell sources that engraft efficiently into the existing heart tissue. In addition to adult stem cell populations such as mesenchymal and endothelial progenitor cells, embryonic stem cell (ES) derived cardiac cells are promising sources of cardiac cells. ES cells have the unique capacity of indefinite self-renewal while retaining the ability to differentiate into all cell types of the three embryonic germ layers. Under appropriate culture conditions ES cells can be induced to differentiate into a particular cell type of the adult body. Recent studies have established a number of protocols in which large numbers of cardiomyocytes can be derived from human ES cell cultures in vitro. These protocols involve the use of cytokines and growth factors such as activin A and Bmp4 to direct the differentiation into cardiac lineages. The cardiomyocytes that are derived using these protocols exhibit contractile ability and express cardiac genes such as alpha-actinin and cardiac troponin. When used in xenotransplant models of myocardial infarction, ES-derived cardiomyocytes can form stable grafts and attenuate symptoms of heart failure. However, further studies are needed to evaluate the efficacy of such cells in human disease. In this presentation, we will focus on the latest advances in deriving cardiomyocytes from human ES cells.

OP-097 CELL-SEEDED COLLAGEN SCAFFOLDS FOR CARDIAC TISSUE ENGINEERING

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Heart failure is the leading cause of death in industrialized countries. Myocardial infarction typically results in fibrotic scar formation and permanently impaired cardiac function. Since the myocardial tissue lacks intrinsic regenerative capability, the only therapeutic options available to patients with terminal end-stage heart failure are heart transplantation or left ventricular assist devices (VADs). Tissue engineering is an emerging technology that aims to create, repair and/or replace tissues and organs by using combinations of cells, biomaterials, and/or biologically active molecules. As such, tissue engineering can potentially revolutionize current therapies for irreversible myocardial damage, and significantly improve the quality of life for patients. The most challenging aspect of cardiovascular tissue engineering is the creation of an engineered heart muscle, which unlike heart valves or blood vessels has no replacement alternatives. Recent advances in methods of stem cell isolation and differentiation has shown that cardiac cells can be generated in vitro. Therefore, stem cells are a potential source of heart muscle cells that can be used to rebuild the damaged tissues. Cell-based therapies can be subdivided into two principally different approaches: 1) Implantation of isolated cells, 2) Implantation of in vitro engineered tissue constructs. In the second and more promising approach, scaffold materials such as gelatin, collagen, alginate, or synthetic polymers and cardiac cells are utilized to reconstitute tissue-like constructs in vitro. Ideally, these constructs display properties of native myocardium such as coherent contractions, low diastolic tension, and syncytial propagation of action potentials. To be applicable for surgical repair of diseased myocardium the constructs should have the propensity to integrate and remain contractile in vivo. In addition, successful application of tissue engineering in humans will depend on the utilization of an autologous or nonimmunogenic cell source and scaffold material to avoid life long immunosuppression. I will discuss such materials and cell sources for cardiac tissue engineering.

OP-098 DEMONSTRATION OF CHLAMYDIA PNEUMONIAE, MYCOPLASMA PNEUMONIAE, CYTOMEGALOVIRUS, AND EPSTEIN-BARR VIRUS IN ATHEROSCLEROTIC CORONARY ARTERIES, IN NONRHEUMATIC CALCIFIC AORTIC VALVES AND IN RHEUMATIC STENOTIC MITRAL VALVES BY POLYMERASE CHAIN REACTION

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OBJECTIVE: The aim of the present study was to investigate whether infectious agents such as Chlamydia pneumoniae, Mycoplasma pneumoniae, Cytomegalovirus (CMV), and Epstein-Barr virus (EBV), can be demonstrated in atherosclerotic lesions of patients with coronary artery disease (CAD) as well as in stenotic aortic and mitral valves from patients undergoing heart valve replacement.

METHODS: The presence of C. pneumoniae, M. pneumoniae, CMV, and EBV was investigated by PCR in atherosclerotic and non-atherosclerotic vascular samples taken from patients undergoing coronary artery bypass surgery due to CAD, and from patients undergoing aortic (AVR) and/or mitral valve replacement (MVR) secondary to valvular stenosis.

RESULTS: The presence of C. pneumoniae, M. pneumoniae, and CMV in atherosclerotic versus non-atherosclerotic samples was as follows: 30% vs 16.7%, 6.7% vs 3.3%, and 10% vs 0%, respectively. In valve group, same pathogens were present in AVR and MVR patients as follows: 24.2% vs 21.4%, 9.1% vs 7.1%, and 21.2% vs 11.9%. EBV DNA was not detected in any of vascular specimens, but in one (3%) patient with AVR.

CONCLUSION: Our results suggest that C. pneumoniae, M. pneumoniae, and CMV are present with similar frequency both in atherosclerotic and non-atherosclerotic vessels. We conclude that although non-atherosclerotic, vascular samples of CAD patients are invaded by infectious agents as like as atherosclerotic vessels. We further conclude that C. pneumoniae, M. pneumoniae, and CMV are present in stenotic aortic and mitral valves and atherosclerotic tissues with similar frequency indicating that atherosclerosis and valvular stenosis might share a common etiology related to infection.

OP-099 INHIBITION OF INTIMAL HYPERPLASIA AND SMOOTH MUSCLE CELL PROLIFERATION AT THE ANASTOMOSIS SITE BY PENTOXIFYLLINE IN RABBIT CAROTID ARTERY

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OBJECTIVE: Intimal hyperplasia and smooth muscle cell proliferation play an important role on the restenosis after the vascular interventions. Reconstruction is one of the most common intervention in the management of the obstructing artery diseases. Recently, the success of these kind of interventions are under expectations because of spontaneous thrombosis or restenosis. After vascular reconstructive interventions unlikely the acute obstruction in which acute thrombosis is important at the late stage intimal hyperplasia caused by smooth muscle cell migration, proliferation and extracellular matrix deposition play an important role in narrowing or restenosis. Hyperplastic intimal thickening is not only an adaptive progress against the hemodynamic stress but also a characteristic of arterial injury healing. We assess the effect of pentoxifylline on intimal hyperplasia and smooth muscle cell proliferation at anastomosis performed in rabbit carotid artery.

MATERIALS AND METHOD: In this study we planned to use 18 randomized New Zealand male rabbit weights 2 to 3 kilograms. Rabbits were separated to 3 groups. Group 1 rabbits (6) assigned as control group. Their right carotid artery transected and an anastomosis was sutured one by one using 8/0 polypropylene. No medication was given to this group. A vertical neck incision was made in an appropriate position to group 2 rabbits and carotid artery was dissected. The same artery transected and using 8/0 polypropylene an anastomosis was performed with by one by technique. Pentoxifylline was administered to this group 100 mgr/kg/day per subcutaneous during 7 days. A vertical neck incision was made in an appropriate position to group 3 rabbits and carotid artery dissected. The same artery transected and using 8/0 polypropylene an anastomosis was performed with by one by technique. Pentoxifylline was administered to this group 100 mgr/kg/day per subcutaneous during 21 days. At the end of the day 28 the anastomosis performed carotid artery segments and the contralateral carotid artery of all rabbits were sent to histology laboratory to analyze. The preparations were examined under light microscope. Images were analyzed via digital image analyze program and lumen diameter, lumen area, intima-media area ratio were estimated and results were evaluated. Serial cross-sections taken from paraffin tissues were photographed and transferred to computer environment. Intima and media thicknesses were measured and the sections were three dimensioned via Reconstart 1.1.0.0 program.

FINDINGS: In the serial sections the average lumen diameter of group 3 was found higher than the group 1 and group 2 and this difference was statically significant between group 1 and group 3 but not between group 2 and group 3. The lumen diameter of group 2 was higher than group 1 and the difference was significant. The lumen area of group 3 was found higher than the group 1 and group 2 and this difference was significant between group 1 and group 3 but not between group 2 and group 3. The lumen area of group 2 was higher than group 1 and the difference was significant. When the section series were evaluated for intimal thickness, thickness of group 3 was lesser than group 1 and group 2 and the difference was statically significant between group 1 and group 3 but not between group 2 and group 3. The intimal thickness of group 2 was lesser than group 1 and the difference was statically significant. The evaluation of intima /media ratio showed that it was higher in group 1 compared with group 2 and group 3 and the difference was significant. Despite the higher intima/media ratio of group 2 against group 3 the difference was not statistical significant. There was no significance in the control groups in terms of lumen diameter, lumen area and intima-media ratio values.

CONCLUSION: Pentoxifylline may be a beneficial agent for preventing intimal hyperplasia and smooth muscle cell proliferation after the vascular surgery.

KEY WORDS: Pentoxifylline, intimal hyperplasia, smooth muscle cell proliferation, anastomosis, rabbit.

OP-100 COMPARISON OF EFFICACY OF BENCYCLANE HYDROGEN FUMARATE, PENTOXIFYLLINE AND CILOSTAZOL IN THE PREVENTION OF TARGET ORGAN ISCHEMIA REPERFUSION INJURY DEVELOPING AFTER ACUTE OCCLUSION OF PERIPHERAL VESSEL

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OBJECTIVE: In this study, we aimed to investigate the effects of bencyclane hydrogen fumarate,

pentoxifylline and cilostazol on antioxidant and oxidant systems after ischemia reperfusion injury.

METHODS: Twenty eight wistar rats, 300 grams average, were incorporated to this study. Rats were divided in to four groups. Group 1: control (n: 7), Group 2: ischemia-reperfusion bencyclane hydrogen fumarate(n:7), Group 3: ischemia-reperfusion, pentoxifylline(n:7) and Group 4: ischemia-reperfusion, cilostazol (n: 7). In the course of 4 weeks, drugs were admitted via an orogastric tube, twice a day. 4 hour ischemia than 2 hour reperfusion was performed at the end of fourth week. Rats were sacrificed by using high dose ketamine at the end of the reperfusion time. Intracardiac blood and low extremity soleus muscle biopsy was taken for the biochemical and histopathological investigation. Myeloperoxidase (MPO), malondialdehyde (MDA), superoxide dismutase (SOD), catalase, Na/K ATPase, glutathione reductase activity, nitrite/nitrate measurements were made from tissue and blood sample. Muscle biopsies were viewed with electron microscope.

FINDINGS: MDA, MPO, Nitrite/Nitrate levels were found similar and no significant difference between all groups at tissue and blood sample. SOD, catalase, and glutathione reductase activity were higher in pentoxifylline and cilostazol groups. Histopathological findings were similar in all groups.

RESULTS: Among these medicines, no significant difference was obtained on oxidant system; however pentoxifylline and cilostazol were seemed to be more effective on antioxidant system. Histologically, similar findings were observed with electron microscope among these groups.

Series	Mean	SD
Serum MDA	0.271	0.041
Tissue MDA	0.341	0.041
Serum MPO	0.240	0.041
Tissue MPO	0.007	0.011
Serum SOD	0.115	0.011
Tissue SOD	0.114	0.011
Serum Nitrite	0.019	0.011
Tissue Nitrite	0.091	0.011
Serum Catalase	0.017	0.011
Tissue Catalase	0.004	0.011
Serum SOD	0.002	0.011
Serum Creatinin	0.012	0.011
Na/K ATPase	0.000	0.011

Table1: One-Way ANOVA test was used for describing differences among groups for each parameter (p value less than 0.05 was accepted as significant)

	Serum Catalase	Tissue Catalase	Serum SOD	Serum Creatinin	Na/K ATPase
G1&G2	0,009	0,004	0,023	0,007	0,002
G1&G4	0,002	0,002	0,001	0,009	0,001
G2&G3		0,006		0,032	0,012
G2&G4		0,004	0,015	0,019	0,007

Table2: Groups were compared with Tukey HSD Post Hoc Test to describe which groups have differences (p value less than 0.05 was accepted as significant). Parameters showed significant higher activity in G3 (Pentoxifylline) and G4 (Cilostazol) according the other groups: G1: Group1, G2:Group2, G3:Group3, G4:Group4,SOD:superoxide-dismutase.

Table1

Table2

OP-101 COMPARISON OF THE VASORELAXANT EFFECTS OF NITROGLYCERIN, DILTIAZEM, PAPAVERIN AND ILOPROST IN THE RAT THORACIC AORTA IN VITRO

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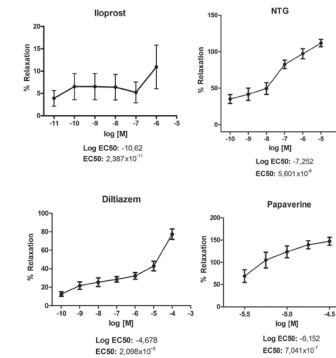
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AIM: This study was designed to compare the vasodilator effects of nitroglycerin, diltiazem, papaverin and iloprost in the rat thoracic aorta in vitro.

METHOD: Rat thoracic aortic rings were mounted in an organ bath. After the tissues has reached their baseline tension, precontraction was induced by phenylephrine and relaxation-cumulative concentration was measured by the application of iloprost (10⁻¹¹-10⁻⁶ M), papaverin (10⁻²-10⁻⁴ M), diltiazem (10⁻¹⁰-10⁻⁴ M), nitroglycerin (10⁻¹⁰-10⁻⁵ M). The statistical analysis was done with Graph Pad Pirism 4.0 program. The differences between groups were compared by calculating EC50.

RESULTS: According to relaxation-cumulative dose curves papaverin produced the greatest maximal relaxation to phenylephrine induced contraction of rat thoracic aorta. Papaverin and nitroglycerin produced full relaxation, diltiazem produced almost full relaxation. The relaxation-cumulative dose curve of iloprost was biphasic. We calculated the potency of each agent with EC50 values. The potency of nitroglycerin (EC50=5,601x10⁻⁸) was higher than those of papaverin (EC50=7,041x10⁻⁷) and diltiazem (EC50=2,098x10⁻⁵). Iloprost was inefficient in maximal inhibition on phenylephrine induced contraction in rat aortic segments. The order of vasodilator potency to inhibit phenylephrine-induced contraction was as follows: nitroglycerin> papaverin > diltiazem.

CONCLUSION: In rat thoracic aorta nitroglycerin was found to be the most potent vasodilator agent. Papaverin and diltiazem also had comparable vasorelaxant effects with nitroglycerin. But iloprost had little vasorelaxant effect to phenylephrine induced vasoconstriction.



OP-102 RESULTS OF ETHYL PYRUVATE APPLICATION IN AN EXPERIMENTAL ISCHEMIA REPERFUSION MODEL

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Ischemia reperfusion (IR) which occurs after aortic clamping and declamping following anastomosis during aortic surgery may cause local and also remote organ injury. Lung is the most effected one of those remote organs. Lung injury is an important cause of postoperative morbidity and mortality following aortic surgery. Ethyl pyruvate is mentioned as an antioxidant and anti-inflammatory in experimental studies for clinical searches in recent years. In the present study 32 Sprague Dawley, 200- 250g were divided into four groups. The first group was sham group, the second group was sham group given ethyl pyruvate, the third group was IR group not given ethyl pyruvate and the fourth group was IR group given ethyl pyruvate. The IR groups were treated 3 hours of ischemia 2 hours of reperfusion period. At the end of the fifth hour the rats in all groups were bled from abdominal aorta, sacrificed and Malondialdehid (MDA) and Myeloperoksidaz (MPO) levels were determined in blood and lung tissue samples. Histological injury scoring of lung tissue were performed. When MDA and MPO levels of tissue and plasma were compared the protective effect of ethyl pyruvate were seen against IR induced lung injury. Comparison of histological injury scoring showed that ethyl pyruvate had protective effect in IR induced lung injury. In conclusion, this study supports the idea of ethyl pyruvate has a protective effect in IR induced lung injury. For the clinical use of ethyl pyruvate the protective effects of different doses of ethyl pyruvate, various ischemia and reperfusion periods, remote organs including lung, kidney, liver, heart injury advanced experimental and clinical studies may be suggested.

Table 1:

	Grup 1	Grup 2	Grup 3	Grup 4
Grup 1	1.0	1.0	0.137	1.0
Grup 2	1.0		0.415	1.0
Grup 3	1.137	0.415		0.016*
Grup 4	1.0	1.0	0.016*	

Lung MDA values (*p< 0,05)

Table 2:

	Grup 1	Grup 2	Grup 3	Grup 4
Grup 1		1.0	0.052	1.0
Grup 2	1.0		0.053	1.0
Grup 3	0.052	0.053		0.039*
Grup 4	1.0	1.0	0.039*	

Plasma MDA values (*p< 0,05)

NEW NON-INVASIVE IMAGING MODALITIES IN THE EVALUATION OF ATHEROSCLEROTIC VASCULAR DISEASES

OP-103 ASSESSMENT OF CAROTID ARTERY COMPLIANCE IN OBESE TURKISH CHILDREN

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OBJECTIVES: Carotid artery compliance CAC measures the ability of the arteries to expand as the response to pulse pressure. We examined the relations of CAC and known cardiovascular risk factors in a group of obese children compared with non-obese individuals.

METHODS: This prospective study consists of 77 obese children (mean age of 10.99±2.48 years) and 40 non-obese peers (mean age of 10.17±2.76 years). All patient were examined in the morning after an overnight fast and venous blood samples were taken to measure total cholesterol (TC), triglycerides(TG), LDL/HDL cholesterol, glucose and insulin levels. Height, weight, waist, blood pressure (BP), and hip circumferences were determined for all participants. After the patient had rested for about 10 min, carotid artery diameter and carotid artery intima-media thickness (cIMT) were measured in the 2 cm proximal of the common carotid artery bifurcation by B-mode echocardiography. Carotid artery compliance calculated with carotid artery systolic/diastolic diameters and systolic /diastolic blood pressure.

FINDINGS: We found highly significant differences for CAC and cIMT between obese and control groups. Carotid artery compliance was significantly lower (1.888±0.798 %/10mmHg) in obese patients than in controls (3.743±1.526 %/10mmHg). The Pearson correlation matrix shows a significant negative correlation between CAC and cIMT, body mass index (BMI), hip circumferences, systolic blood pressure. Additionally carotid artery diastolic diameter was found significantly higher in obese groups (5.935±1.33mm) than in controls (5.643±0.33mm)

RESULTS: In our study, we also found a significant decreased CAC which was correlated with increased cIMT and other conventional cardiovascular risk factors. It can be assumed that greater cIMT and lower CAC indicative of increased risk of subclinical early atherosclerotic changes in childhood obesity.

OP-104 PREVALENCE OF INCIDENTAL PULMONARY FINDINGS IN PATIENTS UNDERGOING DUAL SOURCE 64 SLICE COMPUTED TOMOGRAPHY CORONARY ANGIOGRAPHY;EARLY FOLLOW UP RESULTS

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BACKGROUND: Coronary multislice computed tomography (MSCT) angiography is an important evolving method for the non-invasive detection of coronary artery disease (CAD). Besides coronary anatomy and atherosclerosis, coronary MSCT also gives important information about the extracardiac structures involved in the scan. The purpose of this study is to evaluate the incidence of pulmonary abnormalities in subjects undergoing MSCT coronary angiography for the assessment of CAD and documentation of early follow up results of significant findings.

METHODS: Between January 2007 and August 2008, 1206 consecutive patients including 701 males (58,1%) with a mean age of 58,75±11,4 years were involved in the study. All subjects underwent coronary MSCT imaging using dual-source MSCT scanner (Somatom Definition, Siemens, Erlangen, Germany). Pulmonary abnormalities were reported as nodules, pulmonary mass, emphysema, bullae, atelectasis, bronchiectasia, pleural effusion, pulmonary fibrosis and other findings. Pulmonary findings having clinical significance were investigated immediately. All images were interpreted immediately after scanning by two experienced radiology practitioners.

RESULTS: Among 1206 patients, a total of 186 pulmonary abnormalities were detected in 171 (14.1%) patients. Of those, 90 (48.4%) were pulmonary nodules, 30 (16.1%) were emphysema, 13 (7.1%) were atelectasia, 11 (5.9%) were pleural effusion, 10 (5.3%) were bullae, 7 (3.7%) were bronchiectasia, 4 (2.2%) were pulmonary fibrosis, 3 (1.7%) were pulmonary mass, 2 (1.0%) were bronchogenic cyst, and 16 (8.6%) were other findings as ground glass appearance or pleural calcification. The prevalence of incidental pulmonary nodules and masses were significantly higher in patients > 50 years. In our cohort, we reported 3 cases of lung cancer and 1 case of breast cancer, diagnosed after coronary MSCT. Early follow up results revealed stable pulmonary findings.

CONCLUSIONS: The presence of incidental pulmonary findings is frequent in patients evaluated with coronary MSCT. Although only a minor portion of those findings are clinically significant necessitating additional workup and most of them are stable in the early follow up, coronary MSCT can give important clues including diseases regarding extracardiac structures, especially pulmonary system. So, it is essential for the reporting practitioner to review the entire MSCT scan for pathologies other than coronary atherosclerosis.

Significant pulmonary findings	Number of findings	Number of follow up	Intervention	Number of further investigations and follow up	Remaining specific therapy
Pulmonary nodule - 34	34	11	Follow up with Breast CT	Stable at nodules 14, Cavities 0	0
Mass					
Pulmonary nodule - 44	44	25	Follow up with Breast CT	1 radiologic Acid secretion, Observed stable	0
Mass					
Pulmonary nodule - 12	12	11	Follow up with Breast CT, biopsy in one case	1 adenocarcinoma, Observed stable at average 4 months	1
Mass					
Pulmonary mass - 3	3	3	Biopsy in all cases	2 adenocarcinoma, 1 hamartoma	2
Labeled as lymphomatous	3	3	Biopsy in all cases	1 lymphomatous, 2 benign	0

Summary and follow up results of significant pulmonary findings detected at MSCT coronary angiography and evaluated with thorax CT

OP-105 THE ROLE OF CONTRAST-ENHANCED DUAL SOURCE 64-SLICE COMPUTED TOMOGRAPHY IN DETECTION OF ANOMALOUS CORONARY ARTERIES; A SINGLE CENTER EXPERIENCE

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BACKGROUND: Besides invasive coronary angiography, congenital coronary artery anomalies can be detected by multislice row computed tomography (MSCT) with a high accuracy. The purpose of this study is to evaluate the incidence of coronary artery anomalies in subjects undergoing MSCT coronary angiography for the assessment of coronary artery disease (CAD).

METHOD: Between March 2007 and June 2008, 906 consecutive patients including 534 males (58,9%) with a mean age of 58,75±11,5 years were involved in the study. All subjects underwent coronary MSCT imaging using dual-source MSCT scanner (Somatom Definition, Siemens, Erlangen, Germany). The coronary angiographic scan was obtained with injection of 80 mL of non-ionic contrast medium (350 mg I/mL iomeprol, Bracco Omnipaque) at a flow rate of 6 mL/s. The scan parameters were detector collimation, 32 × 0.6 mm; slice acquisition, 64 × 0.6 mm; gantry rotation time, 330 milliseconds; temporal resolution, 83 milliseconds; pitch, 0.2–0.47 adapted to the heart rate; tube current, 390 mAs per rotation; tube potential, 120 kV. Scanning time was approximately 5.7–8.4 seconds, depending on the cardiac dimensions and pitch, in a single breathhold in the craniocaudal direction. Prospective ECG tube-current modulation (ECG pulsing) for radiation dose reduction was used for all patients. Retrospective gating technique was used to synchronize data reconstruction with the ECG signal.

RESULTS: Among 906 patients, totally 25 (2.7 %) coronary artery anomalies were detected. Of those, 16 (64%) were myocardial bridging, 3 (12%) were high takeoff left main coronary artery (LMCA), 2 (8%) were absent LMCA, 2 (8%) were coronary fistula, 1 (4%) was atresia of right coronary artery (RCA), 1 (4%) was right sided origin of circumflex artery (Cx).

CONCLUSION: The present study demonstrates that MDCT is a reliable and useful noninvasive technique to identify and define anomalous coronary arteries and their course.

OP-106 THE RISK FACTORS AND EVALUATION OF THE CORONARY ARTERY CALCIFIC SCORING IN PATIENTS WITH END-STAGE RENAL DISEASE PATIENTS

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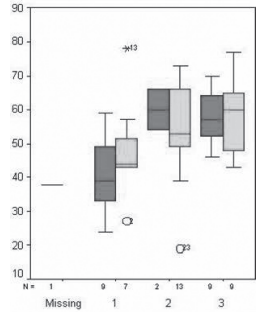
BACKGROUND: Cardiovascular morbidity, mortality due to accelerated atherosclerotic proces-

ses are highly important in end-stage renal disease (ESRD) patients. The multidetector computed tomography angiography (MDCTA) is used as a noninvasive method for assessing coronary artery disease. The objective of our study was to investigate the value of a vascular calcification scoring and risk stratification in patients with ESRD, and was to compare between the interventional angiography and the CAC scoring.

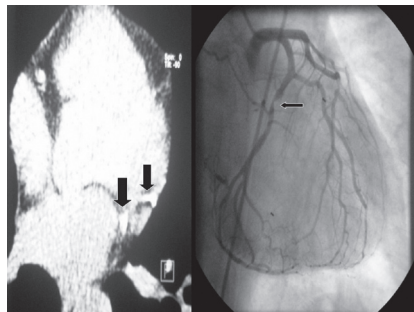
METHOD: A total of 50 patients were included in this study. Lipid profile, Calcium and phosphorus levels, Homocysteine levels, Ages, Presence of diabetes mellitus (DM) were recorded as risk factors. Conventional angiography was performed in the 13 subjects.

RESULTS: CAC scoring was recorded between 0 to 25% of percentile (Group I) 50 to 75% of percentile (group II), 75 to 95% of percentile (group III). totally 13 cases (in the second and the third group of cases) required conventional angiography in the clinical follow-up. Severe or localised coronary atherosclerotic plaque, which was correlated the findings of 16 channel MDCT, was recorded by the conventional angiography in these cases. In the same groups, the level of blood urea nitrogen, calcium and phosphorus levels were high than the first group. Diabetes and the older age was found the most common cause of coronary artery disease as a risk factor in these cases.

CONCLUSION: The study findings shows that MDCT may be used for detection of coronary artery disease especially in ESRD cases associated with the described risk factors. On the other hand, the defined risk factors may be highly predictive for future cardiac events in ESRD patients. In comparison with angiography, we found a high sensitivity to detect coronary artery segments containing atherosclerotic plaque in patients with or without significant coronary artery stenoses.



CAC scoring relationship between the age and the gender.



MDCT and conventional coronary angiographic findings in same patient.

OP-107 EVALUATING THE ENDOTHELIAL FUNCTIONS OF THE HYPERCHOLESTEROLEMIC PATIENTS WITH TC-99M SESTAMIBI MYOCARDIAL PERFUSION IMAGING: A NOVEL METHOD FOR ENDOTHELIAL FUNCTION ASSESSMENT

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BACKGROUND: It is well known that cardiovascular risk factors impair endothelial functions, which start disease process even before the occurrence of the clinical disease. In this study, endothelial functions of patients with hypercholesterolemia were assessed with forearm flow mediated vasodilation method by using Tc-99m.

MATERIAL-METHODS: The patients enrolled in the study were sampled from the cohort of patients referred to routine MPS imaging. 45 patients (Group 1) with having only hypercholesterolemia as a risk factor and 45 age matched patient (Group 2) with no identifiable risk factors were included in the study. Hypercholesterolemia was defined as a LDL-cholesterol level >130 mg/dl. There were no significant differences between baseline demographic parameters of the two groups. Forearm flow mediated vasodilatation method by using Tc-99m sestamibi was performed to assess endothelial functions of the patients.

A sphygmomanometer cuff was placed around the left arm and inflated to supra systolic pressure for 4.5 min to induce forearm ischemia by interrupting arterial blood supply. Then, Tc-99m was injected into the dorsal pedal veins of the patients and dynamic acquisition (2s per frame/min) was initiated simultaneously under camera (Figure 1). Equivalent regions of interest (ROIs) were drawn in approximately similar locations on both arms in order to detect total activity counts during 1 min and calculated the left arm/right arm perfusion ratio.

RESULTS: The mean perfusion ratio of the hypercholesterolemic patients (group 1) was significantly lower than the normal group (group 2) (2.01±0.38 vs. 2.49±0.57 respectively, p= 0.026).

CONCLUSION: Tc99m sestamibi SPECT seems to be a promising method for assessing the endothelial functions of the patients with hypercholesterolemia. Hypercholesterolemia is a well defined independent cardiovascular risk factor which impairs the endothelial functions even before the occurrence of clinical disease. Evaluating the endothelial functions with the forearm blood flow using Tc 99m sestamibi is a reproducible method that can be performed as a part of routine myocardial SPECT imaging without an additional cost. With this technique patients without a clinical manifest disease can be diagnosed on the basis of their risk profile.

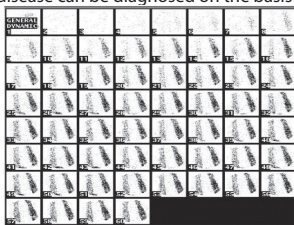


Figure: Sequential 1-s dynamic images after release of the tourniquet and IV injection of 20

mCi technetium-99m methoxy-isobutyl isonitrit demonstrate

OP-108 ASSOCIATION OF THORACIC AORTA ATHEROSCLEROSIS TO THE CARDIOVASCULAR RISK FACTORS AND CORONARY ATHEROSCLEROSIS DETECTED BY MULTIDETECTOR COMPUTED TOMOGRAPHY CORONARY ANGIOGRAPHY

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BACKGROUND: The association of thoracic atherosclerosis with traditional cardiovascular risk factors and coronary artery disease (CAD) had been established in several studies. In this study, our aim is to investigate the relationship between ascending aortic atherosclerosis and CAD detected by dual source MDCT; a method that can give valuable information about the atherosclerosis at the vessel wall due to high temporal and spatial resolution properties.

METHODS: This analysis was performed in a retrospective subset of patients admitted to our Cardiology Department for cardiovascular evaluation between December 2007 and April 2008. All images were interpreted immediately after scanning by an experienced radiology practitioner who was blinded to the study. Coronary atherosclerotic lesions were classified as coronary plaques in case of lesions causing ≤50% luminal narrowing and significant coronary stenotic lesions were defined as lesions causing >50% luminal narrowing. Descending thoracic aorta was divided into three equal segments of proximal, mid and distal portions, beginning from arcus aorta and ending at diaphragmatic junction. The atherosclerotic plaque was scored from 0 to 4 points by the percentage of the luminal surface involved by a plaque: 0 (no plaque), 1 (< 25%), 2 (26% to 50%), 3 (51% to 75%), and 4 points (>75%) in each segment. The extent of atherosclerosis was calculated from the sum of plaque scores in those 3 segments.

RESULTS: A total of 122 patients were enrolled in the study who admitted to our cardiology department and underwent computed tomography coronary angiography (CTCA). Among them, 89 subjects were male (73%) and age (mean ± standard deviation) was 58.7 ± 7.2. Among 122 patients, coronary atherosclerosis was detected in 118 (96.7%) and aortic plaque, in 119 (97.5%) patients. Critical coronary atherosclerosis detected by MDCT was found in 75 (61.4%) of the patients. Plaque score in the proximal, middle or distal portion of descending aorta is associated with critical coronary atherosclerosis detected by CTCA (p<0.05). Multivariate logistic regression analysis revealed that male gender, dyslipidemia and descending aorta plaque score were independent factors associated with critical coronary atherosclerosis (odds ratio (OR), 2.937; 95% confidence interval (CI), 1.062-8.125; p<0.05, OR, 4.489; CI, 1.756-11.473; p<0.05, OR, 1.320; CI, 1.011-1.726; p<0.05 respectively).

CONCLUSION: In the present study, an association between the severity of coronary atherosclerosis and descending aorta atherosclerosis was found independent of other cardiovascular risk factors. Having the potential role of coronary MDCT as an evolving method for the evaluation of CAD due to good sensitivity, specificity, and very high negative predictive value, additional information regarding the atherosclerotic process involving arterial vascular system other than coronary vessels should make important contribution to the diagnostic accuracy of this non-invasive method.

OP-109 EVALUATION OF LIMA-LAD PATENCY BY USING COLOUR DOPPLER ULTRASONOGRAPHY; A NON-INVASIVE METHOD.

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FFR (Fractional Flow Reserve) is a measure used to determine the functional significance of stenotic coronary arteries and is important for patients who have borderline coronary stenosis; to decide whether a PCI or a CABG should be performed. This was a retrospective study of 11 patients with borderline coronary stenoses operated on between Sept 2005 and July 2007 whose decision for surgery were made according to the results of FFR. Colour Doppler Ultrasonography (USG) was performed for these patients. Results were the same for both Coronary Angiographies (CAG) and colour doppler Ultrasonographies (USG), revealing that 5 patients had flow of the LIMA whilst 6 did not.

MATERIALS AND METHODS: In order to evaluate LIMA flow, Coronary Angiography (CAG) and Colour Doppler Ultrasonography (USG) was performed on 11 patients, having borderline coronary stenoses who had been operated on between September 2005 – July 2007, according to the results of FFR. Their involvement in this study was subject to them meeting the inclusion criteria.

Inclusion criteria were;

- Patients having 50%-60% stenosis of LAD, requiring a FFR to justify the necessity for a CABG,
- Patients who underwent a LIMA-LAD bypass under CPB,

Anamnesis, blood tests were obtained and ECGs (electrocardiographies), transthoracic Echocardiographies (to evaluate the ventricular function) were performed. Patients were invited to take part in our study and all accepted to have Coronary Angiography (CAG) and Colour Doppler Ultrasonography (USG).

CONCLUSION: Methods to evaluate LIMA-LAD flow, following CABG include; Coronary Angiography (CAG), coronary CT angiography, Colour Doppler Ultrasonography (USG). Despite certain limitations, Coronary Angiography (CAG) remains the golden standard method to evaluate Coronary Artery Disease (CAD) and graft patencies following CABG. Coronary CT angiography is useful in visualising certain grafts that are difficult to catheterise, such as the distal IMA also called the "superior epigastric artery" (SEA). Recently, Colour Doppler Ultrasonography (USG) is being used more widely and is a candidate for becoming a new diagnostic device for evaluation of LIMA-LAD patency. It also provides data about the flow Dynamics. Following visualisation of the IMA, maximum systolic and diastolic flow rates can be calculated from the spectral samples.

Results of the Coronary Angiographies(CAG) were the same as the Colour Doppler Ultrasonography (USG) results revealing that 5 patients had flow of the LIMA whilst 6 did not. We believe that Colour Doppler Ultrasonography(USG) is very simple and useful for evaluating LIMA-LAD patencies and could be used routinely.

OP-110 IMPAIRED MYOCARDIAL PERFORMANCE IN PATIENT WITH BRANCH RETINAL VEIN OCCLUSION

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OBJECTIVES: The aim of this study is to investigate whether Tei index, this is an independent predictor for cardiac death in various heart diseases, is increased in patient with branch retinal vein occlusion (BRVO) and secondly to evaluate the relation between Tei index and left ventricular function in comparison to hypertensives and healthy controls.

METHODS: A total of 27 consecutive patients (15male/12female, mean age 55.3 ± 6.2 years) with BRVO were included. Transthoracic echocardiographic evaluation was performed to all patients. Additionally, age- and sex-matched, 18 hypertensive and 16 healthy subjects served as controls.

FINDINGS: Tei index was higher in the BRVO group compared to the healthy control group and similar hypertensive group. Left ventricular mass index, mitral a wave, deceleration time, ejection time were higher too. Mitral E/A ratio was lower in patient with BRVO (p<0.05, for all). Tei index was positively correlated with LV mass index (p<0.001, 0.67), DT (p=0.02, r= 0.3), and negatively correlated mitral E (p<0.001, r=-0.54) and E/A ratio (p=0.001, r=-0.38).

RESULTS: Our data suggest that patients with BRVO have decreased global myocardial performance (increased Tei index) with or without hypertension.

The echocardiographic parameters of the study groups

	BRVO group (n=27)	Hypertensive group (n=18)	Control group (n=16)
LVEDD (mm)	48.67±5.26	46.61±5.2	47.70±6.43
LVESD(mm)	31.10±5.52	29.61±4.37	31.88±8.70
IVS(mm)	12.55±2.56*	11.89±2.22%u2020	9.53±1.42
PW (mm)	10.71±1.82*	10.78±1.31%u2020	9.74±2.28
Ejection fraction (%)	72.17±9.96	72.94±8.56	72.64±7.05
LVMI (g/m2)	132.53±40.45*	123.65±34.72%u2020	96.06±23.16
Mitral E wave (cm/s)	75.77±15.58	79.94±16.8	85±16.13
Mitral A wave(cm/s)	81.77±17.86*	80.33±12.38%u2020	66.59±9.29
E/A ratio	0.96±0.28*	1.01±0.24%u2020	1.2±0.30
Deceleration time (ms)	216±56*	202±57	170±39
IVRT (ms)	103±28	101±14	89±18
IVCT(ms)	61±24	59±16	49±20
Ejection time(ms)	280±33*	283±36%u2020	307±17
Tei index	0.59±0.18*	0.58±0.14%u2020	0.45±0.09

BRVO: branch retinal vein occlusion, LVEDD: Left ventricle end diastolic diameter, LVESD: Left ventricle end systolic diameter, IVS: interventricular septum diastolic thickness, PW: posterior wall diastolic thickness, LVMI: left ventricle mass index, IVRT

OP-111 TOTAL WHITE BLOOD CELL COUNT IS ASSOCIATED WITH THE PRESENCE AND SEVERITY OF CORONARY ATHEROSCLEROSIS DETECTED BY MULTI DETECTOR COMPUTED TOMOGRAPHY(MDCT) CORONARY ANGIOGRAPHY

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BACKGROUND: The white blood cell (WBC) count has been consistently shown to be an independent risk factor and predictor for future cardiovascular outcomes, regardless of disease status in coronary artery disease (CAD). Besides luminal narrowing, coronary multi-detector computed tomography (MDCT) scan also gives important information about atherosclerosis detected at coronary vessel wall. The purpose of this study is to evaluate the relationship between total WBC count and the extent and severity of coronary atherosclerosis detected in subjects undergoing MDCT coronary angiography for the assessment of CAD.

METHODS: Between January 2007 and June 2008, 817 consecutive patients who underwent coronary MDCT were enrolled in this study. Coronary MDCT imaging was performed via dual source-MDCT scanner (Somatom Definition, Siemens, Erlangen, Germany). Among 831 patients, 414 subjects were male (50.7%) and age (mean±standart deviation) was 57.4±11.6. For each segment, coronary atherosclerotic lesions were categorized as (1) none, (2) calcified (defined as a CT density more than the contrast enhanced coronary lumen), (3) noncalcified (defined as a CT density less than the contrast enhanced coronary lumen but greater than the surrounding connective tissue), (4)mixed (having both calcified and non calcified components). All images were interpreted immediately after scanning by experienced radiologists.

RESULTS: An association between several cardiovascular risk factors including hypertension, diabetes mellitus, age, gender, hyperlipidemia, smoking and coronary atherosclerosis was found when patients were grouped into two categories according to the presence or absence of coronary atherosclerosis. Patients having coronary atherosclerosis in CTCA had higher levels of serum leukocyte counts when compared with subjects lacking coronary atherosclerosis (mean ± SD: 7657 ± 2230 versus 7078 ± 1785, p<0.001, respectively). Multiple logistic regression analysis showed that WBC counts were associated with coronary atherosclerosis apart from other well known cardiovascular risk factors.

CONCLUSIONS: Increasing blood WBC count is associated with increased coronary atherosclerosis detected by MDCT. Because of this relationship, it may become a more readily available risk marker than other classical risk factors regarding coronary atherosclerosis. Further studies

are needed to assess the true impact of leukocytosis on coronary atherosclerosis, and promote its use in prediction of CAD.

CARDIAC TUMORS, MYOCARDIAL AND PERICARDIAL DISEASES : DIAGNOSIS, TREATMENT, FOLLOW-UP

OP-112 THE CLINICAL EXPERIENCE OF SURGICAL TREATMENT IN CARDIAC TUMOR PATIENTS

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BACKGROUND: Cardiac tumors that occur rarely, are important in cardiac diseases because of their varieties and different clinical findings. In addition, the success about surgical treatment of benign tumors, also indicates this importance. Cardiac tumors are classified in 2 groups: The primary, and secondary (methastatic) tumors. Secondary tumors are seen more than primary ones. 75 % of primary tumors are benign and mixoma is the most seen, about 25 % of primary tumors are malign and sarcom is the most seen. Between methastatic tumors, carsinoma comes first. Our goal in this experience is to analyse retrospectively the patients that we operated because of cardiac tumor.

METHODS: Between January 2004 and May 2009, 24 patients with a diagnosis of cardiac tumor were operated in our clinic. All patients underwent cardiopulmonary bypass following median sternotomy and standart cannulation.

RESULTS: 10 (41.6 %) of patients were female, 14 (58.4 %) of patients were male. The median age was 52.1 (22-78). The most seen concomitant operations that performed were valve operations and then coronary bypass operations. The origin of tumor location was mostly atrial. After pathologic diagnosis of cardiac tumors, mixoma is the most examined (10 patients), about extracardiac ones methastatic malign tumor is the most examined. There was not any patient lost intraoperatively and postoperatively.

CONCLUSION: Surgical treatment in benign tumors comes first between other treatment modalities, because of improvement of new surgical treatment modalities parallel to decrease in mortality and recurrence risk. However, in malign tumors, the results are not good, and perioperative mortality risk is high. We see that the treatment in primary cardiac tumors must be surgical resection, however, there is need to follow-up these patients in long time interval.

		Patient Number (n)	Patient Ratio (%)	
Concomitant operations	Valve	6	25	
	CABG	5	20,1	
	CABG + valve	3	12,5	
	CABG + other	1	4,1	
	Other	1	4,1	
Location	Atrium	15	62,5	
	Ventricle	4	16,6	
	Extra cardiac	3	12,5	
Pathological classification	Cardiac	Primary	11	45,9
		Benign	1	4,1
	Secondary (methastatic)	3	12,5	
	Extra cardiac	3	12,5	
	Other (thrombus, plaque etc.)	6	25	

Table

OP-113 A COMPARISON OF RIGHT ATRIAL TRANSEPTAL APPROACH AND LEFT ATRIOTOMY FOR LEFT ATRIAL MYXOMA RESECTION

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INTRODUCTION:The biatrial incission has been accepted as the classic approach for removal of the atrial myxoma. The advantages of this approach are identifying the site of attachment, inspection of the four cardiac chambers, and adequate irrigation. But increased surgical experience led the vast majority of cardiac surgeons to the uniaxial approach having to less incission, and adequate exposure for mixoma excission. Two unilateral approach has been documented for the removal of left atrial mixoma; left atriotomy and transeptal approach via right atriotomy. In this report, we compared two unilateral approaches in seventeen left atrial mixoma cases.

Patients and methods: An eighteen patients underwent mixoma excission were included to this retrospective study. Patients divided in to two groups accordingly to surgical approach; right atriotomy transeptal approach (group 1 n:9) and left atriotomy (group 2 n:9). Comparison criterias were; the longest diameter of the myxoma, preoperative and postoperative functional class, ritm, ejection fraction, pulmonary artery pressure, left atrial dimension, cardiopulmonary bypass time, ischemic time, hemorrhage, blood transfusion requirement, extubation time, stay at intensive care unit and hospital and major adverse cardiac events in the postoperative first year. Statistically significant difference was not observed in any criteria but two. Raising of ejection fraction is higher in group 2 (p=0,035).In right atriotomy group and ischemic time were found relatively longer than left atriotomy group(p=0,024). Cardiopulmonary bypass time was also found longer but the difference was not significant(p=0,236). The postoperative course was uneventful in each cases, no major complication was observed.

DISCUSSION: An uniaxial approach provides excellent outcomes in myxoma resection. A right

atrial transeptal incision is as safe as left atriotomy for left atrial myxoma resection.

OP-114 EARLY AND MIDTERM RESULTS OF SURGICAL THERAPY OF HYPERTROPHIC CARDIOMYOPATHY

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INTRODUCTION: Hypertrophic cardiomyopathy (HCM) is a relatively common and complex primary cardiac muscle disorder which causes anatomic and functional obstruction due to primary hypertrophy of myocardium and along with increase in systolic functions and decrease in diastolic functions. Septal myectomy is the primary treatment option in patients with significant left ventricular outflow tract gradient and with symptoms refractory to medical therapy.

MATERIAL AND METHODS: Forty patients undergoing septal myectomy with diagnosis of HCM between 1997 and 2008 were included retrospectively. Twenty-three of the patients were male and 17 were female. Mean age for the patients were 37,8±16,8 years. Mean preoperative functional capacity was 2,4±0,5, mean left ventricular outflow tract gradient was 97,7±27,6 mmHg and mean interventricular septum thickness was 1,73±0,26 cm.

RESULTS: Postoperative early mortality was found as 5%. Mean intensive care unit stay period was 1,5±1,4 days and mean in-hospital stay was 7,1±3,6 days. Mean follow-up period for septal myectomy operation was 41,9±33,0 months. In follow-up results, mean postoperative functional capacity was 1,0±0,2, mean left ventricular outflow tract gradient was 19,1±10,2 mmHg and mean interventricular septum thickness was 1,29±0,19 cm. All these postoperative results are statistically significant when compared to preoperative values (p<0,05).

CONCLUSION: In conclusion, left ventricular outflow tract gradient can be eliminated near totally and functional capacity can be significantly improved by surgery with satisfactory surgical mortality and morbidity rates.

OP-115 DISPERSION OF REPOLARIZATION IN PATIENTS WITH DUCHENNE-TYPE MUSCULAR DYSTROPHY

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OBJECTIVES: Duchenne type Muscular Dystrophy (DMD) is a X - linked recessive inherited disease affecting mainly the skeletal and cardiac muscles. In this study, we aimed to determine any association between the presence of ventricular arrhythmias in patients with DMD and dispersion of corrected QT(QTc) and its component, corrected JT(Jtc) values.

STUDY DESIGN: We have performed a standart 12 - lead Electrocardiogram (ECG) and calculated the QT and JT intervals as well as the QTc and Jtc values and dispersions in all leads of ECG of 43 DMD patients (mean age of 8.79±3.0 years) and 34 healthy children (mean age of 9.52±3.1 years) . We have also investigated correlation between QTc/Jtc dispersion values and ventricular extra systoles detected on 24-hour Holter ECG monitoring.

RESULTS: QTc dispersion value of the patients with DMD was 78±20 ms while it was calculated as 50.9±16.5 ms in control group and statistically significantly higher in patients with DMD. Similarly, Jtc dispersion values were significantly greater in study group (77.6±20.5 vs 50.8±17.7 ms) when compared to healthy individuals. Ventricular extra systoles (VES) were detected in 16% of our study population in the 24-hour Holter ECG monitoring .

CONCLUSION: In our study there was no correlation between QTc/Jtc dispersions and incidence of ventricular dysrhythmia. This finding could be due to the fact that ventricular repolarization abnormalities have started in early life which could be form the base of ventricular dysrhythmias development in the long-term

OP-116 CLINICAL EXPERIENCE WITH SUBXIPHOID PERICARDIOTOMY IN THE MANAGEMENT OF PERICARDIAL EFFUSIONS: CASE SERIES ANALYSIS OF 480 PATIENTS

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PURPOSE: We aimed to assess the effectiveness of subxiphoid pericardiostomy in the treatment and diagnosis of pericardial effusions

METHODS: We retrospectively analyzed 480 patients who underwent subxiphoid pericardiostomy and tube drainage for cardiac tamponade, moderate to severe pericardial effusion, or suspicious bacterial etiology. Biopsies of the pericardium and fluid samples for diagnostic tests were obtained from each patient.

RESULTS: The mean age of the patients was 36.2 years, and the male/female ratio was 290/190. The pericardial effusion was classified by echocardiography as severe in 53% of the patients, moderate in 43%, and mild in 4%. The incidence of cardiac tamponade was 25%. The main causes of PE were uraemic, idiopathic and undefined, tuberculous and non-tuberculous pericarditis, malignancy and trauma. Peri-operative myocardial injury requiring sternotomy occurred as an operative complication in 0.8% of the patients, and recurrent effusion necessitating further surgical intervention developed in 47 patients. Histopathologic examination and the polymerase chain reaction (PCR) of specimens of pericardium and fluid were helpful for establishing a diagnosis in 90% of patients with malignancy and 92% of patients with tuberculous pericarditis. The overall 30-day mortality rate was 0.8%. Patients were followed up for at least 1 year. Pericardial constriction requiring pericardiectomy developed in 3% of the patients.

CONCLUSIONS: We believe that pericardial effusions of various causes can be safely, effecti-

vely, and quickly managed with subxiphoid pericardiostomy in both adults and children.

OP-117 FACTORS INFLUENCING THE HOSPITAL MORTALITY OF SUBTOTAL PERICARDIOTOMY THROUGH MEDIAN STERNOTOMY

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AIM OF THE STUDY: To evaluate the factors influencing early mortality of subtotal pericardiectomy through median sternotomy.

METHODS: Hospital records of 74 patients operated between January 1997 and May 2009 have been evaluated retrospectively.

RESULTS: Mean age of the patients were 39.6±16.9 (7-75) years with 64.9% being male. Predominant complaints were dispnea (93.2%) and palpitation (45.9%). The most frequent physical findings were hepatomegaly (71.6%) and ascites (28.4%) . Pretibial oedema and pleural effusion were present in 16.2 and 39.2% of the patients respectively. Etiologically idiopathic (62.2%) and tuberculous (27%) cases were most frequent. Pericardial calcification existed in 34 patients (45.9%). Twenty one patients (28.4%) received inotropic agents either prophylactically or after symptoms and findings of low cardiac output began. Hospital mortality was 13.5% mostly due to postoperative low cardiac output. One case was emergently transferred to the operating room with CPR upon deteriorating in the ward. Patients with complaints of more than 12 months duration, class IV functional capacity, pretibial oedema, pleural effusion, ascites, hepatic dysfunction, hyponatremia, pericardial calcification and postoperative inotropic support were more common in the nonsurviving group (p<0.05). Logistic regression analyses revealed that presence of poor functional capacity (NYHA IV), ascites, hepatic dysfunction and commencement of inotropic agents after the symptoms of low cardiac output have begun increased the early mortality rate by 1,4 to 5,4 fold.

CONCLUSION: Patients who were operated on for pericardiectomy with long standing symptoms (<12 months), pericardial calcification and severe congestive findings had higher mortality.

OP-118 CLINICAL PARAMETERS IN PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION

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OBJECTIVE: Pulmonary arterial hypertension (PAH) is a group of diseases characterised by a progressive increase of pulmonary vascular resistance leading to right ventricular failure and premature death. There is limited data about etiology and clinical parameters of PAH patients in Turkey. The aim of this study was to present diagnostic experience of our center, in prospectively followed PAH patients.

METHODS: Fifty three consecutive adult patients were enrolled. Patients were followed 2 years. During follow-up; clinical examination, six minute walking test, transthoracic echocardiography and BNP levels were evaluated every 3 months.

RESULTS: A total of 53 patients (mean age 46.4±9.6 years, 33 female,20 male) were included. Congenital heart disease (CHD) associated PAH patients were younger than other groups (32.6±7.3 years). Most common cause of PAH was connective tissue diseases (CTD) associated PAH (17 patients, 32%). Mean pulmonary artery pressure (MPAP) was highest (64.4±21.4 mmHg) in chronic thromboembolic pulmonary hypertension (CTEPH) group and lowest (44.7±10.2 mmHg) in CTD associated PAH group. Six minute walking test distance (SMWTD) was lowest in CTD associated group (159.1±39.0 m). Serum brain natriuretic peptide (BNP) level is lowest in idiopathic pulmonary arterial hypertension group (IPAH) (140.4±72.1 pg/ml).

CONCLUSIONS: This study presents our current diagnostic experience in patients with PAH. Although outcomes have improved over the last two decades; PAH, is detected late in the course of the disease, with a majority of patients displaying severe functional and hemodynamic compromise. Structured management with a multidisciplinary team approach in specialized centers is necessary for the diagnosis and treatment of these patients.

Table 1. Clinical parameters

Etiology*	Age (years)	MPAP (mmHg)	SMWTD (m)	BNP levels (pg/ml)+
IPAH (n=9)	47.0±8.3	53.8±21.1	161.4±42.1	140.4±72.1
CTEPH (n=11)	54.7±4.1	64.4±21.4	163.8±51.3	204.9±58.2
CHD associated (n=11)	32.6±7.3	58.4±14.5	201.4±51.9	129.1±39.0
CTD associated (n=17)	46.8±6.3	44.7±10.2	159.1±39.0	191.4±51.9
Total (n=48)	45.4±9.7	54.7±18.8	184.3±46.7	174.3±66.7

*miscellaneous group (n=5) was not included in the table (i.e. portopulmonary hypertension, pulmonary veno-occlusive disease, +at the time of diagnosis.

OP-119 INCREASED MEAN PLATELET VOLUME IN BEHÇET'S DISEASE: IS THERE A POSSIBLE LINK WITH THROMBOEMBOLIC EVENTS.

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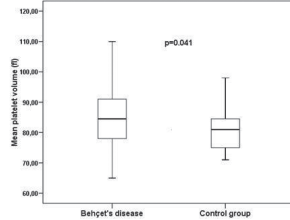
OBJECTIVE: Behçet's disease (BD) is a multisystemic and chronic inflammatory disease of unknown origin characterized by exacerbation and quiescence phases. Venous as well as arterial thrombosis are common complications of the BD but exact pathogenetic mechanism of the thrombotic tendency is not well known. MPV values considered a marker and determinant of

platelet function since larger platelets are hemostatically more reactive than platelets of normal size, increasing the tendency to thrombosis This study aimed to evaluate mean platelet volume (MPV) in patients with BD and healthy control subjects.

METHODS: We selected 66 consecutive patients with BD and 45 consecutive healthy age- and sex-matched control subjects. MPV values and clinical data were obtained from our hospital patients recordings retrospectively.

RESULTS: There was no difference with respect to age (41.9±11.7 years in BD vs. 43.9±12.1 years in control group), and gender (45 males/21 females in BD vs. 29 males/16 females in control group). The MPV was significantly higher in patients with BD (8.51±1.18fl) than control subjects (8.1±0.6fl) (P=0.041).

CONCLUSION: Elevated MPV might be considered as a marker of increased thromboembolic risk in patients with BD. Patients with BD might get benefit from the antiaggregant treatment.



OP-120 OUR SURGICAL APPROACH IN PERICARDIAL EFFUSION CASES (USING SUBXIPHOID TECHNIQUE)

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PURPOSE: Cardiac tamponade as a result of pericardial effusion is a significant cardiac compression reason causing lifethreatening hemodynamic changes in those patients. Cardiac tamponade is mostly seen after cardiac surgery, during neoplastic diseases and uremia, but many pathological situations may also cause pericardial effusion. Urgent pericardial drainage is required to decompress the heart in these patients. Subxiphoid and transthoracic procedures, pericardiosynthesis, percutaneous balloon pericardiectomy, pericardial sclerosis, videothoracoscopy are different approaches, but which one is better is a controversial. In this study we aimed to search pericardial effusion patients treated using subxiphoid surgical procedure retrospectively.

METHOD: Between January 2004 - May 2009, 93 pericardial effusion cases undergone surgery by subxiphoid pericardiectomy in our institute. The pericardium is explored by approximately 5 cm vertical incision starting over xiphoid process and going downwards. Pericardial effusion fluid is drained making a small incision to the pericardium. Samples from drainage are taken for biochemical, microbiological and cytological studies, biopsy material is taken for pathological studies. Operation is ended by putting L drainage tube to pericardial space.

RESULTS: 39 (% 42) of cases were female, 54 (% 58) of cases were male and mean age was 57,4 (1-87). Surgical attempt in 66 (% 71) of patients was by local anesthesia and sedation and in 24 (% 26) of patients was by general anesthesia. General anesthesia is preferred in 3 of patients beginning surgery by local anesthesia and sedation because of local anesthesia intolerance. Intraoperative and postoperative total drainage was 1400 ml. 1 patient died intraoperatively, 10 patients are lost in postoperative period. 6 of the patients lost postoperatively had malign cytology. Aspiration fluid was mostly serous in characteristics. Benign cytology is mostly seen after cytological studies. In patients having malignity; in 10 of them the cytology was malignant epithelial tumor and in 7 of them the cytology was carcinoma metastasis.

CONCLUSION: We think subxiphoid approach in pericardial effusion cases should be considered because of its easy and rapid practicing, no need of general anesthesia in most of the cases and sufficient drainage and biopsy possibility. Acceptable morbidity and mortality rates and good longterm results in researches increases subxiphoid approach safetiness.

	Patient Number (n)	Patient Ratio (%)
Fluid Characteristics	Serous	35 / 37,6
	Hemorrhagic	26 / 28
	Sero-hemorrhagic	30 / 32,2
	Purulent	2 / 2
Cytology	Benign	69 / 74,1
	Malign	21 / 22,6
	Enfektive	3 / 3,3
Anesthesia type	Local + Sedation	66 / 71
	General	24 / 25,7
	Local + General	3 / 3,3
Intraoperative aspiration fluid (ml)	0-500	26 / 27,9
	500-1000	44 / 47,3
	>1000	23 / 24,8

Table

OP-121 A NOVEL METHOD FOR SEPTAL ABLATION: GLUE (CYANOACRYLATE) SEPTAL ABLATION

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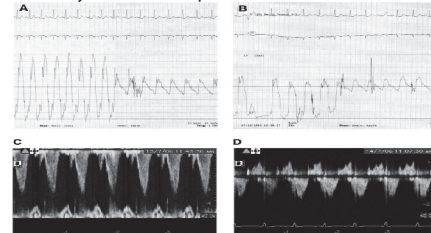
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OBJECTIVE: Alcohol septal ablation is an alternative method of treatment in hypertrophic obs-

tructive cardiomyopathy patients who are refractory to medical treatment. As the experience with this technique increases, procedure-related complications have been well understood. Some of the complications of ASA include conduction disturbances and complete heart block, hemodynamic compromise, ventricular arrhythmias, and failure to abolish gradient. Besides complications related to catheterization and septal infarction, alcohol itself may cause some additional complications due to its liquid nature and toxicity. We describe a successful technique for septal ablation in 15 patients with glue (cyanoacrylate) in HOCM which decrease the complications related to alcohol instillation.

METHODS AND RESULTS: There was no major complication during and after the procedure. In 3 patients intervention could not be performed because of inadequate septal branches. Peak left ventricular outflow gradient were reduced significantly after the procedure (88.3±25.1 mmHg vs 35±12.1). In 4 patients no clinical and echocardiographic improvement was seen during follow-up period.

CONCLUSIONS: Glue septal ablation seems to be an efficient and safe approach for transcatheter ablation of septal hypertrophy in HOCM. This technique induces ischemic necrosis without the toxic effects of alcohol. Further experience is needed in order to assess the medium and long-term efficacy and safety of this technique.



ACUTE AND CHRONIC HEART FAILURE : EFFECTS OF THERAPIES

OP-122 CARDIAC RESYNCHRONIZATION THERAPY IMPROVES HEART RATE RECOVERY IN HEART FAILURE

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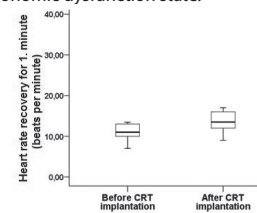
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BACKGROUND: Cardiac resynchronization therapy (CRT) using biventricular pacing has been a major advance in long-term therapy for treatment of congestive heart failure (CHF). Decreased autonomic function is known to be predictive of death, especially in CHF patients. It has been shown that, heart rate recovery (HRR) after exercise was an estimate of impaired parasympathetic tone and predictor of all-cause and cardiovascular mortality. The aim of the study was to assess HRR before and one month after the implantation of CRT.

METHODS: A total of 9 consecutive patients (mean age 61.3, 7 males) with the diagnosis of systolic HF who were in NYHA class 3-4 were included. All patients had QRS intervals >120 ms and remained symptomatic despite optimal medical treatment. Patients required to have TDI-identified dyssynchronous ventricles before the implantation of CRT. Basal electrocardiography, and treadmill exercise testing were performed in all patients. Heart rate recovery index was defined as the decrease in heart rate from peak exercise value to 1 min after the termination of the exercise. This HRR was calculated for the first (Rec1), second (Rec2) and third (Rec3) minutes of recovery phase.

RESULTS: There was no difference between basal heart rate (93.9±6.7 vs 83.0±9.1, p=0.091). Exercise capacity of patients after implantation of CRT was significantly improved (3.6±0.3 METs vs 4.6±0.6 METs, p= 0.001). Compared with basal values, HRR in first (Rec1), second (Rec2) and third (Rec3) minutes were significantly higher after implantation of CRT (For Rec1, 12.8 ± 6.0 vs 16.2 ± 9.2, p = 0,014; for Rec2, 20.1 ± 9.4 vs 22.8 ± 12,0 p = 0.024; and for Rec3, 26.30 ± 13.0 vs 28.1 ± 12.5, p = 0.021) .

CONCLUSION: Cardiac resynchronization therapy improves heart rate recovery in patients with symptomatic heart failure. As a result CRT can exert favourable effect on the mechanism that sustains the harmful autonomic dysfunction state.



Comparison of HRR before and after implantation of CRT

OP-123 EFFECTS OF PACLITAXEL AND CARBOPLATINE COMBINATION THERAPY ON RIGHT VENTRICULAR MECHANICAL FUNCTIONS

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INTRODUCTION: Paclitaxel and carboplatine are frequently used chemotherapy drugs in the treatment of endometrium and over cancer. The effects of these drugs on left ventricular mechanical functions are better known than their effects on the right ventricular mechanical functions. We aimed to evaluate the potential effects of paclitaxel and carboplatine combination therapy on right ventricular systolic and diastolic functions in patients with gynecologic malignancies.

METHODS: Thirty patients (mean age: 53.3 ± 11.3) with no coronary artery disease or diabetes mellitus were enrolled. Right ventricular systolic and diastolic functions were evaluated before and after sixth months of chemotherapy by using transthoracic 2D and tissue Doppler echocardiography techniques. Tissue Doppler imaging from the tricuspid annulus was performed from the apical 4-chamber view.

RESULTS: There were no differences among patients in terms of chemotherapy regimens. Peak systolic velocity (S wave) at tricuspid annulus was significantly lower after chemotherapy as compared with baseline (20.7 ± 3.9 cm/sec versus 17.6 ± 4.3 cm/sec, P=0.02, respectively). Tricuspid annular isovolumic contraction and relaxation times (IVCT, IVRT) prolonged after chemotherapy (IVCT: from 61.1±9.2 cm/sec to 67.3±9.6 cm/sec, P =0.008 and IVRT: from 61.1 ± 11.5 cm/sec to 68.2 ± 13.7 cm/sec, P =0.01) In addition to IVCT and IVRT, S wave duration of tricuspid annulus was also prolonged significantly after chemotherapy (from 258.0±26.4 cm/sec to 268.3±30.5 cm/sec, p<0.02). TEI index which is related to both systolic and diastolic function of the right ventricle had a slightly increase after chemotherapy (from 0.47±0.08 to 0.50±0.07, P =0.03)

CONCLUSION: These data suggest that combination of paclitaxel and carboplatine which is frequently used in gynecological malignancies significantly impairs right ventricular performance. Further prospective studies are needed to confirm our preliminary results.

OP-124 PARADOXICAL INCREASE OF AN ADIPONECTIN IN HEART FAILURE

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Dicle University Cardiology¹, Dicle University Endocrinology²

Heart failure is associated with altered energy homeostasis and myocardial inflammation. Adiponectin, an insulin-sensitizing adipocytokine, may affect these pathogenic factors. Plasma levels of adiponectin are decreased in patients with ischemic heart disease. The aim of this study were to compare the levels of adiponectin, tumour necrosis factor alpha (TNF-α), interleukin (IL)-6, and blood lipids between heart failure and healthy individuals. This case-control study was performed on 47 decompensated heart failure and 25 healthy individuals. Serum adiponectin, TNF-α, IL-6, triglycerides (TG), total cholesterol, low-density lipoprotein cholesterol (LDL-C), and high-density lipoprotein cholesterol (HDL-C) concentrations were determined. Adiponectin levels were significantly increased in the heart failure patients as compared to normal control subjects (P<0.0001). On the contrary, serum levels of HDL were significantly decreased (p=0.003). Inflammatory markers TNF-α and IL-6 serum levels significantly increased in the heart failure patients (p<0,0001) (Table).

Adiponectin is inhibitors in the pathophysiological process of advanced heart failure. It may be an informative risk marker for heart failure patients.

Table

	Heart Failure n=47	Control n=25	p
Adiponectin (µg/ml)	19,9±2,9	11,8±1,4	<0,0001
TNF-α (µg/ml)	24,7±14,9	6,2±1,8	<0,0001
IL-6 (µg/ml)	24,3±24,7	6±1,7	<0,0001
HDL-C (mg/dl)	31,3±10,6	37,4±6	=0,003
LDL-C (mg/dl)	94,4±35	89,9±25	NS
Total-C (mg/dl)	150±45	157±27	NS
Triglyceride (mg/dl)	112±38	171±46	<0,0001

NS; no significant

OP-125 EFFECTS OF LEVOSIMENDAN INFUSION ON SIX MINUTE WALKING TEST PARAMETERS

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OBJECTIVE : Six minutes walk test (6MWT), is a sub-maximal exercise test, used as a clinical indicator of the functional capacity, in patients with cardiopulmonary diseases. There is limited data related with effects of levosimendan on 6MWT parameters. The aim of the study was to evaluate effects of levosimendan infusion on 6MWT parameters in patients with decompensated heart failure.

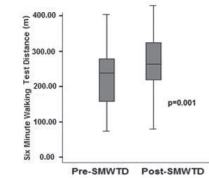
METHODS: We studied 42 patients (mean age: 64.1±12.9, male/female:32/10) with chronic systolic left ventricular dysfunction hospitalized for New York Heart Association class III or IV symptoms of heart failure due either to ischemic (n = 29) or nonischemic dilated cardiomyopathy (n = 13). Patients were currently receiving treatment with Renin-Angiotensin-Aldosterone System (RAS) inhibitors and diuretics. All had documented ejection fractions of ≤30%. Some of the patients were also treated with β blockers, an aldosterone antagonist, amiodarone, and digoxin. Patients with recent myocardial infarctions (<8 weeks) or active ischemia, atrial fibrillation, paced rhythm, hepatic or renal impairment (GFR <30 ml/min), and supine systolic blood pressure of <90 mm Hg were excluded. The protocol was conducted after an initial phase of patient stabilization to minimize the need for changes in drug dosing (i.e., increases in diuretic use) during levosimendan administration. A 6-minute walk test was performed at baseline and 48 hours after the initiation of treatment.

RESULTS: Six minute walking test distance (SMWTD) (208.4±97.3 vs 256.0±95.6, p=0.001) was

significantly increased 48 hours after administration of levosimendan infusion. Post-test Borg's dyspnea score (4.64±2.88 vs 3.08±2.36, p=0.004), pre-test Borg's fatigue score (3.12±1.94 vs 1.88±1.26, p=0.004) post-test Borg's fatigue score (5.32±3.07 vs 3.44±2.87, p=0.004) was decreased significantly after levosimendan infusion. Pre-test Borg's dyspnea score was not different between two groups (basal =2.68±1.15 vs 2.54±1.03, p=0.424)

CONCLUSIONS: Levosimendan infusion improves six minute walking test parameters in patients with decompensated heart failure.

KEY WORDS: Decompensated heart failure, Levosimendan, Six minute walking test.



OP-126 EFFECTS OF LEVOSIMENDAN VERSUS DOBUTAMINE ON VENTRICULAR ARRHYTHMIAS AND AUTONOMIC INDEXES IN PATIENTS WITH ADVANCED HEART FAILURE

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Haydarpaşa Numune Training and Research Hospital¹

BACKGROUND: Although, positive inotropic agents typically effective at improving short-term hemodynamics and symptomatology, the frequent occurrence of arrhythmias and tachycardia is unfavorable. In this randomized prospective trial, we compared the effects of levosimendan and dobutamine on ventricular arrhythmias and prognostic autonomic nervous system-related markers in patients with advanced heart failure (AHF). Changes of cardiac functions and neurohormonal response have also been evaluated in these patients.

METHODS: Fifty-eight patients (mean age 64 ±10 yrs) with heart failure refractory to conventional therapy and left ventricular ejection fraction (EF) ≤ 0.35 were randomized to levosimendan (n=30) or dobutamine (n=28). Time-domain indices of heart rate variability (HRV) and QTc were obtained from 24-hour holter recordings immediately before and during drugs therapy. Echocardiography, and B-type natriuretic peptide (BNP) measurements were also performed at baseline and after treatment.

RESULTS: Left ventricular EF was significantly increased in both groups. The levosimendan group had greater decrease in BNP at 24 hours compared with dobutamine group. Dobutamine significantly increased heart rate (6.8 ± 4.2 per minute, p< 0.01), episodes of nonsustained ventricular tachycardia (from 3.2 ± 1.6 to 20.4 ± 9.2, p < 0.05) and QTc (from 406 ± 41 msn to 426 ±34 msn, p< 0.05). Dobutamine therapy also resulted in a decrease in standard deviation of the R-R intervals over a 24-hour period (SDNN), standard deviation of all 5-minute mean R-R intervals (SDANN), and the percentage of R-R intervals with >50ms variation (pNN50) (all P <0.05). Levosimendan did not change all these end points.

CONCLUSIONS: These findings support that dobutamine is associated with substantial proarrhythmic and chronotropic effects in patients with AHF. Furthermore, dobutamine can potentially lead to further deterioration of autonomic dysregulation. Levosimendan group showed a greater improvement in neurohormonal activation compared dobutamine group although, it has a neutral effect on prognostic autonomic nervous system-related markers. Compared with dobutamine, levosimendan may be a safer, short-term treatment for these patients.

OP-127 COMPARATIVE EFFECTS OF LEVOSIMENDAN AND DOBUTAMINE ON LEFT VENTRICULAR DIASOLIC FUNCTION AND BRAIN NATRIURETIC PEPTIDE IN PATIENTS WITH DECOMPENSATED ADVANCED HEART FAILURE

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BACKGROUND: In this randomized prospective trial, we we compared the effects of levosimendan and dobutamine on left ventricular diastolic cardiac modifications and brain natriuretic peptide in patients with decompensated advanced heart failure (AHF).

METHODS: Sixty-three patients (mean age 65 ±9.0 yrs) refractory to conventional therapy with left ventricular (LV) ejection fraction (EF) ≤0.35 and diastolic LV dysfunction due to idiopathic or ischemic cardiomyopathy were enrolled and were randomized to levosimendan (n=33) or dobutamine (n= 30). All patients were in sinus rhythm and had pseudonormal (21%) or restrictive filling (79%) pattern by echo Doppler method. Conventional echo Doppler was used to assess LV EF, LV volumes, peak velocities of transmitral early (E) and late (A) diastolic LV filling, the ratio of transmitral early to late LV filling velocity (E/A), and deceleration time of E (DT). The E/e ratio was also evaluated using the tissue Doppler imaging together with plasma B-type natriuretic peptide (BNP) levels measurements before and after drug infusion.

RESULTS: The improvement of LV EF and LV volumes were similar in both levosimendan and dobutamine groups. However, levosimendan but not dobutamine group showed a significant increase of A wave (p<0.05), DT (p<0.005), and a significant reduction of E wave (P< 0.0001), E/A (P< 0.0005) and E/e ratio (P<0.001). The levosimendan group had also a greater decrease in BNP at 24 hours compared with dobutamine group (p<0.005). The percent change of BNP in levosimendan group was significantly correlated with the percent change of E/e and DT (r=0.42, p<0.01 and r=0.58, p<0.005, respectively).

Conclusions: In patients with decompensated AHF, levosimendan and dobutamine both improve LV systolic function. However, levosimendan also improves LV diastolic function which was associated with a greater decrease of neurohormonal activation in these patients.

OP-128 LEVOSIMENDAN IMPROVES HEART RATE VARIABILITY IN PATIENTS PRESENTING WITH DECOMPENSATED HEART FAILURE

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OBJECTIVE: The heart rate variability (HRV) has been used as a non invasive method for evaluation of cardiac autonomic functions in patients with heart failure. The aim of this study is to present preliminary results of our study regarding the effects of levosimendan infusion on 24-hour and short time HRV in patients with decompensated heart failure.

METHODS: In this prospective study 15 patients (63.2±14.7 years) with decompensated heart failure were enrolled. Levosimendan infusion was given to the patients refractory to conventional treatment according to indications of current therapeutic guidelines. The following standard parameters were calculated from the time series: normal-to-normal (NN) intervals, standard deviation of intervals between two normal R-waves (SDNN). The square root of square of mean square differences of successive NN intervals (RMSSD). The proportion derived by dividing NN50 (the number of interval differences of successive NN intervals greater than 50 ms) by the total number of NN intervals (PNN50). Spectral analysis of HRV included: total power, high-frequency (HF) component, low-frequency (LF) component and low/high-frequency power ratio (LF/HF) were calculated to give the relative changes in HRV in the frequency domain. Exclusion criteria included: atrial fibrillation or flutter, myocardial infarction or unstable angina within the last 6 months, significant congenital heart disease, active myocarditis, severe hepatic or renal disease, insulin-dependent diabetes mellitus and autonomic neuropathy.

RESULTS: Before and after levosimendan infusion, there was no difference regarding dosage of furosemide (mean dosage: 123.4±42.1mg vs 144±40.4mg, p=0.249) and carvedilol (mean dosage: 6.4±3.1mg vs 5.6±2.7mg, p=0.312) that may alter heart rate variability. As compared with baseline, there was significant improvement in the SDNN, SDANN, LF, LF/HF parameters one week after infusion of levosimendan therapy (p<0.05). Mean NN, pNN50, RMSSD and HF did not change with respect to basal values.

CONCLUSIONS: Levosimendan improves heart variability parameters in patients admitting with decompensated heart failure.

KEY WORDS: Decompensated heart failure, Heart rate variability, Levosimendan

Parameters	Before Levosimendan infusion	After Levosimendan infusion	p value
Mean NN (ms)	760.9±122.7	769.2±124.5	ns
SDNN (ms)	68.1±30.3	91.1±36.2	<0.05
SDANN (ms)	62.1±27.1	82.7±33.4	<0.05
pNN50 (%)	4.7±2.1	4.9±1.9	ns
RMSSD (ms)	21.2±11.1	22.4±11.2	ns
LF	15.2±5.1	26.6±7.9	<0.05
HF	11.2±3.1	10.5±3.4	ns
LF/HF	1.51±0.8	2.49±0.9	<0.05

OP-129 A CORRELATION OF NATRIURETIC PEPTIDES AND LEFT VENTRICULAR REVERSE REMODELLING FOLLOWING CARDIAC SURGERY

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INTRODUCTION: The measurement of Brain Natriuretic Peptides(BNP) as a biochemical marker of cardiac failure is widely accepted approach subsequently numerous studies published about this topic. An effectivity of BNP after cardiac surgery is not clear, in this study we investigated correlation of N-terminal BNP and left ventricular functional and morphologic changes after coronary artery bypass surgery.

MATERIAL AND METHODS: From January to June 2008, 40 patients fulfilled study criteria were enrolled in this randomized prospective study. The study criteria were: having myocardial infarction at least one month, moderate left ventricle dysfunction with <50% preoperative ejection fraction, and to have an indication for CABG. Three BNP measurements were done, preoperative; one day before surgery, postoperative; 3rd day, and 6th month. A same cardiologist evaluated ejection fraction, left ventricular end systolic and end diastolic diameters, ventricular volumes in systole and diastole with transthoracic echocardiography. Left ventricular end systolic volume index was calculated. LV Reverse Remodelling (LVR) was considered significant when more than 15% decrease of LV end systolic diameter occurred between initial and 6th month echocardiography. Postoperative clinical and echocardiographic assessment were performed by same cardiologist. CABG was performed with usual fashion under cardiopulmonary bypass by same surgical team.

RESULTS: A data of forty patient underwent CABG operation between January and June 2008 were collected. Patients were not allocated to any group preoperatively. After sixth month control of patients all results were assessed. Reverse remodeling was diagnosed in 17 patients but not in 23. After that, patients were divided into two groups accordingly LVR(-) (group1, n:23) and LVR(+)(group2, n:17). A strong correlation was diagnosed between changes of BNP values and morphologic LV features. The difference of preoperative and 6th month BNP values was significant in group 2 (p=0,016) whereas was not significant in group 1 (p=0,937).

DISCUSSION: BNP is a powerful marker of postoperative left ventricular changes. Periodic measurement of BNP can provide safe and simple evaluation of ventricular function.

OP-130 COMPARISON BETWEEN BICAVAL AND BIATRIAL TECHNIQUES IN ORTHOTOPIC HEART TRANSPLANTATION

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AIM: In this study, patients undergone orthotopic heart transplantation with bicaval or biatrial surgery technique were compared by early and late terms clinic results.

METHODS: An Orthotopic heart transplantation was performed on 61 patients between October 1989 and March 2009. 50 of 61 patients were male, other 11 patients were female and average age was 30.07±14.14 year (16-58). On 33 cases the bicaval surgical technique was used the biatrial technique was used others 28 patients. All patients had evaluated as retrospective study.

RESULTS: Preoperative data was similar in both group except chronic obstructive pulmonary disease (p=0.021). There was no any difference between both group according to preoperative ejection fraction and pulmonary hypertension. Cardiopulmonary bypass time was longer in the bicaval group (p=0.013), whereas donor heart hypothermic ischemic time and aortic cross clamp time were similar.

Postoperative major complications were observed in both groups, but only rhythm disorders were seen significantly in the biatrial group. Total dysrhythm frequency (p=0.02), temporary pacemaker (p=0.015).

CONCLUSION: Bicaval surgery technique is more effective for especially prevent to serious rhythm disorders in postoperative period. Atrioventricular valve insufficiency can be associated with biatrial technique.

NEW ECHO-DOPPLER TECHNIQUES : APPLICATIONS IN DIFFERENT CLINICAL SETTINGS

OP-131 THE EFFECT OF CORONARY SLOW FLOW ON TIME TO PEAK SYSTOLIC STRAIN

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OBJECTIVE: Time of tissue deformation is an important role in regional myocardial contractile function. Strain reflects deformation of a structure and therefore directly describes the contractile pattern of the myocardium. The aim of this study was to evaluate the effect of coronary slow flow (CSF) on time to peak systolic strain (Ts).

METHODS: The study included 25 patients who had CSF pattern in coronary angiogram and 20 healthy control subjects who had normal coronary angiogram. 'TIMI frame count (TFC)' methods were used for the detection of CSF. Echocardiographic recordings were obtained from standard apical and parasternal views. Color Doppler myocardial imaging (CDMI) data were acquired at a frame rate of 160-200 s-1. Ejection fraction (EF) was measured by Simpson's rule. Time to peak systolic strain was measured from basal, mid and apical segments of the lateral, septal, anterior, inferior, antero-septal and posterior walls.

RESULTS: There was no difference between patients and controls for left ventricular systolic functions (EF; 67±5 vs. 66±4, respectively). TFC values were greater in the patients than in the controls (LAD; 42.80±7.65 frame vs. 17.90±3.46 frame, Cx; 37.68±6.49 frame vs. 16.60±2.90 frame, RCA; 41.20±6.37 frame vs. 17.30±2.69 frame, respectively). Mean Ts values for each segment were presented in Table 1. There were significant differences between patients and controls, in all segments (p<0.001). Mean Ts were shorter in most of the mid segments compared with basal segments (p<0.05) in same walls of patients and controls. There were no differences in mean Ts between the mid and apical segments in all subjects.

CONCLUSION: Coronary slow flow causes prolonged time to peak systolic strain. This condition might be an additional factor to deterioration of regional myocardial contractile function in CSF patients. Delayed coronary flow, delayed local activation, transmural conduction delays and post-systolic shortening are possible mechanisms of Ts prolongation in CSF. There are shorter Ts in the mid segments, especially the mid-septal segment, probably reflecting early septal activation.

Table 1. Mean segmental time to peak systolic strain in CSF patients

Segments	Control (ms)	Patient (ms)
Lateral B	330±24	403±42*,‡
Lateral M	324±25	382±34*
Lateral A	324±23	385±39*
Anterior B	323±32‡	427 ±43*,‡
Anterior M	317±32	403 ±48*
Anterior A	322±28	399 ±48*
Septum B	328±18‡	425 ±38*,‡
Septum M	316±22	418 ±50*
Septum A	324±22	397±43*
Inferior B	322±29	417±39*
Inferior M	319±22	405±42*
Inferior A	327±22	405 ±47*
AS B	326±28‡	427±42*,‡
AS M	314±21	403 ±42*
AS A	323±17	403±39*
Posterior B	317±34	410±37*
Posterior M	313±21	400±49*
Posterior A	317±32	403±40*

*; vs. control p<0.001, ‡; basal vs. mid segments in same wall p<0.05, ms; millisecond B; basal, M; mid, A; apical, AS ; antero-septal

OP-132 TRANSTHORACIC ECHOCARDIOGRAPHIC MEASUREMENT OF DEFECT SIZE IN PERCUTANEOUS CLOSURE OF ATRIAL SEPTAL DEFECT

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AIM: We evaluated the correlation of transthoracic echocardiographic (TTE) atrial septal defect (ASD) sizes and device sizes in the patients whose ASD was percutaneously closed.

MATERIALS AND METHODS: Thirtytwo patients whose ASD was closed with percutaneous technique in our hospital between the years 2006-2009 were studied. Percutaneous closure was tried in 33 patients but 1 trial was unsuccessful because of device embolization that needed immediate surgery. The ratio of M/F was 1 (16/16) and mean age was: 6.72 ± 2.61 (4-13). Transthoracic and transeptophageal echocardiography were performed in all patients before percutaneous closure of ASD.

RESULTS: In five patients (15.62 %) aneurysm on inter atrial septum (IAS) was present and in 17 patients (53 %) right heart was dilated. Mean pulmoner to systemic flow ratio was 3.05 ± 1.92(0.71-8)and mean pulmonary arterial pressure was: 18.41 ± 4.5(11-28). Amplatzer septal occluder (ASO) were used in 30(93.7 %) patients and mean diameter of that device was 13.2±3 (8-20) .Mean ASD size that has been measured by TTE was 11.7±2.2 (5-18). Transthoracic echocardiographic ASD sizes and the sizes of the used devices were concordant(p<0,05). After the procedure residual defect was seen in 1 patient (3.1 %) and temporary premature atrial extrasistols was seen in another child. Unimportant mitral regurgitation that was not present before the procedure was demonstrated in three patients(9.4 %). With this data our success rate is 97 %.

CONCLUSION: ASD closure with percutaneous technique is less invasive and have better cosmetic results than surgical closure. It has a short hospitalization time and seems to be a confident procedure. Also TTE is a clinically important measurement method in percutaneous closure of ASD.

OP-133 ASSESSMENT OF THE LEFT ATRIAL LONGITUDINAL MYOCARDIAL FUNCTION BY THE STRAIN AND STRAIN RATE ECHOCARDIOGRAPHY IN PATIENTS WITH RHEUMATIC MITRAL STENOSIS

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OBJECTIVE: Left atrial (LA) functions are important for clinical course and prognosis of mitral stenosis (MS). LA myocardial cycle composes of contractile, reservoir and conduit periods. Both differentiation and quantification of regional LA myocardial functions in those periods, one by one, are not possible by the conventional echocardiography (CE). The aim of this study was to evaluate regional LA myocardial functions by the longitudinal strain (S) and strain rate (Sr) technic in patients with isolated rheumatic MS for three LA periods.

METHODS: Thirty isolated rheumatic MS patients who had normal left ventricular (LV) functions (mean age: 41±7.9 years) and 30 healthy controls (mean age: 42±6.4) were included in the study. Echocardiographic recordings involving three consecutive cycles were obtained from standard apical views after the expirium. Color Doppler myocardial imaging (CDMI) data were acquired at a frame rate of 160-200 s-1. Because of the thin atrial walls a narrow (10x2 mm) sample volume was selected and placed in muscular part of the interatrial septum, mid and superior levels of lateral, anterior and inferior walls of the LA. CE data were used to calculate the both LV and LA dimensions, volumes and functional indices [some of them; LA ejection fraction (LAEF), LA active (LAAEF) and passive (LAPEF) emptying fractions, pre-atrial LA contraction volume, minimal and maximal LA volume]. Atrial velocity time integral of the basal septal (AVTIS) and basal lateral (AVTIL) LV walls were measured from TDI data. Atrial systolic, early and late diastolic velocity (V), longitudinal peak systolic S and Sr indices were measured from the CDMI data, for each LA period

RESULTS: There was no difference between patients and controls for LV systolic functions and dimensions. While LA dimensions and volumes were higher significantly in the patients than controls (for all value, p<0.001), LAEF, LAAEF, LAPEF, AVTIL and AVTIS were lower those patients (for all value, p<0.001). For all three periods, in whole segments S values (Table 1) and in most of the segments Sr values (Table 2) were lower significantly in the patients than controls. There was no significant difference between the groups according to V indices.

CONCLUSION: LA longitudinal myocardial functions are impaired in patients with isolated rheumatic MS, for all periods. Measurements of low S/Sr indices of LA myocardium show rheumatic disease effects. By this study we showed that it is possible to detect the accurate and reliable determination of the early period subclinical LA myocardial dysfunction by S/Sr values than by the V.

Table 1. Left atrial miyocardial longitudinal peak systolic strain

Strain (%)		Lateral		MPAS	Anterior		Inferior	
		Mid	Superior	Mid	Mid	Superior	Mid	Superior
CP	Ct	-26±4.4	-24.1±4.3	-27.4±5.8	-24.3±4.4	-22.3±4.5	-22±4.3	-20.2±4.1
CP	Pt	-16.6±2.2*	-15.7±2.6*	-17.9±2.5*	-16.4±6.5*	-16.1±6.6*	-15.6±7.7*	-14.4±3.7*
RP	Ct	64.5±6.7	62.2±6.8	65.3±7.4	61.8±5.6	59.8±5.4	59.5±5.2	57.6±4.9
RP	Pt	44.7±11.1*	45.3±10.1*	45.7±10.8*	46.5±11.5*	46.3±11.2*	45.3±11*	44.6±9.7*
COP	Ct	-45.6±6.5	-43.3±6.5	-48.3±6.3	-43.7±6.2	-41.5±6	-41.3±6	-39±5.9
COP	Pt	-23.2±8.4*	-23.6±9.8*	-23±9.8*	-23.6±10.2*	-23.7±9.9*	-23.3±9.8*	-23.3±9.8*

CP; Contractil period, RP; Reservoir period, COP; Conduit period, MPAS;Musculer part of the interatrial septum, Ct; Control, Pt; Patient, *p <0.001, †p =0.001, µ; p < 0.05

Table 2. Left atrial miyocardial longitudinal Strain rate

Strain rate (s-1)		Lateral		MPAS	Anterior		Inferior	
		Mid	Superior	Mid	Mid	Superior	Mid	Superior
CP	Ct	-4.8±0.7	-4.6±0.8	-5.2±0.7	-4.5±0.7	-4.3±0.7	-4.3±0.7	-4±0.7
CP	Pt	-3.9±0.9*	-4±1.2µ	-4±1*	-4.1±0.6µ	4.1±0.8	-4.1±0.7	-4±0.7
RP-E	Ct	5.6±1	5.4±0.9	6±0.9	5.4±0.8	5.1±0.8	5±0.8	4.8±0.8
RP-E	Pt	4.9±1.0µ	4.8±1.1µ	4.9±1.1*	4.9±1µ	4.8±1	4.8±0.8	4.9±0.8
RP-L	Ct	6.1±0.9	5.9±0.8	6.5±0.7	5.9±0.7	5.7±1	5.6±0.8	5.4±0.8
RP-L	Pt	4.9±1.3*	4.8±1.3*	5±1.3*	4.9±1.3¥	4.9±1.2µ	5±1.1µ	5.1±1
COP	Ct	-7.7±0.9	-7.4±0.9	-8±0.5	-7.3±0.8	-7.1±0.8	-6.9±0.8	-6.5±0.9
COP	Pt	-5.4±1.5*	-5.3±1.6*	-5.1±2.1*	-5.4±1.5*	-5.4±1.3*	-5.4±1.3*	-5.3±1.4*

CP; Contractil period, RP-E;Early Reservoir period, RP-L; Late Reservoir period, COP; Conduit period, MPAS;Musculer part of the interatrial septum, Ct; Control, Pt; Patient, *p <0.001, †p =0.001, µ; p < 0.05

OP-134 EFFECTS OF BIVENTRICULAR PACING ON RIGHT VENTRICULAR FUNCTION ASSESSED BY TISSUE DOPPLER AND STRAIN ECHOCARDIOGRAPHIC IMAGING.

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OBJECTIVE: The impact of cardiac resynchronization therapy (CRT) on functional status, left ventricular (LV) remodelling and LV systolic dysfunction have been demonstrated in randomized trials. However, the effect of CRT on right ventricular (RV) function, an independent prognostic factor in CHF remains questionable. This study examined the acute effects of biventricular pacing (BiV) on RV functions.

METHODS: The study included 20 consecutive patients who were candidates for CRT. The indication for CRT were New York Heart Association (NYHA) CHF functional class III-IV despite optimal drug therapy, a LV ejection fraction 35%, and presence of left bundle branch block, with a QRS duration 120 ms on surface electrocardiogram (ECG). Patients with unstable heart disease, atrial fibrillation, or absence of spontaneous atrioventricular (AV) conduction were not included in this study. Standart two-dimensional and Doppler echocardiography was performed. Additionally, tricuspid anular plane systolic excursion (TAPSE), tissue Doppler imaging (TDI) derived systolic velocities of the tricuspid annulus (IVA, peak myocardial velocity during isovolumic contraction - IVV, peak systolic velocity during ejection period-5a) were recorded. Strain echocardiographic imaging was performed in all patients. The results were compared with results of basal values that performed before CRT implantation.

RESULTS: The study included 16 men and 4 women. Mean age was 67.4 years (range 54–78). The underlying etiology was ischaemic in 15 patients, and non-ischaemic in 3 patients. Mean TDI Sa during BiV pacing (13.17±5.69cm/s) was higher than Sa values that was recorded before the CRT implantation. RV area fractional shortening, TDI derived systolic velocities, right ventricular strain (both basal and mid segments) and mid right ventricular strain improved after CRT implantation (Table 1).

CONCLUSIONS: Right ventricular function assessed by tissue Doppler and strain echocardiographic imaging was significantly improved after CRT implantation.

Table 1. Echocardiographic parameters

Parameters	Before CRT implantation	After CRT implantation	p value
TAPSE (mm)	16.30±5.00	18.20±5.60	0.005
RV area fractional shortening	33.10±7.70	35.20±5.97	0.026
RV acceleration time (msec)	73.90±26.30	64.70±13.70	0.150
RV Isovolumic velocity (cm/s)	14.20±6.90	17.10±7.60	0.017
RV Isovolumetric acceleration (cm/s ²)	1.89±1.14	2.53±0.94	0.012
RV Sa (cm/s)	13.17±5.69	15.26±5.07	0.012
Basal right ventricular strain (%)	24.13±7.51	27.24±7.61	0.014
Mid right ventricular strain (%)	19.73±6.77	22.42±7.36	0.032
Basal right ventricular strain rate (s-1)	2.23±0.77	2.42±0.83	0.327
Mid right ventricular strain rate (s-1)	1.88±0.65	2.53±0.70	0.016

OP-135 MIDWALL FRACTIONAL SHORTENING IN CHRONIC RENAL FAILURE

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OBJECTIVES: Cardiovascular complications are the most important cause of mortality in end stage renal disease. It was documented in earlier reports that cardiovascular morbidity and mortality could have seen even in the early stages of chronic renal failure (CRF). Previous studies in adults showed that measuring the fractional shortening of midwall (mFS) may be superior than measuring the fractional shortening of endocardium. The objective of this study investigates the systolic functions in children with chronic renal failure by means of measuring the mFS.

METHODS: Thirty- five children on renal replacement therapy (28 on peritoneal dialysis, 7 on hem dialysis; 17 boys and 18 girls) and 20 age and sex matched healthy subjects were studied. In all subjects, end diastolic and systolic Interventricular septum, posterior wall and left ventricular dimensions are measured by M-mode echocardiography. Midwall shortening fraction was measured by using formula as mFS = [(½ Dd + Hd) - (½ Ds + Hs)] / (½ Dd + Hd); where D was left ventricle, H was ½ (posterior wall + septum), s was end-systolic and d was end-diastolic.

FINDINGS: No significant difference was observed in endocardial fractional shortenings and ejection fraction. Left ventricular mass index was found significantly higher in patient group. mFS was significantly lower in patient group (mFS in patient group 24.70 ± 5.56, in control subjects 31.40 ± 3.43, p<0.05).

RESULTS: Fractional shortening of midwall (mFS) measurement is useful parameter to evaluate the systolic functions in children with chronic renal failure.

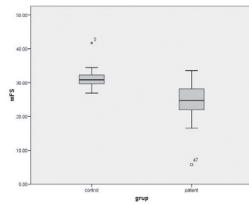


Figure 1 Comparison of mFS level in both groups

OP-136 CORONARY FLOW RESERVE AND DOBUTAMINE STRESS ECHOCARDIOGRAPHY IN THE ASSESSMENT OF GRAFT VASCULOPATHY AND ACUTE REJECTION IN CARDIAC ALLOGRAFT RECIPIENTS

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PURPOSE: Coronary angiography is insensitive to detect early changes of cardiac allograft vasculopathy (CAV) because of the diffuse nature of the disease. Although dobutamine stress echocardiography (DSE) is considered safe and cost effective to screen these patients who remain free of angina most of the time it does not discriminate if impairment is due to abnormal myocardium itself, or due to hypoperfusion by the epicardial arteries or microcirculation. Data on echocardiographic Doppler estimation of microvascular function are limited. We sought to evaluate coronary flow reserve (CFR) as a means of microvascular function and to compare CFR with dobutamine stress echocardiography (DSE) and coronary angiography in cardiac allograft recipients.

METHODS: Fifteen consecutive heart transplant recipients who had received cardiac transplantation more than 1 year before were enrolled into the study. Coronary flow velocity was measured in the mid to distal LAD from foreshortened apical 2-chamber view at baseline and after dipyridamol infusion (0.56mg/kg/4 minutes). All patients underwent DSE, coronary angiography and endomyocardial biopsy within the same week as the CFR evaluation. CFR was calculated as the ratio of hyperemic to baseline peak diastolic velocity. CFR \geq 2 was considered normal.

RESULTS: In patients with coronary lesions on angiography, diastolic flow velocity increased from 29.5 \pm 4.2cm/s to 52.7 \pm 5.6cm/s whereas in patients with no lesions it increased from 30.2 \pm 5.8cm/s to 70.4 \pm 22.4cm/s after dipyridamol infusion. CFR was <2 in 7 patients. In 4 of them coronary angiography revealed vasculopathy. In the remaining 3 patients with decreased CFR, epicardial coronary arteries were angiographically normal. No patient with abnormal coronary angiography had normal CFR. The results of CFR did not correlate with those of DSE. DSE was normal in 5 patients with abnormal CFR and was abnormal in 2 patients with normal CFR. Furthermore DSE was normal in 2 patients with coronary vasculopathy. Acute rejection was detected in 4 patients: in the first, both DSE and CFR were abnormal, in the second only the DSE, in the third only the CFR was abnormal, in the fourth both the DSE and the CFR were normal.

CONCLUSION: Echocardiographic CFR appears to be more sensitive than DSE to detect allograft vasculopathy in asymptomatic cardiac allograft recipients. However neither the DSE nor the CFR are sufficient to predict acute rejection.

OP-137 EVALUATING THE ENDOTHELIAL FUNCTIONS OF THE HYPERTENSIVE PATIENTS WITH Tc-99m SESTAMIBI MYOCARDIAL PERFUSION IMAGING: A NOVEL METHOD FOR ENDOTHELIAL FUNCTION ASSESSMENT

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BACKGROUND: It is well known that cardiovascular risk factors impair endothelial functions, which start disease process before clinical disease occurs. In this study, endothelial functions of patients with hypertension were assessed with forearm flow mediated vasodilation method by using Tc-99m.

MATERIALS-METHODS: The patients enrolled in the study were sampled from the cohort of patients referred to routine myocardial perfusion imaging. 42 patients (Group 1) with having only hypertension as a risk factor and 42 age matched patients (Group 2) with no identifiable risk factors were included in the study. Hypertension was defined in accordance with JNC7 and patients with Grade 1 or more hypertensive patients were included in the study. There were no significant differences between baseline demographic parameters of the two groups. Forearm flow mediated vasodilation method by using Tc-99m sestamibi was performed to assess endothelial functions of the patients.

A sphygmomanometer cuff was placed around the left arm and inflated to supra systolic pressure for 4.5 min to induce forearm ischemia by interrupting arterial blood supply. Then, Tc-99m was injected into the dorsal pedal veins of the patients and dynamic acquisition (2s per frame/min) was initiated simultaneously under camera (Figure 1). Equivalent regions of interest (ROIs) were drawn in approximately similar locations on both arms in order to detect total activity counts during 1 min and calculated the left arm/right arm perfusion ratio.

RESULTS: The mean perfusion ratio of the hypertensive patients (group 1) was significantly lower than the normal group (group 2) (2.06 \pm 0.50 vs. 2.48 \pm 0.51 respectively, p< 0.001).

CONCLUSION: Tc99m sestamibi SPECT seems to be a promising method for assessing the endothelial functions of the patients with hypertension. Hypertension is a well defined independent cardiovascular risk factor which impairs the endothelial functions even before the occurrence of clinical disease. Evaluating the endothelial functions with the forearm blood flow using Tc 99m sestamibi is a reproducible method that can be performed as a part of routine myocardial SPECT imaging without an additional cost. With this technique patients without a

clinical manifest disease can be diagnosed on the basis of their risk profile.

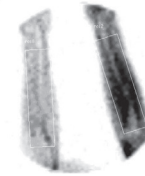


Figure: Regions of interest drawn in approximately similar locations on the reframed image after Tc-99m sestamibi injection.

OP-138 A THROMBUS AT RIGHT ATRIAL APPENDAGE IN A HEART FAILURE PATIENT WITH SINUS RHYTHM

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OBJECTIVE: Right atrial (RA) masses are often incidentally detected during imaging studies. A tumor, thrombus, or vegetation may be seen as right atrial mass. We, herein, report a 21-year-old man with giant thrombus of right atrial appendix (RAA).

MATERIAL AND METHODS: A 21-year-old male was admitted to our clinic with exertional dyspnea and fatigue. ECG showed that sinus rhythm with left anterior fascicular block (LAFB) and nonspecific ST-T changes. Chest X-ray, echocardiography, coronary angiography were performed to the patient.

RESULTS: Cardiothoracic index was found to be increased on chest X ray. During diagnostic work-up we determined dilatation and poor function in both ventricles (Left ventricular EF: 10%, Right ventricular TAPSE 11 mm), mild mitral insufficiency and suspicious mass in the right atrium. Further imaging study with transesophageal echocardiography (TEE) revealed a fresh thrombus reaching 20x25 mm diameter located at the right atrial appendage (Figure1). Coronary angiography was normal. He was registered to the transplantation list with medical therapy including warfarin.

CONCLUSION: In conclusion, TEE should be the method of choice for thrombus detection in patients who have high risk clinical conditions that may lead to thrombus formation in cardiac chambers. The main strategy of management should include anticoagulation, clinical, and echocardiographic follow-up as this case. Surgery is indicated in patients who are resistant to medical therapy and persistence of thromboembolic symptoms despite adequate anticoagulation.

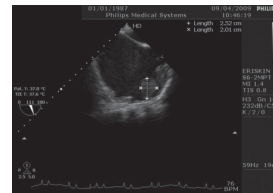


Figure 1

PERCUTANEOUS AND SURGICAL SOLUTIONS FOR MITRAL VALVE DISEASES

OP-139 PLASMA LEVELS OF TUMOR NECROSIS FACTOR α AND ITS RECEPTORS IN PATIENTS WITH MITRAL STENOSIS AND SINUS RHYTHM UNDERGOING PERCUTANEOUS BALLOON VALVULOPLASTY

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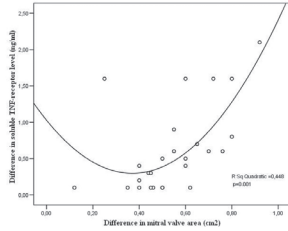
BACKGROUND: To determine whether plasma levels of tumor necrosis factor α (TNF α) and soluble TNF-receptor (sTNF-R) increases in rheumatic mitral stenosis (MS) patients with sinus rhythm and to examine the effect of percutaneous mitral balloon valvuloplasty (PMBV) on these parameters.

METHODS: Twenty-six patients with MS and sinus rhythm (study group, 20 female, mean age 33 \pm 8 y), who scheduled for PMBV and a well-matched control group consisting 21 healthy volunteers (15 female, mean age 35 \pm 6 y) were enrolled in the study. TNF α and sTNF-R levels were compared between study patients and controls, and between peripheral and left atrium (LA) blood. Changes in TNF α and sTNF-R levels 24 hours and 4 weeks after PMBV were analyzed.

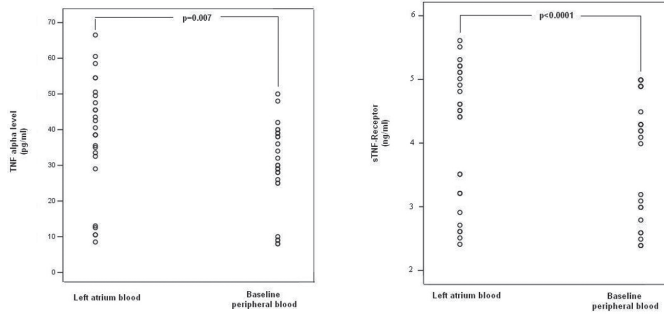
RESULTS: A significantly higher baseline TNF α and sTNF-R levels were noted in study group. In study group, TNF α and its receptors were also found to be higher in LA blood than in baseline peripheral blood (Figure 1 and 2). After PMBV, mitral valve area (MVA) increased and transmitral pressure gradient decreased significantly. At 24th hour after PMBV, TNF α level decreased from 29.61 \pm 12.22pg/ml to 22.42 \pm 8.81pg/ml (p<0.0001) and at 4th-week, from 22.42 \pm 8.81pg/ml to 18.92 \pm 7.37pg/ml (p<0.0001). Similar reductions were observed in sTNF-R level. Regression analysis between the difference in sTNF-R level measured 24-hour after and before PMBV and the difference in MVA measured 24-hour after and before PMBV showed a significant direct

relationship between these variables (Figure 3).

CONCLUSION: This study suggests that isolated rheumatic MS without atrial fibrillation is accompanied by increased TNF α and sTNF-R level. The successful PMBV establishes a significant reduction in TNF α and its receptors probably due to improved postprocedural hemodynamic parameters.



Graph of a curvilinear quadratic fit showed a significant correlation between the difference in mitral valve area measured 24-hour after and before P



In study group, TNF alpha level was found to be significantly higher in left atrium blood than in baseline peripheral blood.

In study group, soluble TNF-receptor level was found to be significantly higher in left atrium blood than in baseline peripheral blood.

OP-140 TRANSCATHETER CLOSURE OF PARAPROSTHETIC TRICUSPID VALVULAR LEAK AFTER TRICUSPID VALVE REPLACEMENT

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OBJECTIVE: Paraprosthetic leaks(PPL) is one of the complications of cardiac valve replacement surgery and might cause severe hemolysis or hemodynamic instability. In such cases, hemolysis rarely resolves spontaneously, and usually requires a further operation, but morbidity and mortality rates are relatively high. In this report, we present a patient who developed a severe hemolysis and liver dysfunction due to PPL after tricuspid valve replacement and the successful percutaneous closure of this PPL by using Amplatzer “duct occluder” (ADO) II device.

CASE: A 57-year old man with aortic valve replacement 5 years ago and mitral and tricuspid replacement 3 years ago, was admitted to our hospital for congestive heart failure (NYHA, Class II). Laboratory examination revealed severe hemolysis (serum hemoglobin of 9.8 g /dl, reticulocyte count 3.8%, lactic dehydroxygenase (LDH) of 1080 mg / dl) and liver dysfunction (Serum glutamic-oxaloacetic transaminase: 179.4 IU/L and Serum glutamic pyruvic transaminase: 100 IU/L. A localized moderate PPL was shown by Transesophageal Echocardiography (TEE) (Figure 1). Percutaneous closure of this PPL was decided and informed patient consent was obtained. The procedure was performed under general anesthesia by the guidance of 3-D TEE. After a 6 F multipurpose diagnostic catheter was placed into the right atrium, a 0.035” glide wire was used to advanced the catheter into the right ventricle passing through the PPL site and then glide wire was replaced with extra stiff wire. The delivery system was placed into the right ventricle over this extra stiff wire. ADO II device (waist diameter 6 mm, disc diameter 12 mm) was screwed to the delivery cable, loaded into the sheath, and passed across the PPL. The distal disc was opened and then placed to the hole of PPL. Subsequently, the proximal disc was opened in the right atrium. The device was released after that the position of device was proper (Figure 2). The closure of defect was demonstrated with 3-D TEE and complete disappearance of leak was confirmed with 2-D TEE (Figure 3). Total procedural time was 32 minutes and fluoroscopy time was 11 minutes.

DISCUSSION: There is a limited report about percutaneous closure of PPL in the literature. The absence of a device designed for closure of PPL, technical difficulties and the probability of device embolization might be the major causes of this limited information. There is not any reported case about transcatheter closure of paraprosthetic valvular leak after tricuspid valve replacement in the literature. This situation probably has been resulting from the minority of patient with tricuspid valve replacement. ADO II closure device was used in our case. Because of having two discs and the smaller disc sizes, ADO II is a useful device for closing the PPLs. Also, the use of the live 3-D TEE facilitated the procedure and enable to perform this procedure safely.

CONCLUSION: PPLs which were hemodynamically important might be closed percutaneously. This is the first case report about percutaneous closure of tricuspid PPL in the literature.

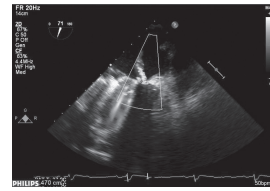


Figure 1: A localized moderate paraprosthetic leak is shown by Transesophageal Echocardiography (TEE)

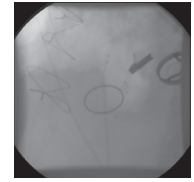


Figure 2: ADO II device is shown in the site of paraprosthetic leak. The distal disc (black arrow) is in the right ventricle and the proximal disc (white)



Figure 3: The complete disappearance of paravalvular leak is shown with 2-D Transesophageal Echocardiography (TEE)

OP-141 TRANSCATHETER CLOSURE OF A MITRAL PARAVALVULAR LEAK WITH A AMPLATZER DUCT OCCLUDER II: THE FIRST CASE IN TURKEY

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AIM: Paravalvular leak (PVL) after mechanical valve implantation is a relatively rare complication that may cause hemolysis or serious hemodynamic changes and heart failure. Surgical management of the paravalvular leaks is associated with mortality and morbidity. We, herein, report a case with successful percutaneous closure of a mitral PVL under the guidance of three-dimensional (3D) transesophageal echocardiography (TEE).

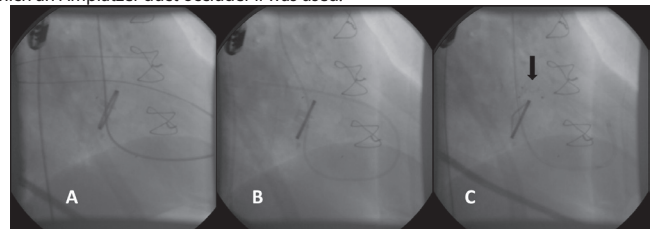
CASE: A 61-year-old man was presented with dyspnea at exertion. He had mitral valve replacement with St Jude mechanical valve a year ago. Laboratory findings were consistent with hemolysis (hemoglobin 10.6 gr/dl, reticulocyte count 3.2 % and lactic acid dehydrogenase 1140 mg/dL). TEE showed a localized mitral paravalvular leak causing moderate degree of regurgitation. Left heart catheterization revealed minimal coronary artery disease and moderate degree of mitral insufficiency. He was informed about the treatment options in detail and decided to attempt percutaneous closure of the defect.

Under general anesthesia and 3D TEE guidance, a 7 Fr sheath was placed in left femoral artery. With a 6F left Amplatzer (AL) 1 catheter directed to the left atrium via making a loop in the left ventricle we were able to cross the defect with a glide wire (Picture 1A). Then AL1 catheter was advanced and passed the defect (Picture 1B). The glide wire was changed with a 0.035” superstiff Amplatzer guidewire (260 cm). AL1 diagnostic catheter was replaced with a 7F AL2 guiding catheter and advanced into the left atrium. Then, the stiff wire was taken out and a Amplatzer duct occluder II (waist size 6 mm, disk diameter 12 mm) was advanced through the catheter. After opening the distal disc in the left atrium, we pulled the catheter and the device back, confirmed the position with echocardiography, and deployed the device (Picture 1C). 3D TEE showed that the paravalvular defect was totally closed (Picture 2) and 2D TEE revealed that the PVL totally disappeared (Picture 3). The procedural time was 74 minutes and fluoroscopic time was 22 minutes. The post-procedure course was uneventful with normal prosthetic valve function.

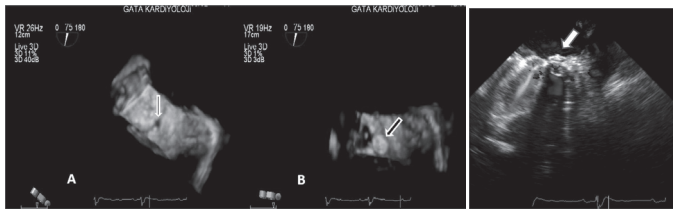
DISCUSSION: Percutaneous closure of PVLs is an attractive method but lack of a specific device for this purpose, complexity of the procedure and relatively high rates of device dislodgment result in reluctance in the choice of this approach. As an interventional strategy, we aimed to use the retrograde way in both crossing the leakage and deployment of the device. Amplatzer duct occluder II, a double-disc device was preferred for its small available waist sizes and small disk diameters in order to prevent overlapping with the mechanical leaflets were other reasons in favor of Amplatzer duct occluder II.

In antegrade approach, constructing a “monorail track” provides a stable wire over which the delivery system can be easily advanced. However, necessity of snaring the wire and making a femorofemoral or femorojugular loop is time consuming and causes increased cost for the snare and additional catheters, and fluoroscopy time. In this case 2D and 3D TEE during the procedure provided a decreased acoustic shadow of the mechanical valve and good spatial resolution for the delivery system.

This case is the first percutaneous PVL closure in Turkey. To the best of our knowledge it is also first in the literature in which deployment of the device was performed retrogradely and also in which an Amplatzer duct occluder II was used.



Picture 1



Picture 2

Picture 3

OP-142 COMPARISON OF COMPLETE OR PARTIAL PRESERVATION SUBVALVULARA APPAREY IN MITRAL VALVE REPLACEMENT

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BACKGROUND : The principle of the preservation of subvalvular apparatus is to prevent LVOT obstruction, to prevent the preserved tissue from interfering with prosthetic valve function and to implant an adequate size of valve for the patient .

METHODS : 25 patients with annular dilatation had mitral valve replacement with subvalvular apary preserving (Group I) and 26 patients with only posterior leaflet preserving as control group (Group II) were operated between 2001-2007. Mean follow up time was 26.41±17.98 (13-71 months). Two groups were similar according to pre and postoperative ejection fraction.

RESULTS : Group I patients had statistically significant positive difference in LVEDV, LVESV comparing to group II, but whole patients in both groups had functional class I during postop midterm follow up.

CONCLUSION : Preserving the subvalvular apparatus or posterior leaflet alone during mitral valve surgery prevents myocardial rupture and improves left ventricle functions. There are no differences between complete or partial preservation subvalvular apparatus during midterm follow up.

OP-143 MIDTERM RESULTS OF MITRAL VALVE REPAIR WITH ARTIFICIAL CHORDAE

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OBJECTIVE: Mitral valve repair has become the procedure of choice for the treatment of mitral regurgitation with superior results relative to mitral valve replacement. We have used artificial chordal replacement with polytetrafluoroethylene sutures for mitral valve repair and reported favourable midterm clinical results.

METHODS: Between october 2005 and february 2009 156 patients underwent mitral valve repair for mitral regurgitation. Of 156 patients, 25 had mitral valve repair with artificial neochorda. All patients had moderate or severe mitral regurgitation due to prolapse of anterior mitral leaflet. Mean age was 48 ± 2 years (range between 12- 83 years). Valve disease was purely degenerative in 20 patients (80%) and other 5 patients (20%) had ischemic mitral regurgitation. In 5 cases (20%) additional surgical procedures were performed. The mean follow-up period was 29 ±6 months.

RESULT: There was one in hospital mortality on the first month of operation due to renal failure. None of the patients required reoperation due to failure of reconstruction. Before discharge and 1 year after operation all patients underwent echocardiographic investigation and no or less mitral regurgitation was showed in all patients. During the follow-up period, there was no thromboembolism.

CONCLUSIONS: Mitral valve repair with artificial neochordae demonstrated favorable midterm outcome. The procedure is safe, effective and associated with low operative mortality and low rates of valve-related complications at long-term follow-up. Artificial chorda showed excellent biologic adaptation, retaining flexibility and tension with time.

OP-144 ASSESSMENT OF THE EFFECT OF MITRAL VALVE PROLAPSUS ON MITRAL PERIPROSTHETIC LEAKAGE

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OBJECTIVES: The aim of our study is to find out the etiological factors affecting paravalvular leakage.

METHODS: This retrospective study consisted of 32 patients who underwent reoperation for mitral valve due to paravalvular leakage in our institution. Those patients were studied retrospectively. When we analyze the etiological factors of patients who were operated on because of paravalvular leakage, 13 (40.6 %) cases had rheumatic heart disease (RHD), 13 (40.6 %) cases had mitral valve prolapsus (MVP), 3 (9.3 %) cases had idiopathic mitral insufficiency, and 3 (9.3 %) cases had infective endocarditis.

RESULTS: Periprosthetic leakage (PPL) rates were 1.1 % in rheumatic mitral stenosis, 2.8 % in idiopathic mitral insufficiency and 28.2 % in mitral valve prolapsus. When MVP group is compared to RHD and MI groups for PPL rates using chi-square test, PPL rates in MVP group were statistically significant (p<0.001). When we compared PPL rates between RHD and MI groups, we couldn't find a statistically significant difference (p=0.35). We compared the PPL areas between MVP, RHD, MI, IE groups. In MVP patients, PPL rate at mitral anterior leaflet area is more frequent than in RHD patients and it is statistically significant (p<0.001). In RHD group posterior

leakage rates were higher than anterior leakage rates. In MVP and MI groups anterior leakage rates were also statistically significant.

CONCLUSIONS: According to these findings, while doing mitral valve replacement in MVP patients, due to the structurally disorganized annulus, placing the sutures at anterior annulus carefully would reduce the PPL rates significantly.

OP-145 THE COMPARATIVE MID-TERM RESULTS OF RING ANNULOPLASTY VS. RINGLESS ANNULOPLASTY IN ISCHEMIC MITRAL REGURGITATION

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OBJECTIVES: This study retrospectively investigated 73 patients with coronary artery disease (CAD) and ischemic mitral regurgitation (MR) who underwent combined coronary artery bypass grafting (CABG) and mitral valve repair between 2000 and 2008.

METHODS: The patients were divided into two groups: Group I: (n=38; 65%) underwent CABG and mitral valve reconstruction using a ring; Group II: (n=35; 35%) underwent CABG and ringless mitral valve reconstruction. Mean age of the patients in Group I was 63.02±8.41 (range: 45-78). The mean age of the patients in Group II was 60.15±8.33 (range: 45-76). In Group I, 71.1% of the patients were male, while this rate is 60% for Group II.

RESULTS: In our cases there were no statistically significant difference between two groups regarding to ejection fraction (EF), mitral regurgitation, pulmonary artery pressure (PAP), left ventricular end-systolic diameter (LVESD) and left ventricular end-diastolic diameter (LVEDD). Postoperative echocardiograms revealed significant decrease in MR, PAP and LVEDD in Group I; whereas, only MR rate was different in Group II. Concurrent mitral valve reconstruction and CABG in presence of moderate to severe mitral regurgitation was found to decrease postoperative MR, PAP and LVEDD and improved postoperative functional capacity as well.

CONCLUSIONS: Reconstructing the valve using a fine surgical technique rather than replacement and an additional usage of a ring may be recommended.

**CARDIOVASCULAR RISK IN THE COMMUNITY :
WHAT WE DON'T KNOW**

OP-146 EFFECT OF MATERNAL IMPACT ON PREMATURE MI RISK IN ADULT OFFSPRING

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BACKGROUND: The pathogenesis of arterial thrombotic disease involves multiple genetic and environmental factors related to atherosclerosis and thrombosis which are the key pathophysiologic determinants of acute myocardial infarction (AMI). The association between the various classical risk factors and pathophysiology of atherosclerosis and myocardial infarction is well known. Besides, substantial proportion of patients without classical risk factors experience acute myocardial infarction. In many studies genetically determined trombotic risk factors have been shown with myocardial infarction in young adults. Epidemiologic studies conducted in Europe, North America, and developing countries have indicated a link between adverse intrauterin conditions during fetal development and metabolic and cardiovascular disease in adulthood. In this study we aim to examine non-classical risk factors for premature myocardial infarction.(younger than 45 years of age) by focusing on the gestational period.

METHOD: The study population included mothers of 35 premature MI patients who had been hospitalized between September 2006 and August 2007 in a cardiology clinic in a university hospital setting. We examined the various risk factors pertaining to the gestational period like; age, weight, height, cigarette use, second hand smoke exposure, whether or not the pregnancy was planned, and whether or not she worked actively during the gestational period, the place they gave birth to the child, and their educational status.

RESULTS: 92.2% of the mothers had a BMI greater than 25. 82.4% of the mothers did not plan the pregnancy.97.1% of the mothers were not using cigarettes, but 74.9% were exposed to second-hand smoke.34% of the mother's gestational age was inappropriate (less than 20 or greater than 35 years of age). 58% of the mothers had no formal education and only 5.8% had an education at the High School level or higher. 67.6% of the mothers were working actively during their gestational period. 58.8% of mothers gave birth to the child at home.

CONCLUSION: Maternal acceptance of the gestation, nutritional status and second hand smoke exposure of the mother, working actively in the gestational period, and inappropriate labour conditions may be the new risk factors for developing premature myocardial infarction. For a precise conclusion, more studies should be designed.

OP-147 THE FREQUENCY OF IMPAIRED GLUCOSE METABOLISM AT THE CARDIOVASCULAR SURGERY CLINICS OF KARTAL KOSUYOLU HEART EDUCATION AND RESEARCH HOSPITAL

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OBJECTIVES: Hyperglycemia is a common finding among hospitalized patients. Patients with unknown diabetes mellitus may present with hyperglycemia during hospitalization. Since cardiovascular diseases coexist with diabetes mellitus, the frequency of hyperglycemia is expected to be higher in a cardiovascular hospital. The aim of this study was to determine fasting glucose levels of patients hospitalized at the cardiovascular surgery clinics and determine the

frequency of disturbances of glucose metabolism.

METHODS: Three hundred and eighty five patients (mean age: 57.9±14.4 years; F/M:131/254) hospitalized at the cardiovascular surgery clinics of Kartal Kosuyolu Heart Education and Research Hospital at elective conditions between the dates of February 1 and April 1 2009 were included. Fasting serum glucose levels (FBG) were determined on the first day of their hospitalization.

FINDINGS: The distribution of 385 patients according to FBG are shown on the table. Two hundred and fifteen of the total number patients (55.9%) were hospitalized for coronary artery disease (CAD), 42 (10.9%) for peripheral artery disease, 79 (20.5%) for valvular disease, 22 (5.7%) for aortic aneurysm, 9 (2.3%) for atrial septal defect, while the remaining 18 (4.7%) were hospitalized for complications like wound infection, constrictive pericarditis and pericardial effusion. Of the 215 patients operated for CAD, 135 (62.7%) had known diabetes mellitus (DM) and 23 (10.7%) had impaired fasting glucose (IFG).

RESULTS: An important percentage of patients hospitalized at the cardiovascular surgery clinics have a disturbance of glucose metabolism. Among these patients, newly-diagnosed DM and IFG are more than patients with known DM. In conclusion, measurement of blood glucose levels of hospitalized patients, especially in a cardiovascular hospital has an important role for determination of unknown disturbances in glucose metabolism.

Distribution of patients according to FBG

	NORMAL (n=157)	IMPAIRED IFG (n=52)	GLUCOSE new DM (n=74)	METABOLISM (n=228) known DM (n=102)
Frequency (%)	40.8	13.5	19.2	26.5
Age (year)	54.0 ± 16.3	61.2 ± 12.6	60.3 ± 13.3	61.0 ± 10.9
F/M	59 / 98	18 / 34	14 / 60	41 / 61
FBG (mg/dL)	87.7 ± 7.3	106.5 ± 4.3	144.6 ± 35.1	179.9 ± 74.2

FBG=fasting blood glucose; IFG=impaired fasting glucose; DM=diabetes mellitus; F/M=female/male

OP-148 CAN CORONARY ARTERY DISEASE RISK BE FOLLOWED BY METABOLIC EQUIVALENTS?

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OBJECTIVES: Coronary artery disease (CAD) is still a primary cause for morbidity and mortality. Many parameters and tests are used to determine atherosclerotic CAD. In this study, we aimed to evaluate the association of Framingham risk score and metabolic equivalents (METs) on treadmill exercise testing, in asymptomatic sedentary individuals.

METHODS: We enrolled 42 patients aged 46.5±13.52 years of whom 20 were female (47.6%) and 22 were male (52.4%). The socio-demographic data of the subjects were recorded. Body mass index values (BMI), were calculated. The 33.3% of the patients graduated from university, 33.3% graduated from high-school and 33.3% graduated from primary school. CAD risk was determined by Framingham risk score. MET value, showing functional capacity was measured during treadmill exercise testing.

RESULTS: Of the 42 patients 14.3% had diabetes mellitus (DM), 28.6% had hypertension (HT), 54.8% had hyperlipidaemia (HL), 40.5% was current smoker and 61.9% had a positive family history for coronary artery disease. In the study group mean Framingham risk score was 10.9±6.2, and MET value was 12.15±2.03. According to Pearson correlation analysis, statistically significant inverse correlation was found between Framingham risk score and MET value (p=0.000, r=-0.56). Thus in patients with low MET values, Framingham risk score was found to be high. And also BMI values were inversely correlated to MET values (p:0.029, r:-0.34). There was no significant relationship between educational level and Framingham risk score (p>0.05, r:-0.182).

CONCLUSION: In regard to the association between Framingham risk score and MET, individual cardiovascular risk can be assessed by MET values. It can be concluded that cardiovascular risk level increases as functional capacity decreases. This situation can be explained by the increase in cardiovascular disease risk due to being sedentary and having a low functional status or a decrease in functional status due to an underlying cardiovascular disease. Large scale studies are required for further information about this subject.

OP-149 THE CORRELATION BETWEEN MEAN PLATELET VOLUME AND THE GENSINI SCORE

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OBJECTIVES: Platelets represent an important linkage between inflammation, thrombosis, and atherogenesis. Mean platelet volume (MPV) is elevated in patients with acute coronary syndrome (ACS) and is used as an independent predictor of recurrent myocardial infarction and cardiac death. We aimed to determine the relationship between mean platelet volume and angiographic Gensini score which gives information about coronary artery disease severity.

METHODS: We enrolled 96 patients undergoing elective coronary angiography, mean age 60±11.4 of whom 43 were female (44.8%) and 53 were male (55.2%). The MPV, fasting blood glucose (FBG), LDL, HDL, triglyceride, GGT, C-reactive protein levels were obtained from 12 hours fasting blood samples. Cardiovascular risk was calculated by Framingham risk score. The statistical correlation between MPV, coronary artery disease risk factors and Gensini score were assessed with Pearson correlation analysis and ANOVA.

RESULTS: Of the 96 patients 15.6% had impaired glucose tolerance (IGT), 75.8% had coro-

nary artery disease (CAD), 62.5% had hypertension (HT), 55.2% had hyperlipidemia (HL), and 43.8% had a positive family history for coronary artery disease. As the patients were statistically analyzed, mean Framingham risk score was 14.75±4.46 and mean Gensini score was 34.12. Gensini score of 24 patients were 0 (25%, CAD is absent), 28 patients had a score between 1-20 (29.2%, minimal CAD), 44 of them had a score higher than 20 (45.8%, serious CAD). Mean MPV values were 8.28±1.09 fL at the group which has no CAD; 9.68±1.24 fL at the group with minimal CAD; 10.31±1.09 fL at the group with severe CAD. According to Pearson correlation analysis, positive relationship between MPV and Gensini score was determined to be statistically significant (p<0.05, r:0.58). No significant association was determined between MPV and FBG, LDL, HDL, triglycerid, GGT, CRP levels, and also Framingham risk score (p>0.05). An inverse relationship was determined to be between Framingham risk score and hemoglobin levels (p<0.05, r:-0.33).

CONCLUSION: In this study, we determined a positive correlation between coronary artery disease severity and mean platelet volume. In regard to the association between Gensini score and MPV values, this simple hematology test can be used in determining cardiovascular disease risk besides other risk factors during routine clinical practice. So, we can say MPV can be considered as a marker of platelet reactivity or a risk factor for coronary artery disease. For further information about this topic, we need larger studies.

OP-150 THE RELATIONSHIP BETWEEN HEART RATE RECOVERY INDEX AND HIGH-SENSITIVE CRP

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OBJECTIVES: Coronary artery disease (CAD) is still a primary cause for morbidity and mortality. Many parameters and tests are used to determine CAD possibility. An association between decreased heart rate recovery index (HRRi) which is measured during exercise stress test and increased cardiac mortality had been reported earlier. A positive association of an inflammatory marker high-sensitive C-reactive protein (hs-CRP) and cardiovascular disease risk had been reported as well. We sought to determine the relationship between these two parameters.

METHODS: We enrolled 42 patients undergoing exercise stress test and having mean age 46.5 ± 13.52 of whom 20 were female (47.6%) and 22 were male (52.4%). Heart rate recovery index (HRRi) was obtained by subtracting 1 minute after resting heart rate from maximal heart rate during exercise stress testing (Bruce protocol). Cardiovascular disease risk was determined by Framingham Risk Score. Body mass index (BMI) values, were calculated. The hs-CRP levels were obtained from 12 hours fasting blood samples

RESULTS: Of the 42 patients 14.3% had diabetes mellitus (DM), 28.6% had hypertension (HT), 54.8% had hyperlipidaemia (HL), 40.5% was current smoker and 61.9% had a positive family history for coronary artery disease. Mean HRRi was 26.54 ± 9.63, hs-CRP was 4.26 ± 3.76, Framingham Risk Score was 10.9 ± 6.2, and mean MET value was found 12.15 ± 2.03. According to Pearson correlation analysis, inverse relationship between HRRi and hs-CRP was determined to be statistically significant (p=0.002, r=-0.58). No significant association was determined between hs-CRP and Framingham Risk Score (p>0.05).

CONCLUSION: Having low HRRi values, particularly < 12/minute is associated with increased cardiac mortality. In our study, the negative correlation of low HRRi values and an inflammatory marker of cardiovascular risk hs-CRP suggests, usage of these two parameters in combination for determination of cardiovascular risk. Patients with high hs-CRP and low HRRi values should be further evaluated for CAD. In our study, the observation of patients with low HRRi values having high Framingham Risk Score supports this hypothesis.

OP-151 THE RELATIONSHIP BETWEEN INCREASED MEAN PLATELET VOLUME AND SERUM URIC ACID LEVELS

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INTRODUCTION: Increased thrombocyte adhesion and aggregation in hyperuricemia has been mentioned in many studies. Furthermore, it is well known that hyperuricemia represents an important, independent risk factor for atherosclerosis, ischemic heart disease, and hypertension. In our study, we aimed to investigate the relationship between coronary artery disease (CAD), mean platelet volume (MPV) and serum uric acid (UA) levels.

MATERIALS-METHODS: We enrolled 96 patients (age 60±11.4 (mean±SD)), including 53 males (55.2%) and 43 females (44.8%) based on patients' medical history, clinical findings, and coronary angiographic findings. The MPV, UA, fasting blood glucose (FBG), LDL, HDL, triglyceride (TG), GGT, C-reactive protein (CRP) levels were obtained by the analyses of 12 hours overnight fasting blood samples. The cardiovascular risk was calculated according to the Framingham Risk Score (FRS). To determine the relationship between MPV, CAD, and UA, the data was statistically analyzed using the Pearson correlation analysis and ANOVA.

RESULTS: We observed that the patients had; 75.8% CAD, 55.2% hyperlipidemia (HL), 62.5% hypertension, 43.8% positive family history for CAD, and 15.6% impaired glucose tolerance. Among the 96 patients enrolled, the mean levels ± SDs for the laboratory and clinical parameters checked were as follows: MPV 9.6±1.39 fL, UA 5.52±1.23 mg/dL, FRS 14.75±4.46. Thirty-nine of the patients' (41.1%) had MPV above 10.0 fL, 37 of the patients' (38.9%) had between 8.5-10.0 fL and 19 of the patients' (19.7%) had below 8.5 fL. Patients' who had MPV above 10.0 fL, had serum UA levels of 6.1±1.3 mg/dL. On the other hand, the group of patients who had MPV below 8.5 fL, had serum UA levels in the range of 5.24±1.33 mg/dL. During the statistical analyses, we found a statistically significant relationship between a possible cardiovascular risk

indicator: MPV and a well known risk factor: increased serum UA ($p=0.037$, $r=0.33$). But, a similar statistically significant relationship between MPV and FRS, FBG, LDL, HDL, TG, GGT, and CRP could not be found ($p>0.05$).

CONCLUSION: High serum UA levels are related with increased CAD prevalence and cardiovascular mortality. When we consider UA's biochemical features and its biochemical pathway, oxidative stress seems to be a possible explanation for this relationship. In our study we found a significant relationship between increased MPV and increased serum UA levels; which may give rise to a possibility that, the combined evaluation of these parameters may result with a better prediction of the cardiovascular risk. Increased thrombocyte adhesion and aggregation present in hyperuricemia, could be related to the high MPV observed in these patients. Also, if we consider the relationship between hyperuricemia and the inflammatory response, it seems possible that, cytokines may stimulate megakaryopoiesis and causes an increase in MPV.

OP-152 SERUM URIC ACID LEVELS ARE ASSOCIATED WITH CAROTID INTIMA MEDIA THICKNESS IN PATIENTS WITHOUT CLINICAL CORONARY ARTERY DISEASE

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PURPOSE: Hyperuricemia is a risk factor for the development of cardiovascular disease and uric acid (UA) levels are associated with subclinical atherosclerosis. Carotid intima media thickness (IMT) is a useful determinative marker for atherosclerosis. In this study we aimed to investigate the association between serum UA levels and carotid IMT in patients without clinical coronary artery disease.

METHODS: In all, 50 persons (39 women and 11 men; mean age 53.4 ± 11.8) without clinical coronary artery disease were included. Blood sample were drawn in fasting and serum UA levels were measured with the enzymatic calorimetric method. Hyperuricemia was defined as a serum UA level of more than 6 mg/dL in women and more than 7 mg/dL in men. Carotid IMT was evaluated from right and left common carotid arteries using by 8 MHz linear vascular probe. The averaged values of carotid IMT were compared in patients with hyperuricemia and without.

RESULTS: The mean serum UA level and carotid IMT were 4.9 ± 1.2 mg/dL; 0.68 ± 0.19 mm, respectively. Serum UA levels were associated with carotid IMT ($r = 0.363$, $P = 0.010$). Carotid IMT was higher in patients with hyperuricemia than those without hyperuricemia (0.80 ± 0.19 mm vs 0.65 ± 0.18 mm, $P = 0.031$). In addition UA levels were increased in person with intimal hyperplasia in carotid artery than comparison in without intimal hyperplasia in carotid artery (5.7 ± 1.2 mg/dL vs 4.7 ± 1.2 mg/dL, $P = 0.024$).

CONCLUSION: Serum UA levels are associated with carotid IMT. Lowering of serum uric acid levels could be potential benefits of development of atherosclerosis.

OP-153 ARTERIAL INTIMA-MEDIA THICKENING AND ENDOTHELIAL DYSFUNCTION IN OBESE TURKISH CHILDREN

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OBJECTIVES: We aimed to study the relations between carotid intima-media -thickness (IMT), flow-mediated dilatation of the brachial artery (FMD) and known cardiovascular risk factors in a group of obese children compared with non-obese individuals

METHODS: This prospective study consists of 77 obese children (mean age of 10.99 ± 2.48 years) and 40 non-obese peers (mean age of 10.17 ± 2.76 years). All patient were examined in the morning after an overnight fast and venous blood samples were taken to measure total cholesterol(TC), triglycerides(TG), LDL/HDL cholesterol, glucose and insulin levels. Height, weight, waist, blood pressure (BP), and hip circumferences were determined for all participants. After the patient had rested for about 10 min, carotid artery IMT were measured in the 2 cm proximal of the common carotid artery bifurcation by B-mode echocardiography. After the carotid ultrasound, brachial FMD studies were performed to 5 -8 cm above the elbow in the right arm.

FINDINGS: We found highly significant differences for carotid artery IMT and brachial artery FMD between obese and control groups. Carotid artery IMT was significantly higher (0.570 ± 0.048 mm) in obese patients than in controls (0.449 ± 0.031 mm). Brachial FMD was significantly lower (7.297 ± 3.79 %) in obese patients than in controls (11.690 ± 6.41 %). Total and LDL cholesterol, TG, insulin and glucose level were significantly elevated in the obesity group as expected. The Pearson correlation matrix shows a significantly positive correlation between carotid artery IMT and body mass index (BMI), hip circumferences, systolic/diastolic blood pressure, insulin level, TG levels while only TC value had negative correlation with brachial FMD.

RESULTS: In our study, we also found a significant increased carotid artery IMT and impaired brachial endothelial response measured as reduced FMD in obese patients. It can be assumed that early atherosclerotic changes related to childhood obesity. However conventional risk factors don't correlate very strongly with brachial FMD. A recent study of Zhu et al. from China found a significantly increased carotid IMT and decreased brachial FMD in obese children. Our results are similar with this study. In conclusion obesity in a childhood is predictive of a risk of cardiovascular morbidity and mortality in adult life. For this reason, prevention of obesity and its complications are crucial for later life.

OP-154 FREQUENCY OF CORONARY RISK FACTORS AND METABOLIC SYNDROME IN MILITARY PERSONNEL BETWEEN 20 AND 50 YEARS OLD APPLIED TO FOR PERIODIC PHYSICAL EXAMINATION

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AIM: Coronary heart diseases (CHD) have emerged as the dominant chronic disease in many parts of the world and will soon become the number one killer worldwide in the 21st century. In addition to the conventional coronary risk factors there are new markers that may predict CHD or even play a role in the pathogenesis of it. Metabolic syndrome (MS) is a cluster of metabolic abnormalities such as abdominal obesity, dyslipidemia, elevated fasting glucose and blood pressure. Insulin resistance is suggested to play a key role in the pathogenesis of MS and it was shown that CHD and diabetes mellitus are more frequently seen in this syndrome. In this retrospective descriptive study we aimed to evaluate the prevalence of the coronary risk factors as well as the MS in male military personnel between 20 and 50 years old who applied to a military hospital for routine periodic physical examination.

METHODS: The patients with previous CHD and the ones with incomplete data were excluded. MS was diagnosed if the patient had any of at least 3 of 5 criteria: 1) waist circumference >102 cm; 2) fasting blood glucose ≥ 110 mg/dl 3) triglyceride ≥ 150 mg/dl 4) High density cholesterol (HDL-c) < 40 mg/dl and 5) arterial blood pressure $\geq 130/85$ mm Hg or use of an antihypertensive drug. In addition the risk for hard cardiovascular events in upcoming ten years was calculated via Framingham risk score for each person.

RESULTS: A total of 820 personnel were included (age 35.3 ± 6.9). MS was diagnosed in 123 people (15%). The frequencies of each MS component in the whole group and MS group were as follows respectively. Hypertriglyceridemia (40,0 % and 91,1 %), hypertension (36,6 % and 83,7 %), abdominal obesity (17,8 % and 61,8%), low HDL-c (23,2 % and 63,4 %) and hyperglycemia (8,7 % and 30,1%). The proportion of individuals having 1, 2, 3, 4, and 5 criteria were 30,5 %, 23,2 %, 11,0 %, 3,5 % and 0,5%, respectively. Proportion of people with MS was increasing with age (7,0% in age 20-29; 14,9 % in age 30-39; 21,8% in age 40-50; $p < 0.001$) as well as with the decreasing amount of physical exercise (21,5% if no exercise; 15,5% if exercise < 60 min/week; 10,9% if exercise between 60-120 min/week; and 9,4% if exercise > 120 min/week; $p < 0.001$). Although HDL-c decreased with the increasing number of cigarettes, the number of patients with MS showed no change with the changing amount of cigarettes. According the Framingham risk score only 5,4% of the study group was in high risk. On the other hand 7,2% of individuals with low risk and 20,5% of the intermediate risk group had metabolic syndrome.

CONCLUSION: The prevalence of MS in the military personnel was less than the sex and age adjusted general population in Turkey. The tendency of military personnel for exercise may have a role in this result. Another important point is the presence of MS even in low risk population with Framingham score. Because of its correlation with inflammatory markers, the presence of MS may be a better risk predictor especially in low risk individuals according to Framingham score. The importance of these markers and the MS will be understood better with cohort studies.

VENTRICULAR ARRHYTHMIAS AND SUDDEN CARDIAL DEATH : RISK ASSESSMENT, DIAGNOSIS, TREATMENT

OP-155 HEART RATE TURBULENCE IN PATIENTS WITH METABOLIC SYNDROME

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INTRODUCTION: Metabolic syndrome (MS) is a cluster of risk factors leading to cardiometabolic diseases. Central obesity, dyslipidemia, hypertension, and insulin resistance are among the components of MS. Heart rate turbulence (HRT) is defined as a physiologic alteration in the sinus rate after a ventricular premature beat, and is considered to be an indicator of baroreflex sensitivity. HRT is a significant indicator of vagal activity, and a strong and independent determinant of overall mortality.

AIM: The aim of the present study was to investigate the effect of MS on heart rate turbulence.

MATERIALS AND METHODS: Fifty-six patients (mean age, 50 ± 9 years; 28 females and 28 males) were included in the MS group and 37 subjects (mean age, 49 ± 7 years; 19 females and 18 males) were included in the control group. MS defined according to the criteria of NCEP-ATP III 2001. One point was given for the presence of each MS criterion, and the total score was calculated as the MS score. All the subjects were monitored for 24 hours via an ECG Holter system (ELA Spideview Digital Recorder). The two HRT parameters, turbulence onset (TO), and turbulence slope (TS) were calculated automatically from the Holter records via the HRT View Version 0.60-0.1 software program. Patients who had coronary artery disease, valvular heart disease, heart failure and cardiac rhythm disorder were excluded from the study.

RESULTS: There was no statistically significant difference between the MS and control groups regarding age, gender, and the mean heart rates (Table 1). At least one of the TO or TS values was within the abnormal range in 57% of the patients within the MS group and 27% of the patients within the control group (Figure 1). When the MS and control groups were divided into sub-groups according to the HRT parameters being normal or abnormal, a significant difference was determined between the sub-groups. When the onset of turbulence and the turbulence slope parameters were considered separately; the TS was determined to have more abnormal values in the MS group, which was statistically significant ($p=0.02$; Figure 2). When the mean of the HRT parameters was examined, the TS value was significantly lower and the TO value was significantly higher in the MS group (Table 2). According to two-way correlation analysis, a statistically significant, but weak, negative correlation ($r=-0.27$, $p=0.008$) was determined between the MS score and TS and a non-significant, but positive correlation ($r=0.16$, $p=0.12$) was determined between the MS score and TO. When the relationship between age and HRT parameters were examined in the MS group, no significant correlation was determined (TO: $r=0.22$, $p=0.871$; TS: $r=-0.079$, $p=0.5$). Additionally, no significant correlation was determined between the BMI and the HRT parameters.

CONCLUSION: Baroreflex sensitivity was impaired and this impairment developed prior to cardiovascular target organ damage in MS patients. Risk factors should be carefully reduced to prevent MS, which has become epidemic in our developing world.

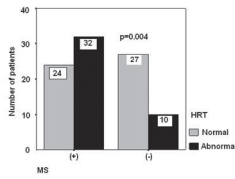


Figure 1. The distribution of the heart rate turbulence parameters in patients with and without metabolic syndrome

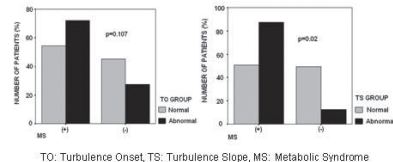


Figure 2. The distribution of the groups according to heart rate turbulence parameters

Figure 1

Figure 2

Table 1. Basic clinical characteristics of the metabolic syndrome and control groups

	MS Group	Control Group	P
Age (year)	50±9	49±7	0.89
Gender (F/M)	28/28	19/18	0.88
BMI (kg m ⁻²)	33.6±5.50	27.87±5.17	<0.001
Hypertension	39 (89.6%)	-	<0.001
Diabetes	19 (33.6%)	-	<0.001
Waist Circumference (cm)	105.92±91.24	91.24±9.02	<0.001
Triglyceride (mg/dL)	253.17±152.63	125.87±46.61	<0.001
HDL (mg/dL)	38.25±11.34	45.18±12.32	<0.001
Systolic BP (mmHg)	148.48±17.47	120.40±7.39	<0.001
Diastolic BP (mmHg)	89.73±10.80	71.48±6.10	<0.001
FBG (mg/dL)	138.10±63.16	95.75±7.10	<0.001
Presence of LVDD	20 (35.7%)	1 (2.7%)	<0.001
Presence of LVH	7 (12.5%)	1 (2.7%)	0.09
IMR (min)	79.16±9.37	76.57±6.47	0.14
MS Score	4±1	1±1	<0.001

BMI: Body Mass Index; HDL: High Density Lipoprotein; BP: Blood Pressure; FBG: Fasting Blood Glucose; LVDD: Left Ventricular Diastolic Dysfunction; LVH: Left Ventricular Hypertrophy; IMR: Mean Heart Rate; MS: Metabolic Syndrome

Table 1

Table 2. The distribution of mean HRT parameters according to the groups

	Metabolic Syndrome	Control	P
Turbulence Onset	-0.0095±0.0043	-0.0408±0.0365	0.02
Turbulence Slope	4.0600±2.5500	5.9100±3.2700	0.01

Table 2

Table 3. The relationship between hypertension, diabetes, left ventricular diastolic function, left ventricular hypertrophy, and turbulence onset and turbulence slope

	DM (+)	DM (-)	P
TS (msec/RR)	4.17±3.07	4.96±2.96	0.64
TO (%)	-0.0162±0.0046	-0.0230±0.0130	0.30
HT (+)			
TS (msec/RR)	3.97±2.42	5.40±3.22	0.56
TO (%)	-0.0152±0.0090	-0.0268±0.0170	0.36
LVH (+)			
TS (msec/RR)	3.72±2.11	4.90±3.04	0.28
TO (%)	-0.0211±0.0080	-0.0220±0.0050	0.96

TO: Turbulence Onset; TS: Turbulence Slope; DM: Diabetes Mellitus; LVH: Left Ventricular Hypertrophy; HT: Hypertension

Table 3

OP-156 HEART RATE VARIABILITY AND HEART RATE RECOVERY IN PATIENTS WITH CORONARY ARTERY ECSTASIA

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BACKGROUND: Coronary artery ectasia (CAE) is characterized by an abnormal dilatation of the coronary arteries, which is a variant of coronary artery disease (CAD). Increased sympathetic activity or decreased vagal modulation of cardiac function assessed by heart rate variability analysis has been associated with an increased risk of CAD and mortality and angiographic progression of coronary atherosclerosis, as well as arrhythmia and sudden cardiac death. Heart rate recovery index is a strong indicator of risk in asymptomatic and symptomatic CAD. To our knowledge, no study has been conducted to investigate the relationship between heart rate variability, heart rate recovery, and CAE. The purpose of this study was to examine the changes in heart rate recovery and heart rate variability measurements in CAE.

METHODS: The study population consisted of 50 consecutive patients (24 women; mean age 46±5 years, range 36 to 55) with CAE and 35 asymptomatic healthy subjects comprised the control group (19 woman; mean age 44±7 years, range 26 to 58). We performed electrocardiography, echocardiography, holter analysis, exercise stress test, routine biochemical tests and evaluated the clinical characteristics. Time domain parameters of heart rate variability (mean RR intervals; standard deviations of all NN intervals (SDNN); standard deviations of the averages of NN (SDANN), the root mean square of the difference in successive RR intervals (rMSSD), proportion derived by dividing the number of interval differences of successive N-N intervals greater than 50 ms by the total number of N-N intervals (pNN 50) were evaluated. Heart rate recovery was defined as the difference in the heart rate from peak exercise to one min after peak exercise.

RESULTS: SDNN (123.7±30.3 vs. 178.8±52.7, p<0.001), SDANN (95.2±27.1 vs. 120.2±39.6, p=0.001), pNN50 (11.9 ± 8.6 vs. 17.1 ± 6.4, p=0.004) were significantly lower in the CAE group than in healthy control subjects. The r-MSSD was lower in CAE patients than controls, but the differences between groups were not statistically significant (47.5±23.1 vs. 56.2 ±23.6, p=0.097). The heart rate recovery values measured during the recovery phase were significantly lower in the CAE group compared to control group (21.3± 11.1 vs. 29.3 ± 11.9 p=0.002). The incidence of abnormal heart rate recovery (22 [44%] vs. 5 [14%], p=0.002) were greater in patients with CAE group than in controls.

CONCLUSIONS: The results of our study showed that, time-domain heart rate variability parameters and heart rate recovery were reduced in patients with CAE. We speculated that in CAE, heart rate variability and heart rate recovery might be associated with mortality, life-threatening arrhythmias and sudden death like CAD.

OP-157 PREDICTORS OF VENTRICULAR ARRHYTHMIAS IN PATIENTS WITH MITRAL VALVE PROLAPSE

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BACKGROUND: Arrhythmias have been reported to occur frequently in symptomatic patients with mitral valve prolapse (MVP). The mechanisms causing ventricular arrhythmias in patients with MVP have not been fully investigated. The purpose of this study was to determine the clinical, echocardiographic and heart rate variability parameters, and plasma concentrations of electrolytes and inflammatory markers in predicting ventricular arrhythmias in patients with MVP.

METHODS: A total of 58 consecutive patients with MVP were included in this study. We performed electrocardiography, echocardiography, holter analysis, routine biochemical tests including plasma concentrations of electrolytes and inflammatory markers, and evaluated the clinical characteristics. Ventricular arrhythmia defined as occurrence of any of the followings: ventricular premature contractions (VPCs), VPC couplets, and ventricular tachycardia documented by holter analysis, continuous monitoring or by electrocardiography.

RESULTS: Twenty patients (34%) had ventricular arrhythmias, and 38 (66%) patients had no ventricular arrhythmias. Seventeen patients had VPC, 2 patients had VPC couplets and 1 patient had ventricular tachycardia. Univariable predictors of ventricular arrhythmias included isovolumetric relaxation time and the occurrence of moderate to severe mitral regurgitation. Multivariable logistic regression analysis showed that occurrence of moderate to severe mitral regurgitation was the only independent predictor of ventricular arrhythmias (relative risk: 0.23, 95% confidence interval: 0.21-0.66 p=0.01).

CONCLUSIONS: Present study showed that the only independent predictor of ventricular arrhythmias in patients with MVP is the occurrence of moderate to severe mitral regurgitation.

OP-158 DIAGNOSTIC AND THERAPEUTIC EXPERIENCE WITH AJMALINE CHALLENGE TEST IN BRUGADA SYNDROME

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OBJECTIVE: The diagnostic ECG pattern in Brugada syndrome (BS) might be transiently normal and it could be unmasked by sodium channel blockers, especially with ajmaline challenge test. Aim of the study is to present our diagnostic experience with ajmaline challenge test.

METHODS: The ECG was defined as typical 'coved-type' if displaying a right bundle branch block (RBBB) pattern with a terminal r wave and a J-point elevation of at least 0.2mV with a slowly descending ST-segment in continuation with a flat or negative T wave in leads V1 to V3 either spontaneously or after the administration of ajmaline. Heart rate, QRS and QTc (Bazett formula) duration on ECG were measured before, during and after drug administration in all patients.

RESULTS: The study population consisted of 13 consecutive patients mean age 44.4 (23-57) years, with one or more of the following clinical presentations ; sudden cardiac arrest (n=1), syncope of unknown origin (n=3), documented VT (n=1), asymptomatic individuals with a family history of sudden cardiac death (n=2) or with a suspicious but not diagnostic ECG (n=6) (incomplete/complete bundle branch block pattern, 'saddle-type' ECG with ST segment elevation less than 0.2 mV) during routine examination. Structural heart disease was excluded by clinical history and noninvasive and invasive methods. Ajmaline was given intravenously in fractions to a target dose of 1 mg/kg in five minutes. In 3 patients (23%) the typical coved-type ECG pattern of BS was unmasked. During test, no symptomatic VT was detected. No mortality occurred. Internal Cardioverter Defibrillator (ICD) implantation was performed in 2(15%) patients with positive test results. Electrocardiographic parameters before and after ajmaline challenge test were shown below (Table 1).

CONCLUSIONS: The ajmaline challenge using a protocol with fractionated drug administration is a safe method to diagnose BS. Ajmaline challenge test is not utilized routinely and a standardized protocol has not been published yet. Because of the potential induction of VT, it should be performed under continuous medical surveillance with advanced life-support facilities.

Table 1. Electrocardiographic parameters before and after ajmaline challenge test

Parameter	Before test	After test	P value
Heart rate (bpm)	68±12	79±13	<0.05
QRS (ms)	96±15	116±17	<0.05
QTc (ms)	406±28	443±31	<0.05

OP-159 EARLY REPOLARIZATION: A NEW ASSOCIATION WITH SUDDEN CARDIAC DEATH

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OBJECTIVE: Early repolarization is a common electrocardiographic pattern characterized by a prominent J-point and ST-segment elevation [minimum 1 mm (0.1mv)] Since it was first reported , early repolarization has been considered a benign condition. However, there is a renewed interest in early repolarization because of its similarities to the arrhythmogenic Brugada syndrome. This suggestion has been supported previously only by case reports of sudden cardiac death in individuals with early repolarization. However, recently published studies associations between sudden cardiac death and early repolarization which provided further support that early repolarization might not be a benign condition. In this paper we present 5 cases of early repolarization associated sudden cardiac death.

METHODS: We reviewed data from 5 case subjects at our center who had idiopathic ventricular fibrillation and assessed the prevalence of electrocardiographic early repolarization. The latter was defined as an elevation of the QRS-ST junction of at least 0.1 mV from baseline in the inferior or lateral lead, manifested as QRS slurring or notching.

RESULTS: A total of 5 patients were included (4 males). Median age was 47 years (22-54). Detailed clinical properties of early repolarization associated sudden cardiac death cases were shown below (Table 1)

CONCLUSIONS: Early repolarization is common electrocardiographic finding. Since there are many persons who fit such a picture but do not appear to have excess risk, we need further data to unravel how to identify patients who are at high risk for a catastrophic arrhythmia.

Table 1. Detailed clinical properties of the cases.

Case	Age / Gender	Arrhythmia	QRS interval (ms)	QTc interval (ms)	Triggering event	Family history of SCD	EPS, arrhythmia induction	TTE	CAG
1	22,M	Ventricular fibrillation	94	390	-	-	Normal	Normal	Normal
2	54,M	Monomorphic VT	82	404	Exercise	-	Not performed	Normal	Normal
3	51,F	Ventricular fibrillation	94	400	While awakening	-	Not performed	Normal	Normal
4	47,M	Monomorphic VT	100	400	-	-	VF induced	Normal	Normal
5	45,M	Ventricular fibrillation	85	380	-	-	Not performed	Normal	Normal

SCD: Sudden cardiac death; TTE: Transthoracic echocardiography; CAG: Coronary angiography

OP-160 VENTRICULAR ARRHYTHMIA FREQUENCY COMPARISON IN ISCHEMIC AND NON-ISCHEMIC CARDIOMYOPATHY PATIENTS WITH IMPLANTABLE CARDIOVERTER DEFIBRILLATORS

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BACKGROUND: Implantable cardioverter defibrillator (ICD) therapy has been shown to improve survival in selected patients(pts) with reduced left ventricular (LV) function, However, whether these effects beneficially differ in ischemic vs non-ischemic cardiomyopathy patients is unknown. To address this issue, we compared the frequency of documented ventricular tachyarrhythmias (i.e., arrhythmia burden) in comparable pts.

METHODS: Clinical and ICD electrogram data from 42 consecutive pts between 2006 and 2008 were examined. Definition of VT and VF was as defined by device programming (i.e., cycle length less than VT or VF detection interval respectively). NSVT was defined as any tachyarrhythmia detected by the ICD but not resulting in delivery of ICD therapy. Statistical comparisons used t-test, Chi-square test and Fisher's exact test.

RESULTS: Twentynine of 42 (69.0%) pts had ischemic cardiomyopathy, the remaining 13 (31.0%) being non-ischemic cardiomyopathy pts. Clinical and demographic features including mean age (66±11 vs 71±11 years), male to female ratios (4.5vs 2.6), LV ejection fraction (%23±6 vs %23±11), presenting arrhythmia and symptom, and medications were similar in the 2 groups. The combined number of VT and VF episodes per month per pt were 0.3±0.1 and 0.4±0.1 for the two groups respectively (p=0.21). The interval from the implant date to the first detected arrhythmia episode was 121±53 days vs 136±49 days in the ischemic and non-ischemic groups respectively (p=0.82).

CONCLUSION: Spontaneous ventricular tachyarrhythmia frequency, as well as the first episode free interval did not show a difference in ischemic and nonischemic

OP-161 EFFECTS OF AMIODARONE THERAPY ON VENTRICULAR ARRHYTHMIA FREQUENCY IN PATIENTS WITH IMPLANTABLE CARDIOVERTER DEFIBRILLATORS

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Akdeniz University Cardiology¹, Akdeniz University Biostatistics²

BACKGROUND: Implantable cardioverter defibrillator (ICD) therapy has been shown to improve survival in selected patients(pts) with reduced left ventricular (LV) function. Most patients are put on a concomitant antiarrhythmic therapy to diminish arrhythmic episodes or device therapies. However, whether these drugs beneficially effect the frequency of arrhythmic episodes is unknown. To address this issue, we compared the frequency of documented ventricular tachyarrhythmias (i.e., arrhythmia burden) in comparable pts. with or without an amiodarone therapy

METHODS: Clinical and ICD electrogram data from 42 consecutive pts between 2006 and 2008 were examined. Definition of VT and VF was as defined by device programming (i.e., cycle length less than VT or VF detection interval respectively). NSVT was defined as any tachyarrhythmia detected by the ICD but not resulting in delivery of ICD therapy. Statistical comparisons used t-test, Chi-square test and Fisher's exact test.

RESULTS: Twentynine of 42 (69%) pts were on amiodarone, the remaining 13 (31%) did not use this drug. The combined number of VT and VF episodes per month per pt were 0.4±0.2 and 0.4±0.1 for the two groups respectively (p=0.37). The interval from the implant date to the first detected arrhythmia episode was 193±125 days in the amiodarone group vs 112±30 days in the latter group (p=0.8)

CONCLUSION: Spontaneous ventricular tachyarrhythmia frequency, as well as the first episode free interval did not show a difference in ICD pts who concomitantly use amiodarone or not. Further studies are warranted to determine the effect of other antiarrhythmic medications.

OP-162 REPRODUCTION OF AUTONOMIC MODEL OF RIGHT VENTRICULAR OUTFLOW TRACT TACHYCARDIA IN HUMANS

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INTRODUCTION: Frequent, monomorphic premature ventricular contractions (PVC) and/or

ventricular tachycardia (VT) in patients with structurally normal heart usually arise from the right ventricular outflow tract (RVOT). An animal model simulating RVOT tachycardia by high frequency stimulation (HFS) of the sympathetic input to the proximal pulmonary artery (PA) has been previously described. The aim of this study was to similarly induce RVOT tachycardia in humans.

METHODS: In 9 patients with no history of ventricular arrhythmias, a circumferential catheter was placed through the SL1 sheath in the left, main and proximal PA to contact the endovascular circumference of the PA. A 50-msec train of high-frequency electrical stimulation was applied with 200 Hz, 0.3 msec pulse duration, and 5, 10 and 15 V at each of the bipolar pair of the circumferential catheter (Grass Stimulator S-88, Astro-Med Industrial Park, West Warwick, RI, USA). Each train of HFS was coupled to atrial pacing. The coupling interval was adjusted so that the 50-msec train occurred during the QRS interval of each cardiac cycle. HFS was performed in the left, main and finally in the proximal PA just above the pulmonary valve, in each patient. HFS was performed at baseline and during intravenous dobutamine infusion (5 to 10 microgram/kg/min).

RESULTS: In 6 out of 9 patients, HFS within the left PA induced monomorphic PVCs and/or VT with left bundle branch block (LBBB) morphology and inferior axis at an average stimulation threshold of 12.4 ± 2.5 V. No ventricular arrhythmia was inducible with the highest energy of 15 V in the proximal and main PA. Ventricular arrhythmias were inducible only with stimulation in the left PA and during intravenous dobutamine infusion. HFS in the left PA was associated with hiccup in all patients.

CONCLUSION: Stimulation of the sympathetic input to the left PA induces PVCs and/or VT exhibiting LBBB-morphology and inferior axis, closely simulating clinical RVOT tachycardia in humans. This model provides a neural basis of the RVOT tachycardia in humans.

OP-163 IDIOPATHIC SUSTAINED VENTRICULAR TACHYCARDIA ORIGINATING FROM POSTEROSEPTAL TRICUSPID ANNULUS

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OBJECTIVE: Idiopathic ventricular tachycardias (VT) and premature ventricular contractions (PVC) mainly originate from the right ventricular outflow tract (RVOT). Idiopathic VT/PVCs originating from the tricuspid annulus constitute only a small number of cases. There is little data regarding the prevalence, ECG characteristics, common sites of tachycardia origin around the tricuspid annulus, and efficacy of radiofrequency (RF) catheter ablation of these cases. We, herein, report a case of 44 year old male with healthy, symptomatic, sustained idiopathic VT originating from the posteroseptal tricuspid annulus.

MATERIAL AND METHODS: 12-lead electrocardiogram (ECG) obtained during the clinical tachycardia revealed sustained VT with left bundle branch block (LBBB) QRS morphology and a leftward axis (figure 1). Echocardiography and electrophysiological study were performed to the patient. Pace mapping was performed during the electrophysiological study. Radiofrequency catheter ablation is performed at the earliest ventricular activation site.

RESULTS: The 12-lead electrocardiogram (ECG) of the arrhythmia was consistent with a right ventricle origin but not from the RVOT. Echocardiography revealed a normal examination with a global ejection fraction of 67%. During mapping of tricuspid annulus in electrophysiological study (EPS), pace mapping and the earliest ventricular activation site revealed that the origin of the tachycardia was the posteroseptal portion of the tricuspid annulus. The intracardiac electrocardiographic recordings showed the ventricular activation was 36 ms before QRS onset (figure 2). RF energy was applied at the site of the earliest ventricular activation. After the procedure, tachycardia completely disappeared. After 20 minutes of monitoring under the basal conditions in the EPS laboratory no spontaneous VT/VPCs were observed. Stimulation with isoproterenol infusion, also did not induce the clinical tachycardia and the VPCs. The electrocardiograms obtained two days after the procedure were normal (figure 3). Patient was discharged from the hospital without any medication. During the subsequent 6-month follow-up, he remained completely asymptomatic

CONCLUSION: Although idiopathic VT and PVCs mainly originate from the RVOT, uncommon sites of origin is seldomly encountered. Careful analysis of the ECG before the procedure will facilitate the electrophysiological study in these patients.

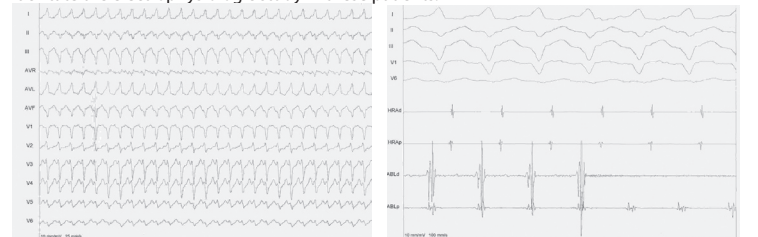


Figure 1

Figure 2



Figure 3

VALVULAR HEART DISEASES : CLINICAL AND THERAPEUTIC FEATURES

OP-164 EVALUATION OF THYROID FUNCTIONS IN PATIENTS WITH MITRAL VALVE PROLAPSE

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BACKGROUND: The prevalence of mitral valve prolapse (MVP) is significantly elevated in Graves' disease and chronic lymphocytic thyroiditis, but not in toxic multinodular goiter. No studies have previously evaluated thyroid functions in patients with MVP in Turkey. The aim of this study was to evaluate the thyroid functions in patients with MVP compared with control group.

METHODS: A total of 65 consecutive patients with MVP were included in this study in our centre. Exclusion criteria included ischaemic or rheumatic heart disease, severe left ventricular dysfunction, patients with Marfan syndrome and congenital heart disease. Of the 65 patients evaluated, 7 were excluded because of rheumatic heart disease (n=6) or Marfan syndrome (n=1). Therefore the population of this study consisted of 58 patients (32 women; mean age 33±11 years, range 16 to 68) with MVP and thirty five asymptomatic healthy subjects the control group (26 woman; mean age 39±11 years, range 16 to 58).

RESULTS: Baseline demographic and clinical characteristics of two groups were similar. Of the 58 patients with MVP detected by echocardiography, 44 (76%) had prolapse of the anterior leaflet, 4 (7%) had prolapse of the posterior leaflet and 10 (17%) had prolapse of both anterior and posterior leaflet. There were no cases of mitral chordal rupture. All patients had mitral regurgitation on color Doppler echocardiography. The mitral regurgitation was mild in 49 (85%), moderate in 7 (12%), and moderate to severe in 2 (3%). In relation to diastolic function, peak E, peak A, and the E/A ratio were not different in the two groups. Compared with controls, isovolumetric relaxation time was significantly higher in MVP patients (p=0.001). There was no significant difference in the serum levels of free T3, free T4 and TSH between patients with MVP and controls group.

CONCLUSION: This finding suggests that there is no relationship between the MVP and hyperthyroidism. Large clinical trials are required to clarify this issue.

OP-165 CLINICAL AND ECHOCARDIOGRAPHIC CHARACTERISTICS OF 49 TURKISH CHILDREN AND ADOLESCENTS WITH RHEUMATIC VALVULAR DISEASE IN IZMIR

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OBJECTIVES: In developing countries such as Turkey, rheumatic fever (RF) is still an important cause of morbidity and mortality among children and young adults. Recent studies have shown that prognosis is directly associated with severity of carditis. We aimed to evaluate clinical and echocardiographic characteristics of children with rheumatic heart disease (RHD) including their short term follow-up in Izmir, Turkey.

METHODS: This retrospective study consists of 49 children and adolescents with diagnosed RHD established from August 2007 to October 2009 during their first visit to our department. Demographic, clinical, laboratory, echocardiographic, electrocardiographic, and therapeutic data evaluated retrospectively. Information was obtained from medical records.

FINDINGS: In this study, male/female ratio was 0,7/1 and the mean age of patients were 10,85±2,6 (ranged 5-15 years) on first admission. Approximately 50% of the patients were admitted mostly during the winter months. Positive family history (associated RF) revealed in 3 (6%) patients. Isolated mitral regurgitation (MR) was seen in 31 of 49 (63%) patients, isolated aortic regurgitation (AR) was seen in 3 of 49 (6%) patients, whereas combined mitral and aortic regurgitation (CMAR) was seen in 14 (29%) patients initially on admission. CMAR was the most observed in patients in the ages between 11-14 years (85%). Mitral valve prolapsus accompanied isolated MR in 9 patients. Eleven (22%) of 49 patients with no clinical evidence of carditis developed mild to moderate valvular disease. However, 7 patients (14%) were admitted because of Sydenham's chorea, 44 of 49 patients (89%) had joint symptoms and 16 patients (32%) had fever on admission. None of our patients had erythema marginatum or subcutaneous nodules. Three (6%) of 49 patients developed mild pericardial effusion. PR prolongation was detected in 3 (6%) patients on standard 12-lead ECG. All of the patients received corticosteroid treatment because of carditis. After the treatment, at the mean of 16,48 ± 7,26 months follow-up period, valvular regurgitations completely improved in 13 patients (27%). However the degree of regurgitation was reduced in most of the remaining patients (20 of 36 patients (55%)). But, 3 patients (6%) underwent MV surgery after 6-9 months of admission. Left ventricular end-systolic (LVESd) diameter was found the mean value of 26±6 mm/m² BSA (normal value :25±4,6). LVESd was increased in 12 of 49 patients (%24) and during follow-up period valvular regurgitation didn't decrease in this 8 of 12 patients. Additionally, mean fractional shortening of the patients were obtained %36,8±4,4. However, left ventricular end-diastolic diameter (LVEDD) was increased in 66% of patients on admission and during follow-up. None of our patients died in the follow up period.

RESULTS: In the present study, analysis of cardiac involvement based on clinical evaluation we observed that 22% patients had subclinical carditis. This result was among to recent studies from India (15.6%) and Brazil (27.4%). In agreement with data reported by other authors, the poor outcome varied according to severity of carditis. However we did not observed any difference about improvement of the valvular disease between subclinical and clinical carditis.

Therefore we thought that we must be careful to evaluating the clinical findings of RF other than carditis.

OP-166 COMPARISON OF THROMBOLYTIC TREATMENT WITH SURGERY FOR PROSTHETIC VALVE THROMBOSIS; SINGLE CENTER EXPERIENCE

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BACKGROUND: PVT (prosthetic valve thrombosis) is rare but severe complication of heart valve replacement with an incidence of 0.5- 6% for left side and 20 % for right side prosthetic heart valves. Although surgery is the traditional treatment option, from the large registries it can be concluded that thrombolytic treatment may be used safely for the prosthetic heart valve thrombosis. Up to now there is only a few study which includes small number of patients which compare both treatment options. In this registry, we aimed to compare surgery with thrombolytic treatment results for patients with PHT.

METHODS: From January 2001 to August 2008, thirty three patients were diagnosed with PHT in our institute, 15 patients were treated with thrombolytics and 18 patients were treated by surgery. PHT was established based on clinical, echocardiographic and fluoroscopic examinations. Treatment strategy was determined according to comorbidities, patient and physician preferences and availability of cardiac surgery. Efficacy of treatment was determined hemodynamic normalization of valve confirmed by fluoroscopy or transthoracic / transeosophageal echocardiograph. Patients have been followed up mean 3.4 ± 2.9 year.

RESULTS: In both group, baseline characteristics were same including NYHA functional status, types and position of replaced heart valves, INR values and presenting symptoms (table 1). Thirteen patients were treated by streptokinase (infused 17.4 ± 9.6 hours) and 2 patients by tPA. Full hemodynamic success was achieved 12 / 15 (80%) of patients in thrombolytic group and 15 / 18 (83.3%, p=0.49) of patients in surgery group. Major hemorrhage was seen in one patient and serebrovascular event were seen in 2 patients in thrombolytic group. There was no mortality difference between two groups (2/15, 13.3% vs 3/18, 16.6%, p=0.79). In thrombolytic group, mortality was due to large serebrovascular infarct and hemodynamic compromise, in surgery group, infection in one patient and pump failure in other 2 patients was leading causes of die. Duration of hospitalization was longer in thrombolytic group 10.7 ± 6.6 vs 6.9 ± 7.7, p=0.15). During 3.4 ± 2.9 years follow up there was one re-PHT in both group.

CONCLUSIONS: Although surgery is preferential treatment strategy for left side PHT, our results suggest that thrombolytic treatment is efficacious and safe at least surgery.

Table 1. Baseline Characteristics of Patients

	Thrombolytic treatment n=15	Surgery n=18	P value
Age (years)	51.3±16.3	53.1±13.8	0.66
Gender (male)	7/15 (46.7%)	6/18 (33.3%)	0.53
Prosthetic heart valve position			
Mitral	11/15 (73.4%)	13/18 (72.2%)	0.94
Aortic	2/15 (13.3%)	3/18 (16.7%)	0.87
Tricuspid	2/15 (13.3%)	2/18 (11.1%)	0.93
Type of prosthetic valves			
Bileaflet	10/15 (66.7%)	10/18 (55.6%)	0.79
Monoleaflet	5/15 (33.3%)	8/18 (44.4%)	
Median time since valve replacement (months)	66 ± 40.8	74.4 ± 50.3	0.15
Time onset of symptoms-diagnosis (days)	5.9 ± 17	28.8 ± 35.9	0.005
Inadequate anticoagulation (INR < 2.5)	11/15 (73.3%)	12/18 (66.7%)	0.94
INR ≥ 2.5	4/15 (26.7%)	6/18 (33.3%)	
Aspirin use	10/15 (66.7%)	7/18 (38.9%)	0.11
Atrial fibrillation	7/15 (46.7%)	12/18 (66.7%)	0.34
NYHA functional capacity ≥ Class 3	13/15 (86.7%)	13/18 (72.2%)	0.32
Presenting symptoms			
Dyspnea	13/15 (86.7%)	14/18 (77.8%)	0.68
Angina	2/15 (13.3%)	1/18 (5.6%)	0.7
Cerebrovascular accident	2/15 (13.3%)	1/18 (5.6%)	0.7
Shock	3/15 (20%)	2/18 (11.1%)	0.87
Asymptomatic	2/15 (13.3%)	3/18 (16.7%)	0.79
Heart rate on presentation (beats per minute)	96.11 ± 23.6	93.23 ± 19.5	0.94
Systolic blood pressure (mmHg)	107.3 ± 15.8	111.1 ± 16.1	0.91

Table 1

OP-167 COMPARISON OF VALSALVA TUBE GRAFT VERSUS TUBULAR GRAFT IN AORTIC VALVE SPARING TIRONE DAVID PROCEDURE

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INTRODUCTION: The dilation of sinotubular junction in aortic root aneurysms is one of the major reasons of aortic insufficiency. The aim of this study is to compare tubular grafts versus valsalva tube grafts in patients who underwent valvesparing operations.

MATERIALS AND METHOD: Between November 2005 and December 2008, 19 patients who underwent valve sparing operations using Tirone David procedure due to aortic root aneurysm were included in this study. Upper brachial cannulation was used to establish cardiopulmonary bypass. The excised aort segment was replaced with tubular graft in 11 patients with a mean age of 58.5 ± 11 and with the valsalva tube graft in 8 patients with a mean age of 56 ± 14. The valsalva tube graft mimics the sinotubular junction (Figure 1). In the tubular graft group, the lumen of the tubular graft was contracted by means of a 5/0 prolene suture just above the commissures to obtain a neosinotubular junction. Echocardiographic analysis was performed preoperatively and in 2nd postoperative month.

FINDINGS: There was no significant difference in terms of gender, mean age, body surface area, peroperative ejection fraction, aortic insufficiency, hypertension, diabetes mellitus, Marfan's syndrome and chronic obstructive pulmonary disease between the groups. The groups were also similar in terms of concomitant CABG operation, cross clamp time, CPB time,

antegrade cerebral perfusion time, bleeding, length of intensive care stay and length of hospital stay. Aortic insufficiency was significantly improved in both groups. There were 1° aortic insufficiency in one patient at each groups. Operative and in hospital mortality was 0% in both groups but one patient died in 2nd postoperative month due to progression of the dissection towards thoracic aorta.

CONCLUSIONS: In conclusion, in aortic valvesparing surgery, there was no significant difference between the use of tubular graft with creating a neosinotubular junction or the use of valsalva tube graft by means of morbidity and mortality rates and was acceptable in both groups.



Figure 1: The valsalva tube graft

OP-168 MECHANICAL AORTIC VALVE THROMBOSIS : t-PA FIBRINOLYTIC TREATMENT VERSUS SURGICAL INTERVENTION; CASES RESULT

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Thrombosis of prosthetic heart valves is a very serious and fortunately rare complication, which may present a clinical picture of either peripheral emboli or heart failure. Although surgery has long been considered the treatment of choice in such cases it is not without risk. Fibrinolytic treatment appears to be an alternative therapy with a satisfactory success rate and a relatively low incidence of complications, especially in patients who are in a critical condition and for whom surgery is associated with high mortality. Mechanical prosthetic heart valve thrombosis is a rare but life-threatening complication with an incidence of 0.03–4.3% per year.

CASES : Between february 2008-march 2009, 4 patients who had an previous mechanical aortic valve history;admitted to our department with a symptom of dispnea that started in a week or 10 days interval.Demographic datas are male/female ratio 1:1,average age:60 year,hypertension:3 of them,diabetes mellitus:1 of them,morbid obesity:2 of them,chronic obstructive lung disease:1 of them,average EF:%45,average aortic mechanical valve gradient :85/50 mmHg,thrombüs in character,average SPAP:50 mmHg,floourosopy,average NYHA : III,non of them has a hemodynamic instability.

t-PA procedure:from central venous way 2 mg/hour infusion rate and no loading dose and totally 80 mg.Fibrinojen follow-up 6 hours interval and Echocardiography(ECH) 12 hours interval and hemodynamic monitorization and final floouroscopy.Before terminating to t-PA heparinazation was started by a PTT follow up.

Datas of these 4 patients were compared with patients were operated for aortic mechanical valve thrombosis in-between same period.Operated patients datas which were nearly as same as study group, were collected retrospectively.

RESULT : All patients treated with t-PA were completely healed and no complication occurred. Final average aortic mechanical valve gradient was 36/15 mmHg,Intensive Care Ünit(ICU) stay time:24 hours,hospital stay:5 days.No mortality and morbidity(like:cerebro-vascular event) were seen at t-PA group.Incontrast to t-PA group at surgery group,2 patients were died in operating room,other 2 patients were discharged to ICU by cardiac inotropic agents and total ICU stay : 2 days and hospital stay :12 days.

CONCLUSION: Mechanical aortic valve thrombosis may be fatal condition if it is not treated quickly.As its fatality,surgical intervention is also morbidative or mortlitive.So if hemodynamic instability is not found and acute symptoms with a trombogogenic materil on the valve was shown at the ECHO,as our experiance fibrinolytic treatment may be the alternative choice to surgery.

OP-169 A ONE-YEAR EXPERIENCE WITH A MINIMALLY INVASIVE CARDIAC SURGERY

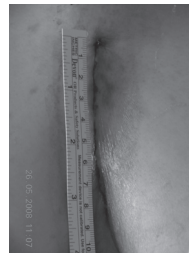
Necmettin Çolak¹, Yunus Nazlı¹, M.Fatih Alpay¹, Ö.Nuri Aksoy¹, İ.Olgun Akkaya¹, Ömer Çakır¹
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INTRODUCTION: Minimal invasive cardiac surgery is increasingly utilized in many centers. We report our 1 year experience with minimally invasive surgery.

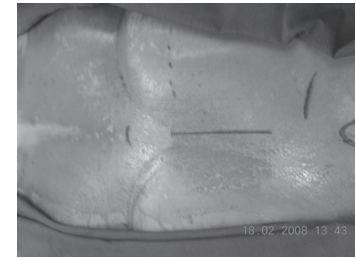
METHODS: The clinical data of 12 patients with minimally invasive surgery from From 07/2007 to 07/2008 were analyzed retrospectively. Six patients were male and 6 patients were female, aged from 17 to 70 years old, with the median age of 46 years old.

RESULTS: Median patient age was 46 years (range: 17–70),3 patients (25%) had Coronary Artery Bypass surgery, 2 (16,6%) had aortic valve replacement, 5 patients (41,6%) had mitral valve replacement, and 2 (16,6%) had closure of secundum atrial septal defect. No evident mortality, deep sternal wound infection, cardiac and pulmonary complications and reoperation for bleeding . Median length of stay was 4,6 days and all the patients were discharged home.Mortality and Cardiac events not occurred in one year follow up period.

CONCLUSIONS: Minimal access approaches in Cardiac surgery are safe and feasible with excellent outcomes. Coronary Bypass Surgery, Aortic and Mitral valve replacement, and closure of septal defects can be performed with these approaches. These procedures are very well-tolerated compare with convansional approaches.



Postoperative image for lower mini sternotomy



Preoperative preparation for lower mini sternotomy



Postoperative image for upper mini sternotomy

Operative data

	Number of Cases	Percent (%)	Type of Operation
Left Anterior Thoracotomy	1	8,3	CABG(Beating Heart; LITA-LAD)
Upper mini-sternotomy	2	16,6	AVR
Lower mini-sternotomy	5/2	58,2	MVR/ Closure of Atrial Septal Defect
Reversed-J inferior sternotomy	2	16,6	CABG(Beating Heart; LITA-LAD)

OP-170 MIDTERM COMPARISON OF TRICUSPIT ANNULOPLASTY TECHNIQUES(ring or suture) IN FUNCTIONAL TRICUSPID INSUFFICIENCY

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BACKGROUND: In functional tricuspid valve insufficiency, leaflet and chordal tissues composing tricuspid valve are structurally normal. But pulmoner hypertension and right ventricle overload cause annular dilatation and coaptation failure (functional tricuspid valve insufficiency). The present study compared the mid – term results of suture annuloplasty (De Vega Annuloplasty) and ring annuloplasty techniques for the surgical management of functional tricuspid regurgitation.

METHODS: The study included 92 patients who were operated between 2001 and 2008. Patients' ages ranged between 16 to 70 years, and 48 (52.2%) were female. Patients were divided into two groups: 1. Group R (Tricuspid Ring Annuloplasty) Group A (Tricuspid De Vega Annuloplasty)

RESULTS: Two groups were compared with respect to the postoperative echocardiographic findings (especially recurrent tricuspid insufficiency and tricuspid regurgitation degree), time of hospital and intensive care unit stay, complications, rhythm, inotropic agents and intraaortic balloon pump requirement, NYHA classification and early mortality. It was observed that there was no statistically significant difference between two techniques for measures we investigated for.

CONCLUSION: We suggest that reconstruction should be considered in patients with moderate or severe functional regurgitation because of its high mortality and morbidity. Further studies with larger series using different surgical techniques will be guiding.

OP-171 THE PREVALENCE AND THE TYPES OF VALVULAR HEART DISEASE FOLLOWING ORTHOTOPIC HEART TRANSPLANTATION

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BACKGROUND: Valvular heart disease, especially in the form of atrioventricular valve insufficiency is reported to occur commonly in patients who underwent heart transplantation. In this study we investigated the prevalence and the types of valvular heart diseases in patients who underwent orthotopic heart transplantation (OHT).

METHODS: The records of 30 OHT patients performed in our center was reviewed. All patients underwent Doppler echocardiographic examination postoperatively daily in the first week, then once weekly for the first month, and then every 3 months for the first year.

RESULTS: The mean age was 31.3±16.6 years and seven of them were female. Doppler echocardiographic examination on postoperative first week revealed mitral regurgitation in 21 (70%) and tricuspid regurgitation in 28 (93.3%) patients. With regard to severity of valvular abnormalities, mitral regurgitation was mild in 16 (53.3%) and moderate in 5 (16.6%) patients. Tricuspid regurgitation was mild in 16 (53.3%), moderate in 10 (33.3%) and severe in 2 (6.6%) patients. Only 1 case had aortic regurgitation. In only 1 patient mild pulmonary stenosis was noted. After excluding the patients who were lost in the follow up, the prevalence's of both mitral and tricuspid regurgitation were decreased. On 6 and 12 months' control's, mitral regurgitation was present in 43.4% and 39.1% and tricuspid regurgitation in 65.2% and 39.1% of the patients respectively.

CONCLUSION: These findings show that valvular regurgitation that involves largely atrioventricular valves are very common in OHT patients. Luckily, it is mostly mild in severity and improves over time with appropriate management.

CARDIOVASCULAR DISEASES : EXPECTATIONS FROM DIFFERENT THERAPIES

OP-172 PREOPERATIVE CARDIOVASCULAR DISEASES IN ADVANCED LIVER DISEASE PATIENTS WHO UNDERWENT LIVER TRANSPLANT

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BACKGROUND: Accumulating evidence recommend that cardiovascular diseases are common than it was thought in liver transplant candidates. In this study we aimed to evaluate the prevalence and the types of cardiovascular diseases in adult patients with advanced liver disease who underwent liver transplantation at our institution.

METHODS: The data of adult 130 liver transplant patients performed at our institution were retrospectively evaluated. Preoperative cardiovascular examination results including Doppler echocardiographic, non-invasive stress test and angiographic findings were noted.

RESULTS: The mean age was 39.2±14.8 years. 35 were women. The percentages of atherosclerotic risk factors were as follows hypertension in 8,6% (n=11) diabetes mellitus in 14.8% (n=19), smoking in 32.8% (n=42), dyslipidemia in 6.3% (n=8) and family history of coronary artery disease in 14.8% (n=19) of the patients. Treadmill exercise test was done in 72 (56.3%) and myocardial perfusion scintigraphy in 61 (47.7%) patients. Coronary angiography was performed in 27 (21.1%) patients and coronary artery disease was diagnosed in 8 of them. On echocardiographic examination mean ejection fraction was 58±3%. Left ventricular systolic dysfunction was noted in only 1 (0.7%) and diastolic dysfunction in 8 (6.3%) patients. Pericardial effusion was detected in 8 (6.5%), left ventricular hypertrophy was detected in 38 (29.7%) patients.

CONCLUSION: These findings demonstrate that cardiovascular diseases are common in patients who underwent liver transplant. Therefore, a careful, detailed preoperative cardiovascular examination is needed in these patients. Further prospective research would better clarify this issue.

OP-173 COMPARISON OF PREOPERATIVE AND POSTOPERATIVE INOTROPIC APPLICATIONS IN PATIENT WITH LOW LEFT VENTRICULAR PUMP FUNCTION

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Low left ventricular pump function is a disorder that has systemic effects which leading to inadequate tissue perfusion. Cardiac and noncardiac mortality rates are increased in patients with low left ventricular pump function. Complications increased that have seen postoperative period such as respiratory failure, renal function disorders, neurological damage. Cardiac surgical interventions are also have high mortality rates in these cases.

Preoperative and peroperative medications have important role in postoperative period in patients with low left ventricular pump function. Therefore, heart must be prepared with inotropic agents for operation and cardiopulmonary pump after systemic preparations have been made of these patients.

We aimed that compare application of inotropic agents with determining of mortality and morbidity rates in these patient that underwent cardiac surgery. Forty one cases included in the study that has applied inotropic agents and underwent cardiac surgery between February 2004 and January 2009 in our clinic. Thirty one of the cases were male and 10 of the cases were female. The cases included in the study were monitored as the average of ejection fraction of 26.1. The average age was 62.3 ± 3.1 (aged ranged between 56 to 88) and mean NHYA class was observed 2.58 ± 1.08. In seven of these cases only IABP (intraaortic balloon pump) were performed, in 6 of these cases only levosimendan were performed and in 8 of these cases only triple inotropic (dopamine, Dobutamin, Adrenalin) agents were performed, in 4 of them inotropic and IABP were performed together, in 3 of them levosimendan and IABP were performed together and in 13 of the cases inotropic, levosimendan, IABP were performed in combination. Mortality was observed three patients in peroperative period and four patients was died at postoperative early period. Three of the cases that died in preoperative period and 3 of the cases that died in early postoperative period, that were emergency operated and no preoperative medication were performed before surgery which had applied IABP during surgery. The last mortality was observed in an elderly patient who had diabetes that accompanied advanced chronic lung disease.

The patients who have low left ventricular pump function are benefits myocardial revascularization, although mortality is higher than normal ventricular function. Mortality rates and clinical consequences are better in patients with young age, low accompanied risk factors, by-pass application without pump, inotropic support application, using small number of graft. Clinician doesn't get out of to the operation because of the risk. We aimed that postoperative complications are decrease and life qualities is increased with a good premedication and appropriate inotropic support.

KEY WORDS: Low ejection fraction, the left ventricular pump function, intraaortic balloon pump, levosimendan.

OP-174 COMPARISON OF THE OXIDATIVE DAMAGE THAT OCCURS DURING THE PREPARATION OF THE INTERNAL THORACIC ARTERY AND THE SAPHENOUS VEIN AS A GRAFT AND THE EFFECT OF THE SYSTEMIC TOTAL ANTIOXIDANT CAPACITY ON THIS ENTITY

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OBJECTIVE: We aimed to demonstrate the differences in terms of oxidative damage during the preparation of the internal thoracic artery (ITA) and the greater saphenous vein (SV). Relation of this process with the systemic total antioxidant capacity (TAC) was also investigated.

METHODS: Oxidative damage in the SV and the ITA was analyzed by the myeloperoxidase (MPO) and the malondialdehyde (MDA) levels and the histopathologic changes. Blood samples for TAC levels were taken before the induction of anesthesia.

FINDINGS: Endothelial irregularities, separation of the smooth muscle cells and the presence of the mast cells within the interstitial tissue were in conjunction with higher MPO and MDA values in the SV than the ITA (p=0.046 and p=0.001 respectively). Comparison of MPO and MDA values with the serum TAC yielded no statistical significance.

RESULTS: Histological changes induced by the mechanical trauma and hypoxemia during the graft preparation, leads to a higher degree of oxidative damage in the SV. ITA is prepared as a pedicled graft with a non-touch and less traumatic technique while the blood is still running through the lumen. Lack of a correlation between the serum TAC and oxidative indicators may be explained by the effectivity of the constitutional antioxidants.

OP-175 ISCHEMIC EFFECTS OF CARDIO-PULMONARY BYPASS(CPB) ON VISUAL AREA

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CPB can cause hypothermia and microembolism which can cause ischemia for the brain tissue. During CPB, inappropriate perfusion pressure and oxygen delivery can also create optic disc and optic nerve ischemia. At that situation, some permanent or temporary visual defects can be occurred.

METHOD: Between may 2008- april 2009, 44 patients were evaluated for visual area pre and post operatively. 34 patients had coronary artery disease and 10 patients had valvular heart disease. All patients were operated under CPB procedure. Demographic data of patients were Man/woman ratio was 29/15 (for coronary artery disease man/woman ratio 25/10, for valvular heart disease 5/5), average age of coronary artery disease patients were 65 and 35 for valvular heart disease patients, at coronary artery disease group; 15 patients had hypertension (HT), 5 had diabetes mellitus (DM), 1 had chronic obstructive pulmonary disease, 1 had epilepsy, non of the valvular heart disease patients had co-morbid disease. Pre-operative evaluation of all patients were made by complete ophthalmologic test, colorfull visual test and 30-2 fast visual area test with humphrey perimeter. All these evaluational parameters were applied again to all patients about 4-14 days (related with mobilization of patients) later after surgery. Difference in-between pre and post operative values were compared. Preoperative optic disc and optic nerve examination of all patients were detected normal.

RESULT: Post-operative data of visual sharpness, colorfull vision, biomicroscopic fundic examination were as same as pre-operative measurements. But about visual area measurement between pre and post operative data; 7 of 34 coronary artery disease patients and 1 of 10 valvular heart disease patients showed mean deviation lost which was approximately 2(1.22 -6.31 decibel) decibel. 3 visual deviation lost detected patients were diabetic and 5 were hypertensive.

CONCLUSION: Today most of the cardiac surgery cases are performed under CPB. And CPB has a many systemic effects like neural ischemia. One of the neural ischemic manifestation is visual changes after CPB. In our study, we assigned that CPB can cause some amounts of neural visual defects which came true in a proportion of %18, 1(8/44) at our cases. Also we noticed that age, DM(3/5), HT(5/15) seems an important risk factors. But to evaluate whether these changes are permanent or temporary longtime follow-up is needed, and also to find out exact incidence and risk factors, larger study group is needed according to our opinion

OP-176 DOES TOPICAL HEATING REDUCE PHRENIC NERVE INJURY AND LOBER ATELECTASIS DURING CARDIAC SURGERY?

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BACKGROUND: Phrenic nerve palsy can occur secondary to hypothermia, induced by the use of topical cooling for myocardial protection. Diaphragm paralysis has been reported radiologically after cardiac surgery with an incidence ranging from 30% to 75% of patients. No method of prevention for this complication has been reported.

METHODS: We routinely pour topical warm solution into the pericardium for heating the myocardium before cross-clamp is removed. In the present study, we retrospectively reviewed the records of 120 patients undergoing cardiac surgery with cardiopulmonary bypass for evaluation of the effects of topical heating on the phrenic nerve.

RESULTS: No significant differences were found for extubation time, elevation of the left diaphragm, and lobar atelectasis. Only, the postoperative drainage was decreased.

CONCLUSION: The topical heating does not affect the cold injury of phrenic nerve but, the myocardial heating and hemostasis are increased with this method.

OP-177 OUR PERSISTENT TUNNELLED CATHETER APPLICATIONS

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INTRODUCTION: In hemodialysis patients, we assessed persistent tunnelled catheter applications inserted for dialysis treatment.

METHOD: In our clinic 485 persistent tunnelled catheters were inserted to 422 patients having

Chronic Renal Failure or acute Renal Failure for dialysis treatment between the dates January 2006 and May 2009. 258 of these patients were male, 164 of them were female. Age intervals were 16- 87 years of age. Tunelled and cuffed catheter were inserted to the patients. The indications of inserting to catheters to the patients; 329 of them are new AV primary or opening graft fistula or after fistula obstruction, 63 of them are that the diameters of vein or artery aren't suitable for fistula, 25 of them are infections and 8 of them are patients with Ca. (3 of them colon ca, two of them esophagous ca) Catheter insertion was realized in steril conditions and accompanied by scopy. Local anesthesia was applied to 394 patients, sedations and lokal anesthesia was applied to 28 patients. The veins in which the catheters were inserted; 263 of them were right jugular veins, 127 of them were left internal jugular veins, 20 of them were subclavian veins, 12 of them were femoral veins.

RESULT: Due to obstruction in catheter in early period, catheter was changed once in 28 patients and twice in 14 patients. Due to infection in late period, catheter was changed once in 15 patients and twice in 6 patients of the 21 patients. As infection agent, Stafilococ, sterptococ and E.coli production were seen. In two patients in whom femoral applications was applied venous thrombosis developed in sub-extremity. In four patients in whom jugular insertions were made venous thrombosis developed. Mortality occurred in one patient. During insertion of the catheter in one patient atrial fibrillation occurred in such a it will impair hemodinamy and he was fibrilled at once and he was returned to sinus ritm the duration of catheters opening wasied between 19 days and 38 months.

DISCUSSION AND CONCLUSION: Catheter insertion in conditions and accompanied by scopy, particularly accompanied by portable doppler ultrasonography will be applied by making vein punction and the fact that it was inserted by expert staff will extend the using duration of catheter.

OP-178 VACUUM-ASSISTED VENOUS DRAINAGE: RESULTS OF QUANTIFICATION OF HEMOLYSIS

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BACKGROUND: Vacuum-assisted venous drainage (VAVD) is a very useful method to achieve vacuum in the venous reservoir. In our study we investigate the risk of hemolysis in this procedure.

MATERIAL AND METHODS: In our study, we use VAVD to 100 patients who underwent operation which cardiopulmonary bypass (CPB) is used. We compare 67 of them with the control group. Hematocrit, hemoglobin levels, haptoglobin, LDH, reticulocyte count, total and direct bilirubin levels, ALT and AST values are measured preoperatively and at post operative first and fifth day. After these measurements we made statistical analysis.

RESULTS: We found no significant difference in hemolysis related measurements between VAVD group and control group. In VAVD used patients we found relatively lower use of blood and blood products, higher levels of postoperative hematocrit and hemoglobin, and lower postoperative weight gain.

CONCLUSION: When we compare VAVD with the conventional gravity siphon venous drainage (GSVD) by using hemolysis parameters we found VAVD as reliable as GSVD. VAVD also has advantages of lower blood and blood product usage, higher postoperative hematocrit and hemoglobin levels, and lower postoperative weight gain. After these results of our study we think that we may use VAVD not only in minimally invasive surgery but also in all patients undergoing operation with CPB.

OP-179 THE EXPECTATIONS OF PATIENTS HAVING OPEN HEART SURGERY FROM NURSES DURING THE PERIOD OF THEIR ENTUBATION IN THE ICU

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OBJECTIVES: The aim of cardiac surgery is to improve the quality of life besides prolonging it. Nursery care plays important role for achievement of this aim. Patients remain entubated for about 5-8 hours in the intensive care unit following cardiac surgery, until they become stable. Entubated patients think they are close to death since they are connected to a ventilator. The patient's nurse is the closest person to him during this period. The aim of this study is to determine to what extend the patients needs are met during the entubation period following open heart surgery.

METHODS: One hundred and seventy five patients having open heart surgery in January 2009 were included in the study. Ten out of 175 patients did not accept to fill out the questionnaire. The data were collected between the dates of January 2 and February 2 2009 by the investigators helping patients fill out a questionnaire composed of 27 questions, using the face-to face technique. Percentage and mean values were used for statistical analyses.

FINDINGS: The percentage of females were 46.7% and males were 53.3%. Mean age of the patients were 56 years. Seventy-nine percent of patients had finished primary school. Thirty three percent of patients stated that they had been entubated before and 90.6% had training with regards to entubation. While 83.6% of patients told they were able to communicate their needs while connected to the ventilator, 75.8% stated they used hand and arm movements for communication. What bothered the patients most about entubation was not being able to drink water (35.2%). What the patients expected most from their nurses was their smiling faces (67.3%). Patients attending the study gave a total 9.88 points out of 10 to the nurses that took care of them.

RESULTS: The first-line expectations of patients from their nurses during their intensive care unit stay and entubation period is a smiling face and is to be informed. Active communication of nurses with the patients increases the patient satisfaction.

OP-180 SURGICAL REPAIR OF LEFT VENTRICLE ANEURYSM LOCATED IN THE INFERIOR REGION OF THE HEART

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SUMMARY: Purpose of this study is to find out the results of the patients operated with the diagnosis of left ventricle aneurysms located in the inferior region of the heart. 17 patients had undergone surgical intervention with the diagnosis of left ventricle inferior region aneurysms between 1985 and December 2008. Mean age was 62.58. Mean left ventricle ejection fraction was 42.64%. In-hospital mortality was 11.7% (2/17). Surgical technique was endomyocardial circumferential patch repair in 10 (58.8%) patients and linear suture repair in 7 (41.2%). Mitral valve repair had been performed in 3 (17.6%) patients and postinfarct ventricular septal defect in 2 (11.7%) as additional procedures. Left ventricle inferior region aneurysms can be performed acceptable in-hospital mortality. Surgical technique may have changed to size of the aneurysms and additional pathologic conditions.

OBJECTIVES: Purpose of this study is to find out the results of the patients operated with the diagnosis of left ventricle aneurysms located in the inferior region of the heart.

METHODS: 17 patients had undergone left ventricle inferior region aneurysm operations between 1985 and December 2008 in our clinic. 6 (35%) patients were female and 11 (65%) patients were male; mean age was 62.58±10.8(43-80). Preoperative mean left ventricle ejection fraction was 42.64±8.3%(30-55%), mean left ventricle end systolic diameter was 4.34±0.96 cm. (3.3-5.8) and mean left ventricle end diastolic diameter was 5.88±0.9 cm (3.3-5.8).

FINDINGS: In-hospital mortality was 2 (11.7%) patients. Mean aortic cross clamp time was 11.76±41.57 (38-215) minutes, mean total perfusion time was 157.70±59.37 (70-290) minutes. Endomyocardial circumferential patch repair was performed in 10 (58.8%) patients and linear suture repair was performed in 7 (41.2%) patients as surgical procedure. Mitral valve repair was performed in 3 (17.6%) patients and postinfarct ventricular septal defect repair was performed in 2 (11.7%) patients as additional procedure.

RESULTS: Left ventricular inferior region aneurysm operations can be performed acceptable in-hospital mortality. Surgical technique may have changed the size of the aneurysms and additional pathologic conditions.

**SUPRAVENTRICULAR TACHYARRHYTHMIAS :
DIAGNOSTIC AND THERAPEUTIC CHALLENGES FOR
CARDIOLOGISTS AND CARDIAC SURGEONS**

OP-181 ASSOCIATION BETWEEN CLINICAL CHARACTERISTICS AND LEFT ATRIAL MYOCARDIAL DEFORMATION PROPERTIES MEASURED BY VELOCITY VECTOR IMAGING IN PERSISTENT AND PAROXYSMAL ATRIAL FIBRILLATION

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PURPOSE: Atrial fibrillation (AF) is the most common arrhythmia in clinical practice and it leads to some structural and functional changes in the atrial myocardium. In this study, we aimed to investigate the association between clinical characteristics and left atrial (LA) myocardial deformation properties in persistent and paroxysmal AF.

METHODS: Forty three patients with non-permanent (24 paroxysmal and 19 persistent) AF were enrolled. All subjects were examined by echocardiography during the sinus rhythm. Left atrial volumes were calculated. Quantitative measures of LA deformation were obtained from the apical 4- and 2-chamber views by offline analysis using the VVI technique. Regional peak systolic and peak early and late diastolic velocities (S, E, A), strain (Epsilon-S, Epsilon-E) and strain rate (SR-S, SR-E, SR-A) were measured from the interatrial septum, lateral, anterior and inferior LA walls and averaged.

RESULTS: Left atrial diameter from apical four chamber view (r = 0.403, P = 0.007) and left atrial volume (r = 0.336, P = 0.027) were correlated with the duration of AF. Also Epsilon S (r = -0.369, P = 0.016) and SR-S (r = 0.306, P = 0.048) were inversely correlated with the duration of AF. When the patients were divided according to the termination of AF as paroxysmal or persistent, Epsilon-S, Epsilon-E, SR-S and SR-A were lower in persistent AF than in paroxysmal AF (Table). Left atrial deformation parameters did not differ according to the cardioversion type (pharmacological or direct-current) in persistent AF group (P > 0.05). Peak S velocity and SR-A were decreased in patients readmitted with recurrent AF (2.4 ± 0.85 cm/s vs 3.0 ± 0.84 cm/s P = 0.015 and 0.65 ± 0.386 s⁻¹ vs 1.04 ± 0.470 s⁻¹, P = 0.04, respectively).

CONCLUSION: Left atrial myocardial deformation properties measured by VVI are associated with clinical characteristics of non permanent AF. Velocity, strain and strain rate measurements seem to be promising for predicting clinical characteristics of AF.

Comparison of left atrial deformation parameters in the groups terminate of AF

	Paroxysmal AF (n=24)	Persistent AF (n=19)	P
Epsilon-S (%)	30.±11.2	23.1±10.1	.036
SR-S s ⁻¹	1.69±0.5	1.35±0.5	.045
Epsilon-E (%)	11.3±5.3	8.0±4.7	.043
SR-A s ⁻¹	-0.92±0.3	-0.51±0.3	.028

OP-182 THE EFFECT OF VENTRICULAR VERSUS PHYSIOLOGICAL PACING ON ATRIAL FIBRILLATION DEVELOPMENT IN PACED PATIENTS WITH COMPLETE AV BLOCK

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PURPOSE:In this study we assessed the role of physiologic (DDD) and ventricular pacing on

development of chronic atrial fibrillation in paced patients with complete AV block.

METHODS: A hundred and forty-eight patient with complete AV block who received permanent pacemaker between 1997-2007 years were included. Only patients with prominent P waves were enrolled. Patients with significant coronary heart disease, and valvular heart disease were excluded. Tiroid dysfunction was also an exclusion criterion. Mean age of patient was 65±26 and 72 (47%) of them were female. Eighty-one patient received DDD (55%, physiologic) and 67 patients received VVI (45%) pacemakers. Baseline characteristics of groups were comparable with respect to age, gender, blood pressure and echocardiographic parameters before implantation. Mean follow-up period was 5.7±1.8 years. All patients underwent echocardiographic evaluation at the end of follow-up period and these measurements were compared with baseline echocardiographic values.

RESULTS: Atrial fibrillation developed in 16 patients (10.8%) during follow-up period. Thirteen of these patients were in VVI group. Prevalence of chronic atrial fibrillation in DDD and VVI groups were 3.7% and 19.4 % respectively. Echocardiographically only left atrial dimensions were significantly larger in VVI group comparing with DDD group at the end of study (3.9±1.1 cm and 3.5 ±0.6 cm respectively, p < 0.005) Other echocardiographic parameters were comparable.

CONCLUSION: Prevalence of chronic atrial fibrillation has increased 7 to 8 fold in VVI-paced patients comparing with physiologically paced patients. Patients with VVI pacemaker have larger left atrial dimensions at the end of study comparing with DDD group.

OP-183 THE IMPORTANCE OF LEFT ATRIAL DIAMETER LONG-TERM AND SHORT-TERM RESULTS OF SERUM IRRIGATION UNIPOLAR RADIOFREQUENCY ABLATION IN TREATMENT OF ATRIAL FIBRILLATION PATIENTS

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OBJECT: Atrial Fibrillation (AF) is a type of arrhythmia occurred by over 300/min atrial depolarization without atrium spasm. This is the most common arrhythmia type among others. The ratio of AF among patients for whom Mitral valv surgery is planned can reach up to 40-60%. There is no unique method available for AF treatment that can be applied to all patients safely. Despite some studies indicating that atrial diameter effects the success, there are also some studies against this point of view. The case that left atrium ablation is sufficient alone is another controversial subject. In this study, we will investigate the effect of left atrium diameter in ablation treatment.

METHOD: Preoperative left atrium diameter and postoperative sinus rhythm return success is prospectively investigated in 84 patients to whom radiofrequency (RF) ablation is applied by Cardioblate™ Surgical Ablation System (Medtronic Inc., MN, USA) and Cardioblate™ Surgical Ablation Pen probe is used for chronic atrial fibrillation at open heart surgery in Cardiovascular Surgery Clinic of Education Research Hospital of Van, between January,2004 and March,2009.

RESULTS: 34 of 84 patients to whom serum irrigation unipolar RF ablation is applied were in normal sinus rhythm after operation. Supraventricular tachycardia was seen in 34 patients and normal sinus rhythm was secured later by medical treatment. AF was permanent for 27 patients and nodal rhythm was observed in 4 patients after operation. Nodal rhythm observed patients were taken to intensive care unit for temporary pace control. No amiodarone infusion treatment was applied to these patients and 2 of them turned to normal sinus rhythm at the day of operation and 2 of them turned to AF rhythm. No permanent pace implantation was necessary for none of these 4 patients. High ventricular response AF was observed for 3 patients who were taken to intensive care unit by AF.

CONCLUSION: In our study, we received a significant result that the low atrium diameter increases the success, likewise some studies made on the same subject. When the fact that left atrium diameter increases by level and duration of mitral valv disease is taken into consideration, it is possible to say that this result can be expected.

OP-184 PROCEDURAL TIME AND COMPLICATION RATES OF THE RADIOFREQUENCY CATHETER ABLATION OF ATYPICAL VARIANTS OF THE AVNRT

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OBJECTIVE: Atrioventricular nodal reentrant tachycardia (AVNRT) is the most commonly encountered paroxysmal supraventricular tachycardia. Electrophysiological data and results of RF catheter ablation involving atypical AVNRT, a variant of AVNRT, is scarce. This study is aimed to figure out the procedural duration and complications of the radiofrequency catheter ablation therapy of atypical AVNRT.

MATERIAL AND METHODS: The study group consisted of 663 patients who underwent electrophysiologic study for AVNRT. Patients were randomized as group I (typical AVNRT, n=609) and group II (atypical AVNRT; n=54) according to the earliest retrograde atrial activation. Patients who have both typical and atypical AVNRT or an accompanying accessory pathway were excluded from the study population. Mean follow up period was 34±10 months. Procedure related complications are defined as increase in the PR interval, transient AV block and complete AV block.

RESULTS: Dual AV nodal pathway physiology was demonstrated in 575 patients in group I (94.4%), 50 patients in group II (92.6%). Multiple dual AV nodal pathways were found in 52 patients (8.5% in group I and 9 patients (16.7%) in group II. Tachycardia cycle length was significantly longer in group II (344±5 msec vs. 322±3 msec; p<0.001). RF catheter ablation procedure lasted longer in group II (80±22 min vs 67±22 min; p<0.001). The total procedure duration (80±22 mins. vs 67±22 mins.; p<0.001), fluoroscopy time (28±8 mins. vs 24±8 mins.; p<0.001) and the number of RF shots (4±2 vs 3±1; p<0.001) were higher in group two compared with group I. Complication rates were similar in both of the groups. Increase in the PR interval (1.5% vs 0%; p=ns) and transient AV block (1.1% vs 1.9%; p=ns) was comparable among the groups. Complete AV block was not encountered in neither of the groups. There were 19 recurrences in

group I and none in group II in the follow up period (p=ns).

CONCLUSION: Despite long procedure times and increased RF application frequency in the atypical variants of the AVNRT, the complication rates were comparable with that of the typical forms. RF catheter ablation of the atypical variants of the AVNRT seems as safe and effective as the typical cases.

OP-185 RESIDUAL DUAL PATHWAY PHYSIOLOGY AFTER THE CATHETER ABLATION OF ATYPICAL VARIANTS OF THE AVNRT AND LONG TERM CLINICAL SUCCESS

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Malatya Asker Hastanesi¹, Sarikamis Asker Hastanesi², Gulhane Askeri Tip Akademisi³, Cleveland Clinic Foundation⁴

OBJECTIVE: Atrioventricular nodal reentrant tachycardia (AVNRT) is the most commonly encountered paroxysmal supraventricular tachycardia. Electrophysiological data and results of RF catheter ablation involving atypical AVNRT, a variant of AVNRT, is scarce. This study is aimed to figure out the persistence of the residual dual pathway after the radiofrequency catheter ablation therapy of atypical AVNRT and its consequence on long term success.

MATERIAL AND METHODS: The study group consisted 663 patients who underwent electrophysiologic study for AVNRT. Patients were randomized as group I (typical AVNRT, n=609) and group II (atypical AVNRT; n=54) according to the earliest retrograde atrial activation. Patients who have both typical and atypical AVNRT or an accompanying accessory pathway were excluded from the study population. Mean follow up period was 34±10 months. Success is defined as freedom from recurrences.

RESULTS: Dual AV nodal pathway physiology was demonstrated in 575 patients in group I (94.4%), 50 patients in group II (92.6%). Multiple dual AV nodal pathways were found in 52 patients (8.5% in group I and 9 patients (16.7%) in group II. Tachycardia cycle length was significantly longer in group II (344±5 msec vs. 322±3 msec; p<0.001). RF catheter ablation procedure lasted longer in group II (80±22 min vs 67±22 min; p<0.001). Dual pathway physiology (94.4% vs 92.6% in group I and II respectively; p=ns) and the frequency of multiple dual pathways (8.5% vs 16.7% in group I and II respectively; p=ns) were comparable among the groups before the RF ablation procedure. Residual dual pathway was slightly more common in the atypical variants after the RF ablation procedure (16.7% vs 27.8% in group I and II respectively; p=0.042). The recurrence rates were similar during the follow up period (3.1% vs 0% in group I and II respectively; p=ns).

CONCLUSION: Residual dual pathway after the RF catheter ablation is a more common finding in the atypical cases of the AVNRT revealing the non-uniform anisotropic nature of the atypical forms. Despite this finding the long term clinical success rates were similar between the two forms of the disease.

OP-186 PREOPERATIVE NT-proBNP LEVEL IN PREDICTION OF POSTOPERATIVE ATRIAL FIBRILLATION FOLLOWING CORONARY ARTERY BYPASS SURGERY

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OBJECTIVE: There are two types of Natriuretic peptide synthesized in the heart: The first one is atrial natriuretic peptide (ANP), the second one is brain natriuretic peptide (BNP). Both hormones are released when the atrial stretch and the left ventricle pressure increases. NT-proBNP is measured because of its half life. Atrial fibrillation (AF) is a common complication following coronary artery bypass surgery. Post operative AF can lead to thromboembolic events, prolonged hospital stay, and increased costs. Our objective in this study is to evaluate the effect of preoperative NT-proBNP levels on the development of AF after coronary artery bypass surgery (CABG).

METHOD: 52 patients who underwent coronary artery bypass surgery were included to the study. Preoperative plasma NT-proBNP levels were measured and recorded. Patient's heart rate and rhythm were monitored for postoperative 72 hours. Detected AF was recorded by standard 12 derivation ECG.

RESULTS: 9 patients (17.3%) exhibited postoperative AF. Univariate analysis demonstrated that 1. age (odds ratio [OR], 1.060; P =0.028), 2. previous myocardial infarction (MI; OR, 2.636; P = 0.042), and 3. NT-proBNP level (OR, 7.326; P < 0.001) were accurate predictors of postoperative AF. Stepwise multivariate regression analysis indicated age (OR, 1.059; P = 0.045) and BNP level (OR, 6.252; P = 0.002) as the only independent predictors of postoperative AF. No statistical significance was not detected in the use of drugs, site of revascularization, duration of the operation, number of distal anastomoses, sex, hypertension, diabetes, fluid balance during the operation and Left Ventricle Ejection Fraction.

CONCLUSION: Preoperative NT-proBNP level is an independent predictor of postoperative AF following Coronary Artery Bypass. Our findings permit us to stratify the risk of AF and to plan prophylactic strategies in high-risk patients. The preoperative plasma BNP level was shown to be an independent predictor of postoperative AF following CABG. Our findings permit us to stratify the risk of AF and to plan prophylactic strategies in high-risk patients AF is a common complication following coronary artery bypass surgery. Post operative AF can lead to thromboembolic events, prolonged hospital stay, and increased costs. Our objective in this study is to evaluate the effect of preoperative NT-proBNP levels on the development of AF after coronary artery bypass surgery.

KEY WORDS: NT-proBNP, Atrial fibrillation, Coronary artery bypass

OP-187 THE EFFECTS OF LEVOSIMENDAN INFUSION ON P-WAVE AND QT DISPERSIONS

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PURPOSE: P-wave dispersion (PWD) has been reported to be associated with inhomogeneous and discontinuous propagation of sinus impulses. QT dispersion is one of the indices which show the heterogeneity of ventricular refractoriness that may have role in ventricular arrhythmias. Aim of the study was to present preliminary results of our study regarding the effects of levosimendan infusion on P-wave and QT dispersions in patients with decompensated heart failure

METHODS: A total of 42 patients (mean age: 64.1±12.9, male/female: 32/10) that admitted to our clinic with decompensated heart failure were enrolled. Levosimendan infusion was given to the patients refractory to conventional treatment according to indications of current therapeutic guidelines. Maximum P-wave duration (Pmaximum) and minimum P-wave duration (Pminimum) were measured from the magnified 12-lead surface electrocardiogram. PWD was calculated as the difference between Pmaximum and Pminimum. QT and QTc dispersion measured by the difference between maximum and minimum QT and QTc intervals.

RESULTS: Before and after the levosimendan infusion, there was no difference regarding with dosage of furosemide (mean dosage: 133.5±38.1mg vs 138.1±41.0mg, p=0.257) and use of Angiotensin Converting Enzyme inhibitors (ACEi) (33% vs 34), Angiotensin Receptor blockers (ARBs) (50% vs 48%) and beta blockers (78%vs 74), respectively. Pmaximum and PWD of patients before levosimendan infusion were significantly higher than those of after (Pmaximum: 128±12 ms vs. 113±10 ms, PWD: 54.7±14.5 ms vs. 47.1±11.5 ms, respectively, P<0.05 for all). However, there was no statistically significant difference regarding Pminimum (74±7 ms vs. 66±6 ms, respectively, p=0.23) values. Baseline QT (53.2±14.2 vs 43.9 ±14.8 , p<0.05) and QTc (61.6±13.5 vs 48.1±12.7, p<0.05) dispersion were significantly decreased after levosimendan treatment.

CONCLUSION: PWD and QT/QTc dispersion was found to be significantly lower after levosimendan infusion which might have favorable effects on reduction of atrial and ventricular arrhythmias.

KEY WORDS: Decompensated heart failure, Levosimendan, P-wave dispersion, QT dispersion

Parameter	Before Levosimendan infusion	After Levosimendan infusion	p value
P Wave Dispersion (ms)	54.7±14.5	47.1±11.5	<0.05
QT dispersion (ms)	53.2±14.2	43.9 ±14.8	<0.05
QTc dispersion (ms%u2212/2)	61.6±13.5	48.1±12.7	<0.05

OP-188 EARLY RESULTS OF THE SALINE IRRIGATED RADIOFREQUENCY ABLATION TREATMENT FOR THE ATRIAL FIBRILLATION AND THE PREDICTORS OF THE SUCCESS.

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OBJECTIVE:The purpose of our study is to find the success rate of the saline irrigated radiofrequency ablation (SIRFA) for the atrial fibrillation and to determine the predictor of the success.

Methods: Between April 2008 and April 2009 86 patients with chronic atrial fibrillation selected for rheumatic valve surgery have undergone SIRFA with an available unipolar probe. Each patient had a 12 lead electro cardiogram for routine control at the end of the second month.

RESULTS: While the incidence of early postoperative AF was found to be 19.76% (17), this ratio was 17.44% (15) at the first month, and 16.27% (14) at the second month. The istatistical analysis have revealed that; i- age older than 60 years old, ii- the left atrium diameter > 60 mm, iii- the left atrium diameter > 60 after left atrium left atrium reducing procedure, iv- postoperative antiarrhythmic drug treatment requirement are the significant risk factors.

CONCLUSION: The success rate of the SIRFA was similar to the classic Surgical MAZE III procedure. Thereupon very low complication rate, easy to apply, low application time and the high success rate make the SIRFA procedure is a suitable treatment option for the chronic AF with the rheumatic mitral valve surgery. In our study left atrium diameter > 60mm after the left atrium diameter reduction procedure, older age, and the antiarrhythmic drug treatment and the P-wave dispersion have been established as the main predicting factors un favorably influencing the success rate of the SIRFA.

NEW THERAPEUTIC OPTIONS FOR PERIPHERAL VASCULAR DISEASE

OP-189 A RARE CASE OF ANEURYSM IS THE POPLITEAL REGION: POPLITEAL ARTERY PSEUDOANEURYSM

Baris Tuncer¹, Alper Ozbakkaloglu¹, Nail Kahraman¹, Adnan Taner Kurdal¹, Mustafa Cerrahoğlu¹

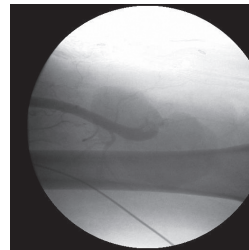
Celal Bayar University School of Medicine Department of Cardiovascular Surgery¹

INTRODUCTION: Anastomotic aneurysms develop because of interruption of the continuity between the vascular greft and the artery. Popliteal artery pseudoaneurysm development after reconstructive vascular surgery is very rare but critical care must be taken to avoid serious complications like mortality. Immediat surgical interventions will prevent complications like rupture, thrombosis, infection and critical lower extremity ischemia. In this case study we would like to present a patient with anastomosis related Popliteal artery pseudoaneurysm treated with aneurysmectomy and femoro-popliteal bypass operation.

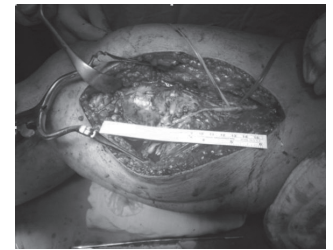
CASE STUDY: 60 years old patient with a history of coronary artery bypass and right lower extremity femoro-popliteal bypass operation 2 years ago; was referred to our clinic with right lower extremity pain and swelling. On physical examination; there was a pulsating mass on the medial side of the right knee and popliteal, dorsal pedal and anterior tibial artery pulses were nonpalpable on the right lower extremity. In the peripheral angiography 90x40mm pseudoaneurysm was located at the proximal segment of the right popliteal artery. The position of the pseudoaneurysm was not appropriate for endovascular stent implantation so surgery was planned. Under general anesthesia with a medial incision in the thigh superficial femoral and popliteal artery was reached, the second incision was made distal to the popliteal artery to reach the aneurysm's sack. Popliteal artery was explored from the distal part, aneurysm wall was dissected and thrombus material was taken out. The distal and proximal parts of the femoral artery opening to the aneurysm was sutured with 3/0 prolene. Reversed saphenous vein graft from the contralateral leg was anastomosed (end to side) to the popliteal artery distally and to the superficial femoral artery proximally with 6/0 prolene. Superficial femoral artery was ligated from the proximal part with 1/0 silk sutur material. At the end of the procedure pulses were palpated both at the distal and proximal part of the anastomosis. The patient was discharged post 5th operative day. On the follow up popliteal and distal pulses were palpable and there was no complaints.

DISCUSSION: Popliteal artery lesions are unsuitable for endovascular procedures because of its anatomical proximity to the knee joint. Popliteal artery pseudoaneurysms should be treated with surgery whenever discovered. Complications like rupture, thrombosis, infection and pressure related critical lower extremity ischemia can be avoided by using early surgical procedure.

KEYWORDS: pseudoaneurysm, popliteal artery, bypass



Arteriography of popliteal pseudoaneurysm



Operative View 1



Operative View 2

OP-190 CERVICAL SYMPATHETIC CHAIN SCWANNOMA WITH POSTOPERATIVE FIRST BITE SYNDROME

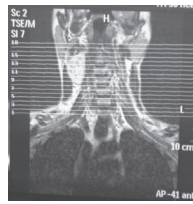
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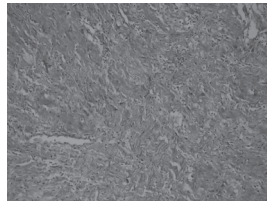
INTRODUCTION: Schwannomas are benign, slow-growing tumors that arise from Schwann cells of nerve sheath. Those originating from the cervical sympathetic chain are rare and may mimic carotid body tumor.

CASE: A 53 year old male presented to the Ear Nose and Throat clinic with a 2-month history of a painless, slowly enlarging right mass neck. Investigations included USG, CT , MRI (Resim 1) and attempted aspiration biopsy was inconclusive. The patient was referred to our department with the probable diagnosis of carotid body tumor. CT of the neck revealed 4X4 cm mass in the right carotid bifurcation causing anterior displacement of jugular vein and common carotid artery. Intraoperatively a 2X2 cm size capsulated mass on the anterior of carotid bifurcation and a 3X3 cm size capsulated mass on the lateral side of bifurcation extending posteriorly to prevertebral fascia was excised with two lymphadenopathy in the region. Diagnosis of cervical sympathetic chain schwannoma was reached by pathological examination (Resim 2). The patient was discharged on the postoperative second day with first-bite syndrome. The pain in the parotid region subsides with masticatory movement.

DISCUSSION: On the poststyloid compartment, carotid sheath, vagus nerve, cervical sympathetic chain, 9th, 11th and 12th cranial nerves are located. A mass in this region may be vascular or neurogenic tumor. For schwannomas operative excision and sacrifice of a portion of the sympathetic chain remains the treatment of choice. Postoperative Horner's syndrome, vagus nerve dysfunction or first bite syndrome are predictable complications.



MRI view of the mass



Pathological examination of the tumor

OP-191 COEXISTENCE OF LEFT-SIDED INFERIOR VENA CAVA, DVT OF THE UPPER AND LOWER EXTREMITY AND PROTHROMBOTIC POLYMORPHISMS IN A YOUNG PATIENT: CASE REPORT

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Literature review suggests an interaction between an anomaly of the inferior vena cava and thrombophilia in the pathogenesis of deep vein thrombosis. Genetic thrombotic abnormalities have been found in some of the subjects having venous thromboembolic diseases. We report a young male presenting with venous thrombosis of the upper and lower extremities, left-sided inferior vena cava and with combination of heterozygosity of the mutation of the genes Methyltetrahydrofolate reductase (MTHFR) 677 and Factor V (FV) J1691.

CASE: A 36-year-old man admitted to hospital with significant right lower extremity swelling and pain and endurance of the right antecubital region. Duplex ultrasound (USG) scan demonstrated deep venous thrombi in the right femoral, left popliteal vein and superficial venous thrombosis of the left greater saphen vein as well as thrombosis of the right axillary vein, brachial vein and antecubital vein (Fig 1). Abdominal USG revealed left sided inferior vena cava. For further evaluation, we performed 3-dimensional (D) venography and it revealed the left sided inferior vena cava (Fig 2).

Initial laboratory results and workup for thrombophilia is listed in Table 1. Low protein S activity, high D-dimer levels and low fibrinogen levels revealed a defect predisposing to thrombophilia (Table 1). Genotyping the factor V, MTHFR and prothrombin mutations were performed by rapid cycle PCR using the LightCycler TM (Roche Molecular Biochemicals).

The results pointed that he had heterozygotic mutations of FVL 1691 and MTHFR 677 (Table 1). The patient was treated with intravenous heparin and warfarin. On the 12th day of hospitalization repeat USG revealed good recanalization of the lower deep veins and poor recanalization of the axillary vein. The patient was discharged on oral warfarin therapy with 10 days of outpatient low molecular weight heparin medication.

DISCUSSION: Inferior vena cava anomalies may predispose to venous thrombosis because of resultant stasis. The phenomenon of abnormalities of IVC has been described in a variety of ways such as absence, agenesis, ablated, anomalous and interruption of a particular segment (infrahepatic, prehepatic, renal or infrarenal). It is important to diagnose the disorder, primarily because of the high risk of complications associated with the accompanying abnormalities and the possible risk of developing thrombosis of the distal venous network leading to venous insufficiency of the lower limbs.

Aforementioned suggestions may explain the lower extremity DVT of our patient but lacks to explain the upper extremity DVT of the patient. Together with the normal homocysteine levels, factor V was the only thrombophilic risk factor for the genesis of the DVT of the upper and lower extremities in our case.

We believe that therapy must be focused on the prevention of complications such as thrombosis. We emphasize that the diagnosis should be considered in young patients suffering from deep venous thrombosis without apparent causes.

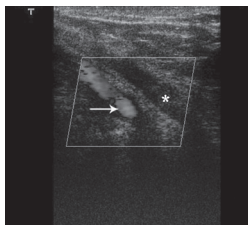


Fig1. Intraluminal thrombus is evident in the axillary vein as characterized by the absence of Doppler signal (asterix). Patency of axillary artery is

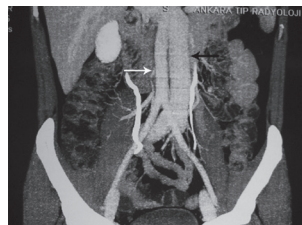


Fig2. Coronal maximum intensity projection image obtained with multidetector row CT shows the left sided inferior vena cava (black arrow). White arrow i

TABLE 1. Initial laboratory and Thrombophilia workup

	Result	Normal Range
D-Dimer (µg/L ²)	206-1000	500
Fibrinogen, time (s)	11.9	10.5-12.5
D-dimer (µg/L ²)	33	20-35
Fibrinogen (mg/dL ²)	97	175-400
Fibrin split product (µg/dL ²)	<10	<10
Thrombin time (s)	17	10-20
Thrombin time (s)	227/2000	175-400/200
Antithrombin III (%)	112	90-120
Protein C activity (%)	78	70-130
Protein S activity (%)	40	60-130
Factor V Leiden	positive 01491A	negative 01491A
Fibrinogen gene mutation	negative 02020A	negative 02020A
MTHFR 677 gene mutation	positive	negative
Cardiolipin (a2) (OP1*)	<3.0	<15
Cardiolipin (a2) (OP2*)	<3.6	<10
Heterozygosity - single alleles (LAP)	0	<15
Heterozygosity - double alleles	<1.00	<1.00

* OP1, a2b phospholipid state; LAP, a2b phospholipid state

TABLE 1

OP-192 EARLY RESULTS OF INFRARENAL ABDOMINAL AORTIC ANEURYSM

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Abdominal aortic aneurysms (AAAs) are one of the most lethal diseases when they are ruptured and prevalence increases with advanced age and atherosclerotic degeneration. When the diameter of aneurysm increase, the risk of rupture increases. We reviewed outcomes, morbidity, mortality, and trends in mortality of all patients managed at our clinic with ruptured and non-ruptured AAAs.

We evaluated retrospectively of 38 patients who had AAA surgery between July 1997 and April 2009, as 27 men and 11 women. The mean age was 63.6 years (range: 24-94). Twenty two patients was non-ruptured group (G1) and sixteen patients was ruptured group (G2). Twenty patients had elective surgery and emergency was performed at eighteen patients. There were peripheral embolism two patients of G1 that was performed emergency surgery. Diagnosis was revealed by anamnesis, physical examination, ultrasonography, contrast enhanced computerized tomography, multislice computed tomography, magnetic resonance imaging and one patient only with conventional angiography. Coronary and peripheral angiography was performed in 11 elective surgeries. In two patients, during general surgery operation was diagnosed with peroperative examination. There was ASO all patients, coronary artery disease in 13 patients, hypertension in 16 patients, chronic lung disease in 8 patients, diabetes mellitus in 6 patients and chronic renal failure in 3 patients. A patient had coronary artery by pass grafting 5 month ago. Diameters of aneurysm ranged between 3.9 and 9.5 cm (mean: 6.61cm) all patient (4-9.5 cm for G2 and 3.9-9.5 cm for G1). The surgical mortality rate (30 day) was 26.31 %, 13.63 % in G1 group and 43.75 % in G2 group. Two patient of G1 was died after emergency surgery. There was one of them perioperative myocardial infarction and other had several lung disease (ARDS). Rate of shock and hemodynamic instability was highest on G2.

Despite advancement diagnosis, health care quality, surgery technical and technology, mortality and morbidity rate of ruptured AAAs remains high extremely. Patients older with shock or cardiac arrest have the highest mortality rate. Screening of the high risk patients and the patients with aneurysms should be evaluated for elective repair before rupture.

OP-193 SHUNT DECISION WITH REGIONAL CERVICAL BLOCK IN CONTRALATERAL CAROTID ARTERY STENOSIS

İbrahim Erdinç¹
Kalp Ve Damar Cerrahisi Klinigi, S.B. İzmir Eğitim Hastanesi; İzmir¹

Objective: The surgical outcome in patients with contralateral total occlusion may vary greatly. The surgical success is usually reduced in this patient group. Some clinics routinely apply shunts to this type of patients. This study aims to facilitate the decision for shunt requirement during carotid endarterectomy (CEA) with regional cervical block (RCB), and to demonstrate that shunt-related complications are evaded.

Methods: A total of 74 patients (50 male(8 Bilateral) and 24 female(4 bilateral)) underwent 86 CEA between October 2001 and may 2006 in our clinics. The contralateral carotid arteries were normal in 30 patients, less than 45% stenotic in 10 patients, 45-70% stenotic in 10 patients, up than 75% stenotic in 12 patients and totally occluded in 12 patients. The decision for surgery in these patients was rendered by MRI-angiography, or digital subtraction angiography (DSA). 21 patients were asymptomatic while 47 patients were symptomatic. All patients with contralateral total occlusion were symptomatic. All CEA were performed using LRB with systemic heparinization, ECG, and invasive blood pressure monitoring. The arterotomy was routinely closed primarily with 6/0 polypropylene. Hemovac drains were placed in all patients, postoperatively. During the surgery, the anaesthesiologist asked certain questions and started conversations in order to check the motor and consciousness states of the patients during arterial clamping.

Results: Shunt wasn't used in any patients, including the contralateral total occluded patient group. No perioperative neurological deficit developed in any patient. No postoperative mortality was observed. Temporary haematoma developed in one patient, and temporary facial paresis was observed in three patients. Confusion developed in one patient 12 hours postoperatively, but using medical therapy, no irreversible sequels developed in this patient. 14 patients received CABG, postoperatively. The mean arterial clamping time was 10 to 25 minutes (average: 12 minutes).

Conclusion: The decision for carotid shunt during CEA is easier in conscious patients under RCB. RCB can be safely applied in all patients with isolated carotid artery stenosis. Thus, the complications of general anaesthesia may be avoided.

OP-194 TOTAL OCCLUSION OF MAIN FEMORAL ARTERY DUE TO CYSTIC ADVENTITIAL DEGENERATION IN A YOUNG PATIENT

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Kahramanmaraş Sütçü İmam University Faculty of Medicine¹

OBJECTIVE: Adventitial cystic disease is a quite rare peripheral arterial disease and generally causes total occlusion. We report a 27-year-old male patient in whom total occlusion of main femoral artery was developed due to cystic adventitial degeneration.

METHODS: A 27 year-old man suffering from pain on his left leg. His pain was in the form of claudication. He had no history of smoking, familial disease or atherosclerotic risk factors. Biochemical and hematological studies were within normal limits. There was no finding other than vascular system.

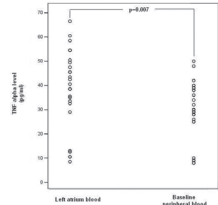
Attenuated pulses were palpated in femoral artery, popliteal artery and dorsalis pedis whereas pulses of tibialis posterior could not be palpated. Doppler USG and BT angiography revealed total occlusion in the left main and superficial femoral artery (Figure 1). Therefore, operation was planned.

RESULTS: A by-pass was performed from the proximal of the main femoral artery to the distal

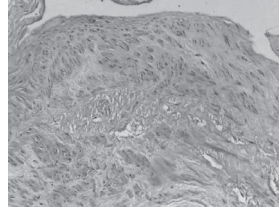
superficial femoral artery by using the saphenous vein graft. Biopsy was performed from the diseased segment for histopathological examination which was reported as mucinous degeneration in the vascular wall furnished with the endothelium (Figure 2).

CONCLUSIONS: Adventitial cystic disease is a rare vasculopathy which characterized with the evidence of viscous and mucinous cysts in the arterial adventitia. When the cyst expands it causes stenosis generally due to compression. Complete occlusion may occur very rarely. Patients with adventitial cystic disease are usually the young individuals who have no risk factors for atherosclerosis. Although the disease can spontaneously recover, generally arterial occlusion would be developing in non-treated patients. Cyst fluid can be aspirated or cyst can removed in stenotic arteries. However, when occlusion exists, resection and interposition grafting should be performed.

As a conclusion, cystic adventitial disease should not be ignored when arterial stenosis or occlusion develops in young patients with no risk factors for atherosclerosis.



The BT angiography imaging



Histopathological imaging

OP-195 PULMONARY THROMBOENDARTERECTOMY FOR THE TREATMENT OF CHRONIC PULMONARY EMBOLIC DISEASE IN A PATIENT WITH FAMILIAL MEDITERRANEAN FEVER AND NEPHROTIC SYNDROME.

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İ.Ü. Cerrahpaşa Tıp Fakültesi¹, İ.Ü. Cerrahpaşa Tıp Fakültesi Kalp Ve Damar Cerrahisi AD²

Although the exact incidence of the pulmonary embolism doesn't known, acute pulmonary embolism is the third most frequent reason of mortality comes after heart diseases and cancer (1). Pulmonary endarterectomy (PE) is the curative treatment of chronic thromboembolic pulmonary hypertension (CTEPH)(2,3). Chronic thromboembolic pulmonary hypertension exists in 4% of the patients who has acute pulmonary embolism. Real prevalence is much more than expected. Although pulmonary embolism is one of the most commonly seen cardiovascular diseases, PE is still stayed as an uncommon procedure.

Venous thromboembolism is known as a common complication of nephrotic syndrome (4). The renal vein thrombosis that is seen with nephrotic syndrome or pulmonary embolism secondary to recurrent lower extremity deep venous system thrombosis can be count as thrombotic complications of this disease.

Here in this report, we would like to present a chronic pulmonary embolism in a patient with a diagnosis of familial mediterranean fever and nephritic syndrome.

CASE REPORT: The patient had a migrating arthralgia in 2001 and admitted to pediatry. After the investigation the Familial Mediterranean Fever (FMF) and nephrotic syndrome because of membranous glomerulonephritis were diagnosed and colchicine, enalapril, prednisolone, and weekly methotrexate treatment has been given and followed by pediatricians since 2001.

At the present time, patient had been experiencing left lower extremity edema and pain which was begun 10 days ago. After the complaint of palpitation begins additionally, he applied to the emergency department. In physical examination, general condition was well and he was oriented to person, place and time. Peripheral pulses were palpable bilaterally in lower and upper extremities. Pulmonary auscultation was normal. There was nothing wrong except tachypnea and tachycardia in cardiac and pulmonary examination. There was an edema much more evident in the left lower extremity.

In the echocardiography, interventricular septum was 14,7mm (normal values 7-8 mm), left ventricular end diastolic diameter was 28mm (normal values 44-52mm), left ventricular end systolic diameter was 18mm, diameter of ascending aorta was 27mm (normal values 22-28 mm), ejection fraction was found as 85%. The gradient of the left ventricular outflow tract was found to be 15 mmHg. At the M-mode measurements, right atrial and right ventricular enlargements were found, and the cardiac contractions were in the normal range. There was no additional anomaly of heart found. At the colored doppler investigation, low-mild tricuspid deficiency was found and right ventricular pressure was measured as 50-55 mmHg by using this method. He had the right ventricular failure findings and at the proximal portion of right pulmonary artery thrombus material was detected. As a result thrombus material in the right pulmonary artery, hypertrophic cardiomyopathy and low grade pulmonary hypertension were found. After these findings thorax computerized tomography (CT) scan with IV contrast was taken urgently (Figure 1). The CT scan views showed massive pulmonary embolic material in both of the left and right pulmonary arteries.

At colored duplex scan of lower extremity veins, acute thrombus material was found in the superficial femoral vein. Abdominal region duplex investigation was also made and there was no thrombus material found in renal veins.

The patient has taken under operation immediately. Under general anesthesia pericardium was opened after median sternotomy. It was seen that pulmonary artery and right ventricle became much wider and right ventricular contractions were quite superficial. Aortic arterial and bicaval venous cannulation were made. After establishing cardiopulmonary bypass, isothermic potassium enriched blood cardioplegia was given both antegrade and retrograde route. Pulmonary artery, right and left pulmonary arteries were explored. At 23 °C. total circulatory arrest period was began. Firstly arteriotomy was made from the main pulmonary artery to left pulmonary artery. Organized thrombus material which had approximately 12 cm length was taken from the pulmonary artery by the help of elevator. After this, right pulmonary arteriotomy was made across the plane between the superior vena cava and ascending aorta which was supplied by the help of the retractor. In this area, material was removed carefully from the pulmonary artery which was approximately 8 cm length. The thrombus material was an organized material and

it was difficult to take it away from endothelium. It was like a chronic, adhesive tissue (Figure 2). During 25 mins of total circulatory arrest, all thromboembolic material was removed. The operation was ended with an reasonable inotropic support for right ventricle.

DISCUSSION: Pulmonary embolism (PE) is a common and potentially lethal condition that can cause death in all age groups (5). Acute PE due to chronic deep venous thrombosis is a well known complication. The mortality of untreated acute PE is 18% to 33%. In most cases patients own lytic mechanisms lyses fresh thrombi material .

In some patients with recurrent acute PE, the clot would not lyse and chronic thromboembolic obstruction of pulmonary vasculature develops. The incidence is very low as 0.5% in patients with acute PE to develop chronic occlusion(6). The reasons for failure of emboli to dissolve is unknown in most of the patients. The patients with a nephrotic syndrome has a tendency for thrombosis and this may be the main reason for remaining clots and organisation of them with the arterial wall to develop chronic thromboembolic pulmonary hypertension.

Due to massive PE which was detected with CT scan with contrast, a decision was made to treat patient surgically due to high doses of inotropes to support circulation. Fifty % of massive PE patients are dying in the initial hours of onset. In "more" healthy patients whom surgery poses quite little risk, there may be an option to treat Medical options such as heparin or thrombolytics. Since the patient was receiving high doses of inotropes with a failing right ventricle, it was not difficult to make a decision for surgery(7).

Nephrotic syndrome has a tendency to develop thrombosis especially in deep calf and renal veins. Mechanism of clotting is due to several mechanisms such as diuretic and steroid usage, loss of clotting factors via kidneys (8), immobilization and hemoconcentration due to intravascular volume loss Thrombosis can be seen in renal vein and deep calf veins. However, possible source of PE in nephrotic syndrome is deep calf veins not likely renal vein (6).

This is the first case of pulmonary thromboendarterectomy in the literature that has a diagnosis of familial mediterranean fever associated nephrotic syndrome. Familial Mediterranean Fever (FMF) is a genetically inherited disease characterized by fever and serositis, renal involvement is mainly AA amyloidosis. Membranoproliferative glomerulonephritis is the most common pathology in FMF disease in kidney which causes nephritic syndrome(9), nephrotic syndrome can be seen in rare patients, especially the ones who had family history(10). Although this is the first clinical PE episode of this patient, organisation of thrombus material in right and left main pulmonary arteries suggest that this was a chronic issue and acute exacerbation lead the patient to become symptomatic and helped to give patient a true diagnosis.

As a follow up, the patient is anticoagulated with oral warfarin with an INR value between 2.5-3.5 and now stable without any symptoms in the 6. postoperative month. Echocardiography shows recovered right ventricular functions. There is no episode of clinical or subclinical deep venous thrombosis which was scanned monthly duplex scan.

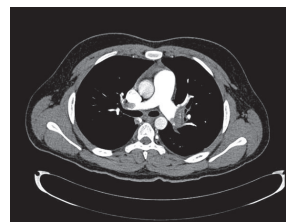


Figure 1



Figure2

CORONARY ARTERY SURGERY

OP-196 REPAIR OF ANTERIOR CHEST WALL AFTER STERNAL DESTRUCTION COMPLICATED WITH MEDIASTENITIS: OMENTAL TRANSPOSITION, TITANIUM MESH IMPLANTATION AND RECTUS MUSCLE FLAP TRANSPOSITION

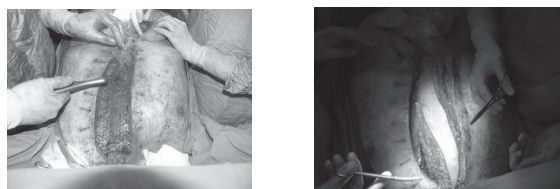
Mustafa Hakan Zor¹, Mehmet Acipayam¹, Atilla Orhan¹, Fulya Findıkcıoğlu¹, Osman Tansel Darcın¹
Konya Eğitim Araştırma Hastanesi¹

INTRODUCTION: Disruption and infection of median sternotomy wounds are grave complications associated with prolonged hospitalization, high cost, and mortality. Sternal salvage and direct sternal reclosure are possible when the infection is diagnosed in early period. If it is complicated, more complicated procedures should be considered. Here, we describe the repair of a case with sternal bone destruction complicated with mediastinitis.

CASE: A 59 year-old- man underwent coronary bypass surgery. Two hours after the procedure, he experienced ventricular fibrillation and cardiopulmonary resuscitation was performed. On the fourth postoperative day, he revealed sternal dehiscence on physical examination and underwent a sternal repair. After mobilisation, redhiscence of sternum was noticed. Then sternum was rerepaired and direct compression plaques (DCP) were implanted to both sides of sternum and circled with steel wires. 10 days after the second repair, redhiscence was noticed for the third time with concomittant purulan drainage. He was treated with antibiotics according to culture and antibiogram. After drainage stopped, he underwent for sternal repair again. Reviewing wound, a complete sternal destruction complicated with mediastenitis was defined. All infected sternal edges were debrided till uncontaminated costal bones were reached. Omental flap was transposed through a hole on diaphragma and was laid out in to the mediastinum. A titanium mesh was implanted to the costal bones with titanium screws and steel wires. Rectus muscle flap was transposed to mediastinum and placed on the mesh. Residual abdominal defect was repaired with a sepramesh. On the early postoperative period, venous insufficiency appeared at top of the rectus muscle flap. He was put on leech treatment. After 3 days of the treatment, flap viability was reconstituted and there were no problem except 2x2 cm skin necrosis. Meanwhile, he was anesthetised and kept on ventilatory support for four days to stabilise repaired chest wall. After extubation, chest was supported with silastic bandage for a few weeks and wound healing was without any problem. He was discharged on

the 8th week of hospitalization with complete chest stability. He was followed-up for a year and no complication was noticed.

CONCLUSION: Early recognition of anterior chest wall instability facilitates primary sternal repair. Although lateral sternal support (ie, Robicsek's technique) is first-line surgical treatment, primary closure of defects is often impossible and more complicated techniques are required in complicated anterior chest wall defects. In surgical treatment of mediastinitis, a transposed omentum has been used. In addition to that, a rigid tool is also required to enforce chest wall. Muscle flap on it could be protective to avoid cutaneous mesh decubitis. Considering all this, we suggest to repair it with a sandwich like graft consisting of omentum, titanium mesh and muscle flap inside to out.



OP-197 SURGICAL TREATMENT OF POSTINFARCTION LEFT VENTRICULAR ANEURYSMS

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OBJECTIVE: Simple linear resection and endoventricular patch plasty are alternative techniques to repair postinfarction left ventricular aneurysm. We evaluated early clinical results and echocardiographic measurements of the left ventricle in patients who underwent left ventricular aneurysm repair using two different techniques.

METHODS: Sixty consecutive patients (31 females, 29 males; mean age 60±7 years) underwent postinfarction left ventricular aneurysm repair and myocardial revascularization performed within an eleven-year period. Ventricular reconstruction was performed using endoventricular circular patch plasty (Dor procedure) (n=41) or linear repair technique (n=19). The two groups were compared with respect to clinical data and echocardiographic parameters obtained preoperatively and postoperatively, and at the end of a mean follow-up of one year.

RESULTS: The two groups were similar with respect to age, gender, risk factors, and concomitant procedures. All the patients had significant left anterior descending coronary artery stenosis, and all underwent coronary artery bypass grafting. The mean number of grafts per patient was 2.11 with the Dor procedure and 2.15 with linear repair technique. Hospital mortality occurred in 4.5% and 10.5% in the two groups, respectively (p>0.05). Echocardiographic parameters showed significant postoperative improvement in left ventricular functions in both groups (p<0.001). However, patients treated with the Dor procedure exhibited significantly better improvement in left ventricular systolic functions and NYHA functional class compared to those treated with the linear repair technique (p<0.05).

CONCLUSIONS: Our results demonstrate that postinfarction left ventricular aneurysm repair can be performed with both techniques with an acceptable surgical risk and with satisfying hemodynamic improvement. However, ventricular restoration performed by the Dor procedure is associated with better results in left ventricular systolic function and NYHA functional class of the patients.

OP-198 THE EFFECTS OF N-ACETYLCYSTEINE ON PULMONARY FUNCTIONS FOR ON-PUMP CORONARY ARTERY SURGERY

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OBJECTIVE: Pulmonary dysfunction is one of the well known complications of open heart surgery. The effects of extracorporeal circulation on pulmonary functions are closely related with complement system activation. This study is designed for evaluating the effects of perioperative N-acetylcysteine administration on pulmonary functions.

METHODS: Total of 82 consecutive patients undergoing on-pump coronary bypass surgery are prospectively randomized as control (n:40) or N-acetylcysteine group(n:42). Study group received 600 mg/day N-acetylcystein for 3 days preoperatively and 300 mg was added in the prime solution during operation. Control group patients received only placebo with the same schedule. There were 20 COPD patients in the control group and 10 COPD patients in the N-acetylcysteine group. Pulmonary function tests were performed preoperatively and postoperative day 60 for both groups.

RESULTS: There were no statistically significant difference between groups for the preoperative mean values of FVC, FEV1, FEV1/FVC, FEF25-75, pH, pCO2, pO2 ve Htc(p>0.05). Comparing the pulmonary function test results for COPD subgroups, for N-acetylcysteine group, there was no difference between the preoperative and postoperative day 60 values of FEV1 and FEF25-75, but for the placebo group, there were significant reductions in values of postoperative FEV1(2,46±0,48 lt and 2,34±0,58 lt, pre and post operative, respectively, p<0.05) and FEF25-75(1,51±0,53 lt/sec and 1,36±0,54 lt/sec, pre and post operative, respectively, p<0.05).

CONCLUSION: This study reveals that perioperative N-acetylcysteine administration has some beneficial effects for COPD patients who had on-pump coronary artery surgery. This beneficial effect may translate to better clinical outcomes after surgery for COPD patients.

OP-199 THE SURGERY APPROACH TO A CASE OF LONG SEGMENT MUSCULAR BRIDGE

CAUSING TOTAL OCCLUSION IN SYSTOL

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INTRODUCTION: Muscular bridge is defined if a portion of coronary artery courses into myocardial tissue. This is a insignificant congenital anomalous. However, it may cause angina pectoris, lifethreatening arrhythmias, myocardial infarctus and sudden heart death. Its angiographic incidence ranges between 0.7-1.5%.

CASE PRESENTATION: A 51-years-old man with complaint of typical exertional angina lasting in ten minutes in resting within 6 months admitted to our hospital. He has been smoking for 30 years. On physical examination blood pressure and heart rate were 135/85 mmHg and 95/min respectively. No pathologic sign was recorded on chest and heart auscultation. Resting ECG was normal. On stress test evaluation, a horizontal ST segment depression was seen at third stage. We performed coronary angiography and found myocardial bridgegeat mid-segment LAD causing total occlusion in systol(Figure 1). RCA and LCX were normal. Surgery treatment was recommended to patients because angina persisted after optimal medical treatment.

SURGERY TECHNIQUE: The median sternotomy was applied after general anaesthesia. First, we tried to cut the myocardial bant covered mid-segment of LAD but, it was abandoned because of lifethreatening arrhythmias and patient underwent by-pass surgery. Cardiopulmonary by-pass surgery was performed by moderate degree hypotermia and cardioplejic arrest. Myotomy was done in 5 cm segment of LAD. We started to cut myocardial tissue from the distal portion of muscular bridge where coronary artery surface(Figure 2).

Conclusion: Surgery approach to muscular bridge should be performed in symptomatic patients if the symptoms are not alleviated by optimal medical treatment. The mortality and morbidity related to myotomy is very low.



Figure1:Angiography image

Figure2:Peroperative image

OP-200 HOSPITAL READMISSION AFTER CORONARY ARTERY BYPASS GRAFTING

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INTRODUCTION: The aim of this study was to identify predictors of hospital readmission after coronary artery bypass grafting.

METHODS: We identified 1995 patients who underwent CABG between July 2002 and June 2009 at our clinic. Patients who were rehospitalized within 30 days after surgery were compared with those who were not rehospitalized during this period.

RESULTS: The overall readmission rate for this study cohort was 4,6% (91 patients). The most common causes of readmission were pleural effusion (n = 30 [32.9%]) and heart and/or pulmonary failure (n = 18 [19.8%]). Multivariate regression analysis demonstrated history of MI (OR, 1.941; 95% CI, 1.171-3.216), history of hypertension (OR, 1.773; 95% CI, 1.140-2.157), history of peripheral arterial disease (OR, 3.284; 95% CI, 1.441-7.483), history of Cerebral vascular disease (OR, 2.850; 95% CI, 1.738-4.674), Euroscore (OR, 1.141; 95% CI, 1.059-1.229), additional procedure as LV aneurysm repair (OR, 1.921; 95% CI, 1.044-3.536), to be independent predictor of hospital readmission.

CONCLUSION: In our study we observed an acceptable readmission rate after CABG. In our results that high Euroscore and additional risk factors such as hypertension, peripheral and cerebral vascular disease, preoperative MI are increased at the readmission group. The patients who have high risk factors must be evaluated carefully.

OP-201 THE EFFECT OF PHOSPHORYLCHOLINE COATED OXYGENATORS ON MORTALITY AND MORBIDITY IN CARDIAC SURGERY

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Systemic inflammation (SIRS) is one of the most important factors that influence mortality and morbidity in open heart surgery. We aimed to assess biocompatibility and hemocompatibility of phosphorylcholine coated oxygenator circuits in patients who underwent open heart surgery in the course of assessing degree of systemic inflammatuar influence on mortality and morbidity.

Thirty patients who had open heart surgery due to congenital heart disease were included to the study. Patients were randomized into two groups as control and phosphorylcholine coated oxygenator group and each group consisted of 15 patients. Extubation, and intensive care duration, discharging time from the hospital, the amount of drainage for the first 24 hours, inotropic drug usage, amount of transfused blood and fresh frozen plasma, aspartate aminotransferase, alanine aminotransferase, creatinine phosphokinase MB, urea, blood urea nitrogen, creatinine, white blood cell, platelet, lactate dehydrogenase, albumin, total protein, C-reactive protein, prothrombin time, partial thromboplastin time, fibrinogen, D-dimer, C5a and elastase levels of the two groups were compared.

There was statistically important difference between duration of the hospital stay which was shorter than the control group, and fibrinogen and D-dimer values were smaller in phosphorylcolin group. There was no significant difference between the two groups for the other parameters.

The number of the two groups are small, so in order to say whether phosphorylcholine coated oxygenators are beneficial for preventing systemic inflammatory response or not the study must be undertaken in larger groups. Due to the results of our study, phosphorylcolin coated circuits don't reduce the complement and neutrophil activation markedly during CPB. But compared to the control group, lower fibrinogen levels as an acute phase reactant and D-dimer values, shorter duration time at the hospital are important results for biocompatibility and hemocompatibility

CONGENITAL HEART DISEASE

OP-202 EVALUATION OF LEFT VENTRICULAR CONTRACTILITY RESERVE USING DOBUTAMINE STRESS ECHOCARDIOGRAPHY IN DIALYSIS PATIENTS

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OBJECTIVES: Left ventricular hypertrophy is somewhat unavoidable process in children undergoing chronic dialysis. It is accepted as an adaptation or a compensatory response to improve contractility and to lower wall stress in state of increased afterload and preload in endstage renal disease. The aim of this study was to determine the left ventricular (LV) performance and contractility reserve by "dobutamine stress echocardiography (DSE)" at different levels of left ventricular mass index in children undergoing chronic dialysis.

METHODS: Thirty-five children undergoing chronic dialysis and 20 controls had echocardiographic evaluation during at rest. Study group had DSE and LV performance was assessed by calculation of shortening fraction and heart rate corrected velocity of circumferential fiber shortening (VCFc). Contractility (VCFc difference) was determined based on the relation between VCFc and end-systolic wall stress (ESWS). Contractile reserve was assessed by the difference between contractility at rest and peak DSE among groups left ventricular mass index (LVMI) below 38 g/m^{2.7} and LVH group LVMI between 38-51 g/m^{2.7} and severe LVH LVMI over 51 g/m^{2.7}.

FINDINGS: Children undergoing dialysis grouped into three, having LVMI index under 38 (5 (14.3 %) patients), between 38 and 51 (19 (54.3 %) patients) and over 51 (11 (31.4%) patients) all of them had significantly higher LVMI index compared with controls. Patients with LVH (LVMI>38) have significant decrease at ESWS (p<0,05). At rest left ventricular systolic performance were indexes VCFc (1,69±0,32 circ/s control group to 1,03±0,36 circ/s) and end systolic wall stress (64,6±17,6 g/cm² control group to 52,5±20,3 study group) were significantly lower than control (p<0,05) but contractility reserve with VCFc difference significantly high (0,68±0,31 to 0,93±0,9 circ/s). Myocardial contractility reserve VCFc difference was significantly lower (0,93±0,9 circ/s to -0,99±0,3 circ/s) after DSE.

RESULTS: Our results indicates that as LVMI increases pediatric chronic dialysis patients have diminishing contractile reserve during exercise this might be an indicator for the development of severe systolic dysfunction over time. LVH which is thought to be adaptive will turn into a maladaptive situation showing progress to intractable LV dysfunction and congestive heart failure.

OP-203 VIDEO ASSISTED THORACOSCOPIC PERICARDIAL WINDOW FOR DIAGNOSIS AND MANAGEMENT OF MASSIVE PERICARDIAL EFFUSION AT 14 YEARS OLD BOY

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BACKGROUND: Videoassisted thoracoscopy (VATS) is a minimal invasive procedure which can be used for diagnosis and management of pericardial effusions. Direct vision of surgical side allows perfect view of pleural cavity and pericardium. Also examples from pericardial effusion and biopsy material can be achieved.

METHODS: 14 year old boy with pericardial effusion of undetermined origin underwent VATS. General anesthesia and single lung ventilation were used. By using 2 trocars 3 cm away from left at 4th-5th intercostal space entrance created. About 1,5 cm incisions used for trocars. True pericardial window created.

RESULTS: Microbiology and virology cultures were negative. True posterior pericardial window was created. There was no complication of the thoracoscopic technique. 24 F chest tube was placed and pulled out at postoperative second day.

CONCLUSIONS: VATS technique is less invasive and traumatic for patient but VATS requires more time and hemodynamic stability. Subxiphoidal approach is more common (especially in emergency situations) and more traumatic. It is not also possible to perform pericardial window. We suggest pericardial effusion drainage and pericardial window creation with VATS is more suitable in carefully selected patients.

OP-204 OCTREOTIDE TREATMENT FOR CHYLOTHORAX AFTER CONGENITAL HEART SURGERY

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The development of chylothorax after congenital heart surgery is a serious and often life-threatening complication that increases morbidity and mortality. Prevalence of chylothorax after congenital heart surgery in previous studies has been reported to be over 1%. However recent studies demonstrated that prevalence of chylothorax is increased to 2-4%.

Case : Here, we would like to present our first experience with octreotide in a five-year-old boy who developed chylothorax in the postoperative period. In this case, left sided pleural effusion was detected on the fifteenth day following surgery of correction of tetralogy of Fallot. The postoperative course was complicated by drainage of significant quantities of milky fluid from the left pleural chest tube. The examination of pleural effusion revealed elevated triglyceride level (526 mg/dl). Amount of drainage was approximately 35 ml/kg/day on admission. Medium chain fatty acid rich diet was started according to the algorithm [1-5]. However, drainage of chylothorax did not decrease significantly and TPN was added on postoperative day 20. Nevertheless, pleural milky drainage did not decrease with TPN therapy. On postoperative day 26, in addition to the TPN, octreotide, synthetic analogue of somatostatin was started with a continuous intravenous infusion at a dose of 1 mcg/kg/hr and gradually increased to 3 mcg/kg/hr. Pleural fluid discharge diminished dramatically after the third day of octreotide treatment and fluid losses stopped after the seventh day (Fig. 1). Consequently octreotide was decreased on the sixth day and was stopped after a total ten days of octreotide treatment. Subsequent daily chest X-rays revealed no effusion on the left side of the thorax and the patient was discharged home on day 7 following termination of octreotide.

Conclusion Surgical procedure is suggested for therapy of persistent chylothorax. However, surgery is associated with high failure rate. Occasionally, chylothorax following surgery is not easy to be handled either by conventional therapy or surgery. Octreotide has been used recently for treating chylothorax in children. Advantages of octreotide therapy include a shorter duration of intensive care, a decrease in pleural drainage, fewer parenteral nutrition, in that way lowering the risk of infection. The mechanism how octreotide reduce chyle production remain indefinite. Most comprehensive study about octreotide treatment in the chylothorax following congenital heart surgery has been reported by Chan et al. In this study, 83 % of patients who were unresponsive to the conventional treatment were treated with octreotide within two weeks. As a result of this study octreotide appears to be a useful adjunctive therapy into the management algorithm of postoperative chylothorax. Consistent with this, pleural fluid discharge diminished dramatically after third day of octreotide treatment in our case and we did not observe any side effects such as hyperglycemia or gastrointestinal disturbance due the octreotide treatment.

OP-205 INCESSANT AUTOMATIC ATRIAL TACHYCARDIA IN A CHILD WITH NORMAL HEART: SUCCESSFUL TREATMENT BY RADIOFREQUENCY ABLATION

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OBJECTIVES: Ectopic atrial tachycardia (EAT) is a significant cause of chronic supraventricular tachycardia (SVT) in children. It arises from rapid discharges of atrial structures other than the sinus node. Complications including heart failure and cardiomyopathy can be encountered if EAT is left untreated. Many of the patients do not respond to the medical therapy. In children, particularly over 3 years of age, success rate of medical therapy is lower. Therefore radiofrequency ablation treatment is an effective and safe early therapeutic option. Here we report successful radiofrequency ablation treatment in a child with EAT refractory to medical treatment, originating from a focus in left atrium.

METHODS: A four year-old boy with palpitation running for 15 days was referred to our hospital because of SVT refractory to medical treatment (calcium channel blockers, digoxin). He was hospitalized for advanced investigations and treatment.

RESULTS: The patient's physical examination, serum biochemistry and electrolytes were normal. On 12 derivation ECG heart rate was 170-180/min, compatible with ectopic atrial tachycardia. Because of the presence of positive p waves in V1, ectopic focus was considered to be located in the left atrium. Echocardiography revealed normal cardiac dimensions and systolic function (EF:%66). After Verapamil administration (0,1 mg/kg, IV) 2:1 AV block was induced and ventricular heart rate was diminished (80-90/min), however the heart rhythm did not return to sinus. As a second option, amiodarone therapy was initiated (5 mg/kg loading dose, 5 mcgr/kg/min infusion). During the loading phase, amiodarone could not be tolerated by the patient, nausea and vomiting occurred and infusion was stopped. On the second day of treatment synchronized DC-CV was performed. Immediately after this, sinus rhythm appeared for a short duration but tachycardia started again. Since follow-up on sotalol treatment for three days could not lead to sinus rhythm. An electrophysiologic study (EPS) and radiofrequency ablation treatment was planned. After electrophysiology catheters were placed with 2-5 mm intervals (to His bundle and ventricle apex standart 4 poled catheters, to coronary sinus 10 poled catheters) recordings from right atrium were obtained by an ablation catheter (4 mm thickness 8 F, 2-5-2 mm electrode intervals). Because the atrium potentials in CS recording were activated earlier and records were obtained before the p waves of ECG, the tachycardia focus was estimated to be located close to the lateral wall of the left atrium. Atrial septostomy was performed by Brouckenbrough needle puncture and ablation catheter passed to left atrium for mapping the conduction. The focus was detected on the lateral wall of the left atrium just posterior to the mitral annulus. To this focus RF ablation was performed (med temp 55 °C, med power 25 W, med imp 90 ohm). By the administration of RF, at first tachycardia rate increased but shortly after this the heart rate decreased to 80/min. When RF discharge was re-applied to the same point (total 90 sec), tachycardia completely ceased and rhythm returned to sinus. The patient was followed-up for 20 minutes in the EPS laboratory and EPS was repeated. Despite 3 extra atrial stimulations by up to 400 and 500 ms CL and burst and ramp atrial pacing applications, tachycardia did not reiterate. After this successful ablation without any complications he was taken to the pediatrics and was discharged from hospital with sinus rhythm 4 days later.

CONCLUSION: EAT can be encountered either after open heart surgery for congenital heart disease or in patients with no other underlying heart disease as was the case in our patient. Tachyarrhythmia in our case did not respond to medical therapy consistent with previous literature and RF ablation was performed. Moreover, accessing the focus could be carried out by atrial septostomy since the focus was located in the left atrium.

OP-206 PARTIAL ATRIOVENTRICULAR SEPTAL DEFECT WITH SINGLE ATRIUM: REPORT OF A CASE

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Partial atrioventricular canal defect is a form of endocardial cushion defect infrequently encountered in adults. It was defined as including an ostium primum atrial septal defect but with two separate atrioventricular valve rings, a cleft in the anterior mitral leaflet, and no appreciable interventricular communication.

An 18-year-old girl was presented in our clinic with main complaint of dyspnea, tachycardia, and early tiring. Patient was in NYHA class III. Electrocardiography showed trigemine ventricular extrasistoles and right bundle branch block. Echocardiography and cardiac catheterization was performed. Echocardiography showed anterior and posterior mitral cleft, severe mitral insufficiency, middle tricuspid failure, pulmonary hypertension, right ventricle hypertrophy and single atrium (Figure 1,2). There was single atrium and severe mitral regurgitation in cardiac catheterization. Partial atrioventricular septal defect with single atrium was diagnosed after examination. All procedures were performed through a median sternotomy with bicaval cannulation for cardiopulmonary bypass. No patient underwent circulatory arrest. Mild to moderate hypothermia (24°C to 34°C) was utilized in all procedures. Myocardial protection was provided with cold blood cardioplegia administered every 20 minutes during the aortic crossclamp time. In addition, topical cooling was performed with cold saline irrigation and ice slush. The defect is exposed through a right atriotomy. Anterior and posterior clefts were evidently seen on the mitral valve during surgery. For mitral cleft repair, two or three direct sutures were placed in the cleft in patient. The reconstructed valve is then tested for competence by instilling saline into the left ventricular cavity (Figure 3). The lateral commissures were absent or poorly developed and closure of the cleft would result in an inadequate size of the left-sided atrioventricular valve orifice, and required mitral valve replacement. Mitral replacement was performed with 27 no mechanical valve. A new interatrial septum was formed with leaving the pulmonary veins and coronary sinus in left side by using an autologous pericardial patch to close the atrial septal defect. Tricuspid valve was also repeated by De-Vega annuloplasty. A pace-maker was embedded as epicardial due to development of complete A-V block after cardiopulmonary pump. The permanent pace-maker was inserted to the case postoperative in 15th days.

Atrioventricular septal defect constitute a spectrum of anomalies caused by abnormal development of endocardial cushions. Defects range from incomplete (partial) to intermediate to complete form. Partial atrioventricular septal defect is most common form of atrioventricular canal defect, and an interventricular communication is lacking. Atrioventricular septal defects are one of the common surgical conditions that carry high incidence of postoperative complete heart block.

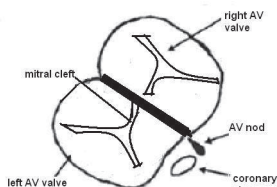


Figure 1

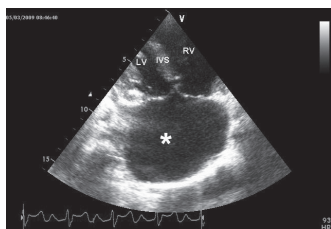


Figure 2

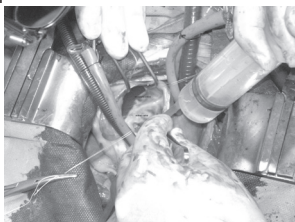


Figure 3

OP-207 OUTCOMES OF SURGICAL TREATMENT OF OSTIUM SECUNDUM TYPE ATRIAL SEPTAL DEFECTS

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OBJECTIVE: Atrial septal defect is the most common congenital heart defect encountered clinically. Present study was aimed to investigate outcomes of surgical treatment of ostium secundum type atrial septal defects in 195 patients.

MATERIAL AND METHODS: This retrospective study included 195 patients (118 females, 77 males), aged between 2 – 76 years and with mean age of 25.47 years, who underwent surgical repair of ostium secundum type atrial septal defect. Rate of primer repair and graft used during surgery, rate of mortality, number of patients with and without only ASD, a number of the patients with paradox emboli and revision after surgery were assessed in present study.

RESULTS: This study revealed that 101 of 195 patients had only ASD, and remaining patients had ASD and other cardiac pathologies. 69 of 195 patients were undergone primer repair surgery. 122 pericardial patch and 4 synthetic grafts were used in during surgery in other 126 patients. No patient was died after surgery. One of 195 patients was operated due to paradox

emboli, and one of the operated patients undergone revision treatment after surgery.
CONCLUSION: In our series, surgical closure of ostium secundum ASD in various ages was found to be successful. Surgical repair is an effective method, and can improve life quality of the patients.

OP-208 COARCTATION OF THE AORTA; MANAGEMENT OF THE CASES BETWEEN 2002 – 2009 YEARS

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OBJECTIVES AND STUDY: To evaluate retrospectively patients diagnosed to have aortic coarctation at the pediatric cardiology clinic of Dr. Sami Ulus Children's Hospital.

Methods: In this study, 200 children diagnosed to have aortic coarctation between January 2002 and April 2009 were screened retrospectively and their clinical, treatment and outcome features were evaluated.

RESULTS: A total of 200 patients were enrolled in the study, there were 129 boys (64,5%) and 71 girls (35,5%). The mean and median age of patients was 37,88 ± 54,45 months and 5,5 months respectively. The most common complaint ratios of patients on the first admission were cyanosis 21%, rapid breathing 19%, poor sucking 10%, fatigue 10% and chest pain 10%. Ninety patients (45%) had no complaints on the first admission. Physical examination findings of patients were distributed as follows: heart murmur 88%, hepatomegaly 26%, absence of the femoral artery pulses 25,5%, tachypnea 21,5%, differences of more than 20 mmHg between upper and lower limb systolic blood pressure 19% and tachycardia 5,5%. The mean systolic and diastolic blood pressure of patients was 99,78±23,24 mmHg and 61,90±16,87mmHg respectively. Patent ductus arteriosus (PDA) (36,5%), ventricular septal defect (VSD) (32,5%), bicuspid aortic valve (23%) and atrial septal defect (ASD) (17,5%) were found as associated congenital cardiac anomalies. The mean gradient of patients across the coarctation site measured by echocardiography was 37,25±20,47 mmHg. Seventy nine patients (39,5%) underwent balloon coarctation angioplasty, eight patients (4%) treated with stent placement and 51 patients (25,5%) had surgical treatment. At a mean follow-up period of 17,11±31,43 months, five out of 24 patients (20,8%) treated by surgical repair in our cardiovascular surgery clinic and 29 out of 79 patients (36%) treated by balloon coarctation angioplasty developed recoarctation. Among 34 patients with recoarctation; 24 patients (70,6%) underwent surgical correction, seven patients (20,6%) underwent balloon coarctation angioplasty and stent implantation was performed for three patients (8,8%).

CONCLUSIONS: Coarctation of the aorta is one of the most common congenital heart defects. Transcatheter therapy for treatment of coarctation is effective, with low morbidity and mortality rates. The current trend is toward primary stent implantation for treatment, however, the results of balloon angioplasty in children and young adults are equivalent to the results following primary stent placement. Although the frequency of recoarctation was found to be higher in patients treated by balloon coarctation angioplasty, it was observed as a palliative method which maintained clinical improvement in the early period of the disease.

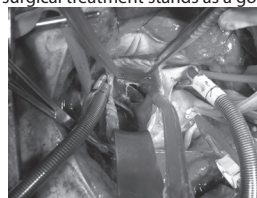
OP-209 A COMPLICATION OF PERCUTANEOUS CLOSURE OF ATRIAL SEPTAL DEFECT

Fatih Gökalp¹, Demir Cetintas¹, Mehmet Cakirci¹, Bahadır İnan¹, Levent Yazicioglu¹, Ümit Özyurda¹
Ankara Üniversitesi¹

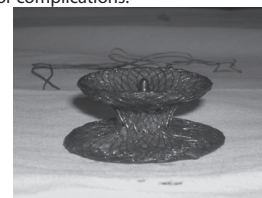
INTRODUCTION: Attempts at catheter closure of atrial septal defects began over 3 decades ago. Several devices have been designed attempting to achieve this objective safely and effectively.

CASE: 53 years-old female patient admitted to our clinic with dyspnea. 15 days before admission transcatheter ASD closure was applied. After this procedure TEE revealed the leakage on ASD site and Qp/Qs rate was measured 2,5. ASD repair with patch plasty successfully applied to patient and discharged at postop. 6. day

DISCUSSION: Percutaneous closure of atrial septal defect (ASD) is a valid alternative to surgical approach. Although current device has significantly improved the success rate also in complex cases, surgical treatment stands as a gold standart for complications.



DEVICE AND PERFORATION AT ATRIAL SEPTUM



CLOSURE DEVICE

OP-210 SURGICAL TREATMENT OF EBSTEIN'S ANOMALY IN ADULT WITH 1½ VENTRICLE REPAIR

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BACKGROUND: Ebstein's anomaly(E.A) is the downward displacement of the septal and part or

whole of the posterior leaflets into the inlet portion. It account 0,5-1% of all congenital defects. E.A can be categorized into four types and depends on the severity of malformations, different symptoms can be seen. There is an inverse relationship between the severity of symptoms and the age of diagnosis. We report our experience in the surgical treatment of E.A with the "1½ ventricle repair" in two adult cases.

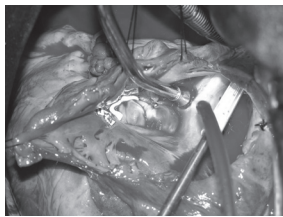
METHODS: Case 1 is a 48 year old man, referred to our hospital with dyspnea and fatigue symptoms, which onset 3 years ago. Electrocardiograms shows sinus bradycardia and pulmonary. In echocardiographic assessment E.A, secundum atrial septal, mild-moderate tricuspid regurgitation and global systolic dysfunction were occurred. In coronary angiograms, coronary arteries are in normal pattern.

Case 2 is a 18 year old woman, referred to our hospital with palpitation symptom. Electrocardiograms shows pulmonary. In echocardiographic assessment E.A, mild tricuspid regurgitation were occurred.

Standard aortic and bicaval cannulation used for the cardiopulmonary bypass. Systemic mild hypothermia and intermittent normothermic blood cardioplegia were used during the cross clamping period. With the use of Carpentier technique tricuspid valve repair was performed then a bidirectional cavopulmonary shunt was associated (Picture 1-2).

RESULTS: Operative and postoperative courses is uneventful for both cases. Control echocardiograms showed a mild tricuspid regurgitation. Case 1 was discharged on the 11.th postoperative day with a 95% saturation and NYHA class 1 symptoms. Case 2 was discharged on the 9.th postoperative day with a 97% saturation and NYHA class 1 symptoms.

CONCLUSIONS: With the use of 1½ ventricular repair; closure of the atrial septal defect reveals cyanosis, repair of tricuspid valve decreases the regurgitation from the valve and heart failure and systemic and pulmonary circulations are separated. 1½ ventricular repair can be utilized in patients with severe E.A and impaired right ventricular function who are at high risk for biventricular repair.



Ebstein anomaly, tricuspid valve repair

OP-211 CONGENITALLY CORRECTED TRANSPOSITION OF THE GREAT ARTERIES: CLINICAL AND SURGICAL OUTCOME

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Dr. Sami Ulus Children Hospital, Department of Pediatric Cardiology¹, Dr. Sami Ulus Children Hospital, Department of Cardiac Surgery², Dr. Sami Ulus Children Hospital, Department of Cardiac Surgery³

BACKGROUND: Congenitally corrected transposition of the great arteries (C-TGA) is characterized by discordant atrioventricular and ventriculoarterial connections. Data from several sources suggest a prevalence of 0.03 per 1000 live births accounting for approximately 0.05% of congenital heart malformations. Patients may have the symptoms of congestive heart failure, cyanosis, or no symptoms at all. Morbidity and mortality are related to the associated cardiac anomalies. The most frequent associated abnormalities include ventricular septal defect, left ventricular outflow tract obstruction, and anomalies of the left-sided tricuspid valve. A most important feature is the increasing prevalence of complete heart block in C-TGA population.

METHODS: From 2004 to 2009, we evaluated 20 patients (mean age 7 ± 2 years) with C-TGA. Female/male ratio was 2/3. The diagnosis of 20 patients with C-TGA was determined by two-dimensional echocardiography and ten subjects underwent right-left heart catheterization. **RESULTS:** Associated cardiac defects were present in all but one patient, ventricular septal defect 70% (n=14), pulmonary stenosis 30% (n=6), atrial septal defect 30% (n=6) and left ventricular outflow tract obstruction 25% (n=5). Left sided atrio-ventricular valve dysfunction developed in 50% (N=10). Sixteen patients were referred classical corrected TGA [S,L,L] with two ventricles. Pulmonary hypertension seen in eight patients. Nine patients were operated: surgical closure of ventricular septal defect were done in four, Rastelli procedure in three patients, surgical ligation of the ductus arteriosus in one patient and one patient with hypoplastic anterior ventricle, pulmonary atresia, intact ventricular septum underwent bidirectional cavopulmonary anastomosis procedure. Three patients had complete atrio-ventricular (AV) block. One patient with congenitally complete AV block had pacemaker implantation. Postoperative pacemaker implantation was required in two patients. Three patients were planned operation. The patients with good anterior ventricular function and well developed tricuspid valve who were followed up. There were no deaths.

CONCLUSIONS: The clinical picture and conventional surgery for C-TGA includes several options based largely on the underlying associated lesions and their hemodynamic effects. In spite of the high incidence of associated lesions with prognosis was better than expected. Successful palliative procedures and conventional surgery were done with successful results.

POSTER PRESENTATIONS

CARDIAC IMAGING : UNUSUAL OBSERVATIONS**PP-001 CONTRAST ECHOCARDIOGRAPHY IN THE DIAGNOSIS OF PULMONARY ARTERIOVENOUS FISTULA**

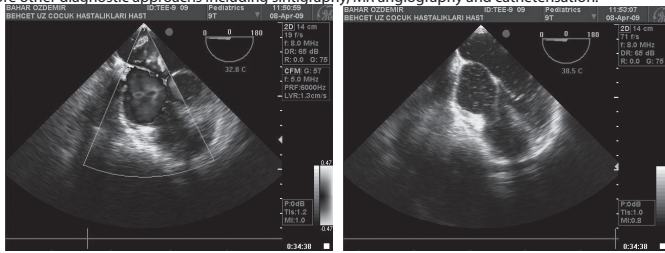
Savaş Demirpençe¹, Vedide Tavli², Murat M Yilmazer¹, Barış Güven¹, Taliha Öner¹, Timur Meşe¹, Ayça Vitrinel²

Behcet Uz Children's Hospital, Department of Pediatric Cardiology - Izmir¹
Yeditepe University Medical Faculty, Department of Pediatrics - Istanbul²

INTRODUCTION: We report an adolescent girl with central cyanosis in whom, after clinical and laboratory examination, the final diagnosis was pulmonary arteriovenous fistula.

CASE REPORT: We were admitted to our clinic due to central cyanosis and fatigue. On admission, vital signs were normal. She had clubbing in her extremities. She had no cardiac murmur. The remaining of the physical examination was normal. The oxygen saturation was measured 52%. On complete blood count, Hb was 16.4 gr/dL, Hct was 53.3% and red blood cell count was 5.93x10⁶/mm³. Serum iron and ferritin values were in normal range. Biochemical parameters were normal. Chest X-ray revealed no abnormality. Electrocardiographic findings were normal. Echocardiography showed also normal findings. High resolution computerized tomography of thorax demonstrated no abnormality. Methemoglobin level was normal. She could walk only 300 meters in "six minutes walking test". Pulmonary perfusion sintigraphy revealed simultaneous uptake in the spleen, kidneys and in the lungs. This finding was considered significant for pulmonary shunting. Contrast echocardiography was made for demonstrating any pulmonary shunt, especially a pulmonary arteriovenous fistula. In transeophageal contrast enhanced echocardiography, contrast material filled the right atrium first and after 1-2 cycles, left atrium was filled. This finding suggested the existence of pulmonary arteriovenous fistula. Conventional angiography was made for supporting the diagnosis. It showed pulmonary arteriovenous fistula in the left side.

CONCLUSION: We concluded that pulmonary arteriovenous fistula should be considered in the patients with cyanosis and normal transthoracic and transeophageal echocardiographic findings. Contrast echocardiography is a practical and helpful tool in the diagnosis of pulmonary arteriovenous fistula and could be preferred before other diagnostic approaches including sintigraphy, MR angiography and catheterisation.



TEE color image

TEE image

PP-002 INCOMPLETE (ATYPICAL) KAWASAKI DISEASE IN A YOUNG INFANT WITH REMARKABLE PAUCITY OF SIGNS

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Kawasaki disease (KD) is an acute febrile vasculitis that was seen predominantly in infants and young children. It is the predominant cause of paediatric acquired heart disease in the developing world. The etiology remains unknown, but clinical and epidemiological features strongly suggest an infectious cause or trigger factor plus a genetic predisposition. The conventional diagnostic criteria should be viewed as guidelines that are particularly useful in diagnosis of complete form but may result in failure to recognize incomplete forms of illness. Incomplete Kawasaki disease (iKD) diagnosis often depends on echocardiographic findings of coronary artery abnormalities. But according to the Japanese guidelines, iKD defined as the presence of four or fewer of the principal findings of KD regardless of the presence or absence of coronary artery abnormalities (CAA). No matter which diagnostic criteria was preferred, it complications were as severe as KD.

CASE: A 8-month-old infant who was referred to our pediatric cardiology clinic with high-grade fever for 19 days duration lacking of associated symptoms and diagnosed as iKD, since she had sacular aneurysm on his echocardiography. Her physical examination revealed no specific findings except fever (39.5°C). There was no history of conjunctivitis, rash, erythema of the lips, extremity changes or cervical lymphadenopathy. Until his reference to our clinic, patient had a history of multiple antibiotic usage with different clinical diagnosis. Laboratory tests revealed the following: hemoglobin: 9.2 gm/dl, leukocyte count: 12,100/mm³ (peripheral smear revealed neutrophils: 30%, lymphocytes: 60%, reactive lymphocytes: 8%, eosinophils: 2%), platelets: 988,000/mm³. On admission erythrocyte sedimentation rate was 125 mm/hour and C-reactive protein level was 22.3 mg/dl (normal range: 0-0.5) and, respectively. Since the patient had persistent fever for 19 days despite antimicrobial therapy. Two-dimensional echocardiography revealed sacular aneurysm at left main coronary artery with a diameter of 5.6 mm (Fig. 1). Intravenous immunoglobulin (IVIG) (2 g/kg/ total dose) and high-dose (100 mg/kg/day, divided into 4 doses/day) acetylsalicylic acid was applied to the patient with diagnosis of iKD and her fever recovered on the fourth hour of IVIG administration. Periungual desquamation of the finger tips emerged one day after the IVIG therapy. She was discharged from the hospital with low dose acetylsalicylic acid no difference in the size of aneurysm was observed on the control.

Our case had similar properties like the case Thapa et al. reported before. There has been still controversies about the actual diagnostic criterias of incomplete Kawasaki Diseases. This could be due to the lack of clearly defining the exact etiology and pathogenesis. While some authors suggested infectious agents as triggering factors in genetically predisposed individuals (such as Asians), while some authors suggested immunological pathogenesis.

The diagnosis of Kawasaki disease in very young infants is often difficult because many features mimic common childhood illnesses (e.g., adenovirus, scarlet fever etc) and drugs. Recent studies reported that Kawasaki disease (KD) patients younger than 1 year of age were at especially high risk of developing coronary artery abnormalities (CAA)

In conclusion, Kawasaki disease should be kept in mind in patients with long term persistent fever whether associated with five principal symptoms of KD or not. Also especially in children under 1 years old with prolonged fever without any other symptoms, echocardiography should be considered and iKD should be excluded since risk of development of CAA was higher in children smaller than 1 years old and early treatment could prevent CAA development.

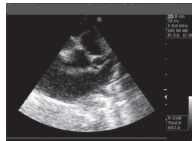


Figure 1: Sacular aneurysm at a left main coronary artery

PP-003 SURGICAL APPROACH TO A GIANT POST CARDIAC CATHETERIZATION PSEUDOANEURYSM AFTER UNSUCCESSFUL DUPLEX ULTRASOUND-GUIDED COMPRESSION

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OBJECTIVE: Femoral artery pseudoaneurysm is a significant problem in patients undergoing diagnostic catheterization. Femoral pseudoaneurysms may complicate up to 8% of vascular interventional procedures.

MATERIAL AND METHOD: Our patient was a 50-year-old man who underwent coronary angiography 2 months ago in our institute. Soon after the angiography, he was admitted to the clinic again because a small swelling appeared in his right groin. This complaint developed 3 weeks after coronary angiography. Color Doppler ultrasound identified a pseudoaneurysm of the right common femoral artery with dimensions of 45x30x50 mm. Duplex ultrasound-guided compression was performed to our case, achieving a prominent regression in the dimensions of the mass. He was then discharged after obtaining similar amplitudes in the distal pulses.

RESULTS: The patient applied to our clinic with a pulsatile mass at his right groin, which was enlarged and became giant-sized in the last one month. His right leg was slightly cold and peripheral pulses were weaker compared to the left leg. Ankle/arm index was 120/130-0.9 at the right side. Lower extremity venous ultrasonography was performed using color Doppler ultrasonography (CDUSG) and revealed a 8-cm diametered giant hematoma and hemorrhagic liquid areas. In the right groin, the mass was measured as 41.2x75.2 mm, located over the femoral artery. And the "to-and-fro" flow waveform pattern was thought to indicate pseudoaneurysm. The patient underwent surgery. The patient was operated under local anesthesia with sedation, in supine position. The pseudoaneurysm capsule of the 8x5x4 cm organized thrombus mass was removed. Initially, retrograde arterial flow was observed and since it was appropriate for primary repair. The repair was performed primarily. All distal pulses were similar to the opposite ones during postoperative period. Microbiological culture results of the sacular material were negative and pathological examination revealed the pseudoaneurysm. He was discharged on the 5th post-operative day without any complications.

CONCLUSION: Femoral pseudoaneurysm is an important complication of invasive cardiac procedures. This may require generally surgical repair (1). Ultrasound-guided compression is not always successful; in these patients, a period of conservative management with repeat ultrasound scanning is appropriate to allow for the possible spontaneous thrombosis of the pseudoaneurysm. Surgical closure is needed in those patients whose pseudoaneurysm is enlarging, painful or remain patent (1).

1. Chua TP, Howling SJ, Wright C, Fox KM. Ultrasound-guided compression of femoral pseudoaneurysm: an audit of practice. Int J Cardiol 1998 28;63(3):245-50.

PP-004 PERFORATION OF THE ASCENDING AORTA: A RARE UNEXPECTED COMPLICATION OF THE THORACIC TUBE INSERTION

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Bursa Yüksek İhtisas Education and Research Hospital¹

BACKGROUND: Chest tube thoracostomy is often lifesaving therapeutic modality and serves to monitor thoracic blood loss, evacuate blood in the pleural cavity, prevent tension pneumothoraces and increase lung re-expansion. Unfortunately, this procedure is also associated with significant complications such as lacerations of the lung, intercostal artery, esophagus, diaphragm, pulmonary artery and atrium as well as right ventricular compression. The most severe complications are related to the technique of insertion.

CASE REPORT: A 71-year-old man underwent successful triple coronary bypass grafting. The patient has taken bronchodilator treatment by reason of chronic obstructive lung disease for 3 years. He had stent placement twice before. Postoperative course was smooth. On postoperative day 3, he had severe dyspnea. Chest radiography showed the right hemithorax closed (atelectasia or fluid collection?) except the small apical region. 22 F thoracic tube with trocar was inserted in the mid-clavicular line at second intercostal space. The tube was full of dark blood. Tube was connected to drainage system. The patient was emergently taken to the operating room due to massive drainage. Re-sternotomy was performed. On exploration, the thoracic tube had entered to the right lateral part of the ascending aorta (Figure 1). Perforation was repaired with dacron patch. On postoperative period, atelectasia in the right hemithorax was not improved. The patient was discharged from hospital on postoperative day 9. He was referred to Chest Disease Clinic. After long investigations, in this patient, epidermoid ca of the bronch was determined. The oncologic therapy of the patient is continuing. He is doing well 18 months after surgery.

CONCLUSION: Tube thoracostomy may be associated with unexpected catastrophic complications. Therefore, the surgeons performing this procedure should considered the possibility of these important vascular injuries. It should be preferred thoracic tube without trocar.

PP-005 GAUZE SPONGE RECOGNIZED AS A PARACARDIAC MASS

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Cardiovascular Surgery, Medicana International Ankara¹, Anesthesiology, Medicana International Ankara²

BACKGROUND: Retained surgical sponges are seldom reported due to medicolegal implications. Awareness of this problem among surgeons and radiologists is essential to avoid unnecessary morbidity. Two usual reasons lead to the detection of a retained sponge. The first type is an exudative inflammatory reaction with the formation of an abscess and usually leads to early detection and surgical removal. The second type is aseptic with a fibrotic reaction to the cotton material and development of a mass. The occurrence of leaving sponges, instruments etc. in the operation field has been reported to vary between 1/1000 and 1/10000 procedures.

CASE: A 60-year old male was referred to our clinic with severe mitral valve stenosis and intrapericardial mass. He previously underwent closed mitral commissurotomy 35 years ago. He admitted to the hospital with dyspnea and fatigue. Echocardiographic findings were left atrial dilatation, mitral valve stenosis and intrapericardial paracardiac mass. Cardiac magnetic resonance imaging showed massive calcified mass which was inferior to the left ventricle and inferomedial to the inferior vena cavae. After femoral arterial and venous cannulation sternotomy was done. Dissection was performed to remove connective tissue. A 8 x 5 cm mass was recognized. Because of granulomatous tissue it was difficult to remove the mass completely. The mass was cut and remove. The mass was a gauze sponge surrounded with granulomatous tissue without any sign of infection or purulent tissue. No radiocontrast string detected inside the sponge. The operation was completed by implanting bileaflet prosthetic mitral valve. Postoperative course was uneventful.

CONCLUSION: Retained sponges are more common in obese patients and after emergency surgery. A high degree of suspicion is important for preoperative diagnosis. Despite the use of radio-opaque sponges and thorough sponge counting, this moribund mishap still occurs. Although human errors cannot be completely abolished. Prevention of retained sponges is far more important than cure. Although retained sponges is relatively rare, wide awareness of this problem is mandatory to avoid unnecessary morbidity.



PP-006 BIATRIAL THROMBUS IN A PATIENT WITH METASTATIC GASTRIC CARCINOMA

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 Ondokuz Mayıs University Cardiology¹

A 52-year old man was admitted to the cardiology department due to exertional dyspnea lasting for about a week. He had a gastric carcinoma with distant metastasis. At admission, the pulse rate was 110/min (rhythmic), blood pressure was 100/70 mmHg, body temperature was 36.8°C and respiration rate was 22/min. Only abnormality during physical examination was a rapid but regular pulse rate. Sinus tachycardia was present at electrocardiography. Chest radiography showed a slightly increased cardiothoracic ratio. Hemoglobin concentration was 9.2 g/L. Transthoracic echocardiography showed normal left ventricular dimensions, wall thicknesses and systolic function. There was a minimal pericardial effusion surrounding all cardiac chambers. Systolic pulmonary artery pressure was about 45 mmHg. There were important findings in the left and right atria. While there was a mobile thrombus with the dimensions of 25 mm x 15 mm in the left atrium (Figure 1), there was another highly mobile one with the dimensions of 30 mm x 12 mm in the right atrium (Figure 2). Since the patient denied surgical removal of the thrombi, unfractionated heparin as an intravenous infusion was given to the patient for three days. Then, coumadin was started with a target INR of 2.5 to 3.5. At follow-up, exertional dyspnea of the patient was decreased. Transthoracic echocardiography performed one month after initiation of therapy revealed complete resolution of both thrombi. Thrombus in both atria is a rare clinical condition. It may cause embolic complications through systemic and pulmonary circulation that may lead to death. Management strategies include surgery (thromboembolectomy) or medical therapy (anticoagulation or fibrinolysis). Medical therapy may be a safe alternative in patients who did not accept surgery.

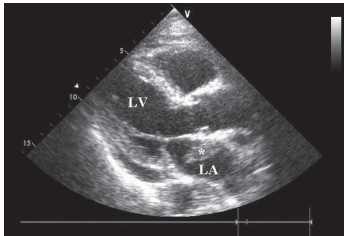


Figure 1: Transthoracic echocardiographic view showing left atrial thrombus by asterisk (LV=left ventricle, LA=left atrium).

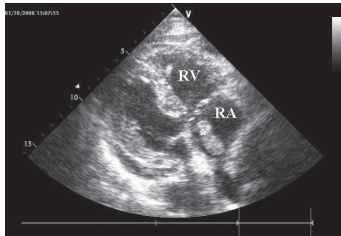


Figure 2: Transthoracic echocardiographic view showing right atrial thrombus by asterisk (RV=right ventricle, RA=right atrium).

PP-007 RIGHT ATRIAL THROMBUS FORMATION ASSOCIATED WITH PERMANENT CATHETERS UTILIZATION IN A HEMODIALYSIS PATIENT

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 Atatürk University Cardiovascular Surgery¹, Atatürk University Cardiology²

There has been an increase in the use of central venous catheters for hemodialysis access. In this report, we describe a case that developed thrombosis of the right atrium while receiving hemodialysis through a permanent internal jugular catheter.

A 21-year-old woman with history of amyloidosis and end-stage renal disease on hemodialysis via a right internal jugular vein inserted permanent catheter for the past 2 years was admitted with 2 days history of tachycardia, chest pain and dyspnea. On examination she had a 2/6 systolic murmur at left lower sternal border, increased jugular venous pressure, and mild peripheral edema. A chest radiograph showed there was no focus of infection and the catheter tip was high in the right atrium. TTE showed moderate tricuspid regurgitation, a RA mass attached to the dialysis catheter which was confirmed by TEE (Figure 1). Anticoagulation and antibiotics were initiated. The decision was made to proceed to sternotomy and cardiomy for examination and removal of the mass. It was felt that attempted thrombolysis may dislodge any thrombus and could cause a fatal pulmonary embolus. The patient was underwent surgical thrombectomy after right atriotomy and this mass was surgically excised. The operative findings were of a 4x2 cm mass firmly adherent to the catheter in right atrial (Figure 2). The dialysis catheter was located in the middle of the mass. The clinical course remained uneventful.

A native arteriovenous fistula is the first choice for hemodialysis access. Despite improved catheter designs and the use of internal jugular veins, thrombotic complications still occur when tunneled central venous catheters are used as an alternative. Right atrial thrombi may occur in hemodialysis patients who use central venous catheters for dialysis access. These clots are frequently found in the right atrium or right atrial-superior vena caval junction.

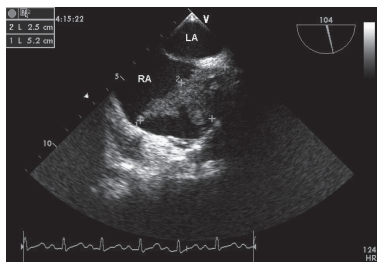


Figure 1

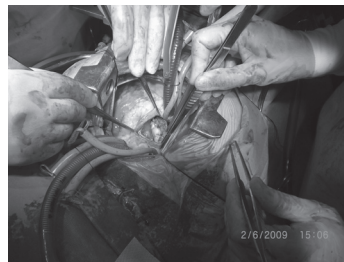


Figure 2

PP-008 SCHWANNOMA SIMULATING AN SACCULAR ABDOMINAL AORTIC ANEURYSM

İslam Kaklıkkaya¹, Fahri Özcan¹
 KTU Medical Faculty¹

We present a rare case of a schwannoma in a pre/para-aortic position resembling a thrombosed saccular abdominal aortic aneurysm

Retropertitoneal schwannomas are rare, benign tumors and lack specific symptoms, a correct preoperative diagnosis is often missed. The aim of this study is schwannomas simulating are abdominal aortic aneurysm. Retropertitoneal schwannomas are usually solid encapsulated tumors that arise from the paravertebral region. These are usually asymptomatic and to grow slowly. symptoms are usually nonspecific

A 37 year old female with retropertitoneal schwannoma presented with several weeks of abdominal pain, back pain with associated weakness. Computed tomography (CT) abdominal imaging findings demonstrated approximately 7cmx15cm in diameter, a well demarcated mass

During the laparotomy we found a retropertitoneal mass that had adherent to abdominal aorta In spite of the vicinity of tumor to vital retropertitoneal structures, aorta, the inferior vena cava, the renal and iliac vessels carefully dissection and manipulation of this was carried out

The pathologic examination of the tumor specimen reveals microscopically elongated bipolar spindle cells. High

cellularity area of named Antoni A and myxoid matrix named Antoni B
 The patient had an uncomplicated recovery. No recurrence occurred in the patient receiving complete resection

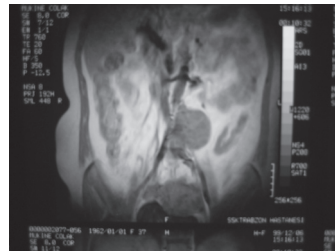


Figure 1: Computed tomography image shows a huge mass like abdominal aortic aneurysm

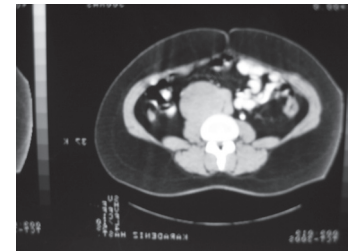


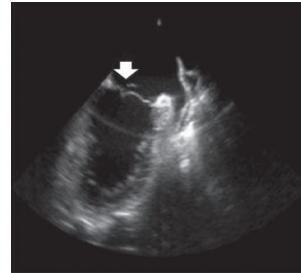
Figure 2: Computed tomography image shows a huge mass like abdominal aortic aneurysm

PP-009 MITRAL REGURGITATION WITH FLAIL MITRAL LEAFLET MIMICKING A DIAGNOSIS OF PNEUMONIA

Hikmet Yorgun¹, Muhammet Dural¹, Ergün Barış Kaya¹, Ahmet Ateş¹, Sercan Okutucu¹, Banu Evranos¹, Hakan Aksoy¹, Kudret Aytemir¹, Ali Oto¹
 Hacettepe Üniversitesi Kardiyoloji ABD¹

A 47-year-old man admitted to our department with the persisting complaints of shortness of breath and dry cough. He had been treated with sulbactam-ampicillin with the diagnosis of pneumonia for 3 weeks. He began to define paroxysmal nocturnal dyspnea and orthopnea despite treatment for 4 days. On physical examination, he had an apical systolic murmur and fine crackles heard over the mid-upper chest. Electrocardiography demonstrated sinus rhythm with left atrial abnormality. Chest X-ray revealed bilateral symmetric pulmonary infiltration and pleural effusion with normal cardiac contours (Figure 1). Transthoracic echocardiography was obtained immediately and showed probable ruptured chorda tendineae resulting in severe mitral regurgitation, with normal systolic functions. Further investigation with transesophageal echocardiography disclosed flail posterior mitral leaflet with eccentric mitral insufficiency jet flow directing to opposite site of effected leaflet (Figure 2). The patient responded well to mitral valve repair after an uneventful surgery.

This case is a very good example of the radiographic features of bilateral mid-upper lobe pulmonary edema caused by mitral valve regurgitation mimicking pneumonia. The pulmonary edema associated with mitral valve regurgitation is usually bilateral but can also be seen isolated or predominantly in right upper lobe. Because our patient presented with a confusing medical history and the possibility of cardiac disease is not considered, the initial diagnosis of pneumonia was made incorrectly. We think that careful cardiac auscultation might help the exact diagnosis, in fact the centerpiece of physical examination. In conclusion, this presenting case emphasizes the mitral regurgitation as an etiologic factor in the differential diagnosis of bilateral pulmonary infiltration and the role of proper cardiac auscultation.



Transesophageal echocardiography showing flail posterior mitral leaflet protruding into left atrium (arrow).



Chest X-ray showing bilateral pulmonary infiltration with normal cardiac contours.

PP-010 FLOATING BALL THROMBUS: A CASE REPORT

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279 years old woman, with a four years history of heart failure and atrial fibrillation. The patient has full medication for both of heart failure and atrial fibrillation during four years. She visited the emergency serves about two week ago with an acute cerebrovascular accident due to the complaints of acute left arm and leg weakness and mental confusion. Physical examination demonstrated a left hemiparesis and left hypoesthesia together with rapid atrial fibrillation and a grade 3/6 systolic murmur of mitral valve regurgitation. Transthoracic echocardiogram revealed a thickened mitral valve with regurgitant flow and a round mass shaped dried bean that moving randomly from left atrium to left ventricle (Fig.1, Fig.2). Electrocardiogram showed an atrial fibrillation and left bundle brunch block. A performed coronary angiography demonstrated that LMCA was normal, LAD proximal has plaque and ectasia, and a 50% stenosis after from ectasia, Cx proximal has an ectasia and RCA proximal has an ectasia.

We suggested thrombectomy as a treatment of this moving thrombus to the patient but unfortunately she declined the treatment.

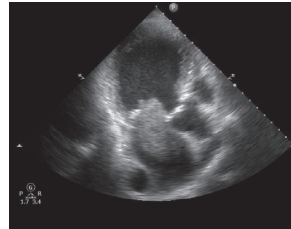


Fig.1

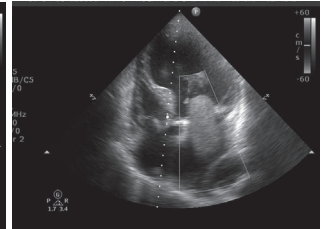


Fig.2

PP-011 THROMBUS ATTACHED TO PATENT FORAMEN OVALE

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A 66-year-old man visited the emergency department after a syncopal episode. On physical examination the patient was conscious with normal cooperation and orientation. His pulse rate was 110/min and blood pressure was 90/60 mmHg. He had an open gallbladder surgery 40 days ago, after which he stayed immobile for 20 days. Cardiac auscultation revealed regular heart sounds with a grade 2/6 pansystolic murmur audible at the subxiphoid area. Bilateral lung sounds were diminished. Electrocardiogram revealed sinus tachycardia and incomplete right bundle branch block. Transthoracic echocardiography (TTE) was performed with the suspicion of acute pulmonary embolism. On TTE, right heart chambers were enlarged with a systolic pulmonary artery pressure of 52 mmHg. There were thrombi in both atria. Transesophageal echocardiogram (TEE) showed that a long thrombus extended from the right atrium into the left atrium via patent foramen ovale (PFO) (Figure 1). There were multiple thrombi in the main pulmonary artery and its branches on thorax CT. On cranial CT chronic infarct was present on left caudal nucleus. Lower extremity venous Doppler detected subacute deep venous thrombosis in left popliteal and crural veins. Streptokinase infusion was started due to poor general condition of the patient. After streptokinase, enoxaparin and warfarin were started. A control TTE after the thrombolytic revealed complete disappearance of the thrombus. There was right-to-left shunt via a large PFO (Figure 2). However two days after thrombolytic therapy, right sided hemiparesis developed. INR was 2.05. Cranial CT detected acute infarct in the right temporal and occipital lobes. We planned to close PFO after improvement of the general status of the patient.

Thrombus attached to a PFO is a rare clinical condition. Pulmonary embolism develops in 94% of the patients and systemic embolism in 44%. Early mortality rate is 21%. Diagnosis can be made by TEE. There are three alternatives for treatment: Surgery, heparin infusion and thrombolysis. The mortality rates of these treatments are 13%, 14% and 36%, respectively. Patients in whom thrombolysis is chosen are generally hemodynamically unstable and this can explain the higher mortality rates. In our patient we confirmed the diagnosis by TEE and medical therapy with streptokinase was chosen due to poor general condition. Complete lysis of the thrombus was observed after streptokinase but after two days the patient had thromboembolic cerebrovascular accident despite ongoing enoxaparin and warfarin therapy. The liable thrombus can be fragmented during thrombolysis or it may originate from the deep venous system which has recently crossed via PFO. In conclusion, embolic recurrences are frequent with medical therapy and surgical closure of the PFO should be considered in the early period.

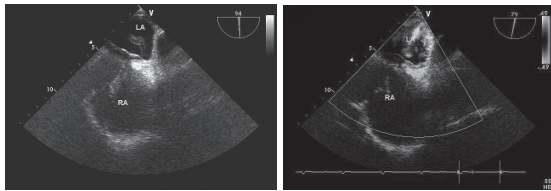


Figure 1

Figure 2

PP-012 THE DIAGNOSTIC ROLE OF MR ANGIOGRAPHY IN OCCLUSIVE LOWER EXTREMITY ARTERIAL DISEASE

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OBJECTIVE: Magnetic Resonance Angiography (MRA) is quick and easy to perform and it permits noninvasive vascular assessment. The stenoses and occlusive lesions could be correctly localized by MRA. There is a close correlation between MRA and digital subtraction angiography.

METHODS: The purpose of this study is to introduce and evaluate MRA in demonstration of various severe stenotic and/or occlusive arteriosclerotic arterial diseases.

RESULTS: MRA is a fast, safe and accurate assessment of the lower extremity arterial system in patients with arteriosclerosis.

CONCLUSION: It has a high sensitivity for detecting stenoses and this technique should be part of the diagnostic algorithm.

PP-013 LEFT VENTRICULAR HYDATID CYST ASSOCIATED WITH MULTIPLE ORGAN INVOLVEMENT

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Dr. Behçet Uz Children Hospital, Department of Pediatric Cardiology - Izmir¹, Dr. Behçet Uz Children Hospital, Department of Pediatric Infectious Diseases - Izmir, Yeditepe University, Faculty of Medicine, Department of Pediatrics - Istanbul²

Echinococcal involvement of the heart is uncommon, and cardiac hydatid disease has been reported to be about 0.5-2% of in all cases. Hydatid disease is a serious worldwide cestode infection. It is a zoonosis transmitted from domestic and wild members of the canine family and a variety of wild and domestic animals. The common sites of the parasitic involvement were lung, kidney, spleen, brain, skeletal system and rarely heart. Hydatid cysts in children, generally occur within the lung parenchyma. The prevalence of echocardiographic features of cardiac echinococcosis are estimated to be high in countries where sheep-farming is widespread. In Turkey the incidence of hydatid cysts were reported to be approximately 0,87 – 6.6 per 100 000 individuals.

We report a 5-year old patient with multiorgan involvement, including intramyocardial hydatid cyst of the left ventricle posterior wall.

CASE: A 5-year-old boy was admitted to the hospital with recurrent cough and chest pain for 2 months. On physical examination no cardiac signs were noted. The laboratory revealed normal hemoglobin, leukocyte count except peripheral smear revealing eosinophilia (20 %). Auscultation of the lungs revealed crepitations on the left side. The chest x-ray demonstrated, multiple round opacities bilaterally localized at the left and right side of lung with a normal cardiac image. Abdominal computed tomography (CT) showed two cysts in the liver and the other one in the spleen while thorax CT revealed multiple cysts bilaterally in the lung. He had no cardiovascular symptoms, but two-dimensional echocardiography was carried out to explore nonspecific T-wave alterations on the electrocardiogram. Two-dimensional echocardiography revealed a single cyst within the posterior wall of the left ventricle that protruded to the cardiac chamber (figure 1). However, no significant valvular dysfunction were observed. Two-dimensional echocardiographic images of hydatid cyst revealed well-defined edges and internal trabeculations corresponding to daughter membrane (figure 2) measured as a 12x8 millimeter. At the other cardiac chambers, no formation of hydatid cysts were detected on 2-D Echocardiography. Brain computed tomography (CT) was performed and were found to be normal. Albendazole therapy was selected as initial therapy.

CONCLUSION: Since there was no specific or uniform clinical presentation of cardiac echinococcosis, high suspicion was required in children without specific symptoms. Two-dimensional echocardiography is the best choice for diagnosis of hydatid cyst which could detect the locating of the cyst and its relation to cardiac and vascular structures accurately. In our case, 2-D echocardiography was found to be sufficient for the diagnosis of cardiac echinococcosis, which also supported recent studies reporting echocardiography was sufficient in 94 % of the cases with cardiac involvement and rarely requiring MRI nor transesophageal echocardiography.

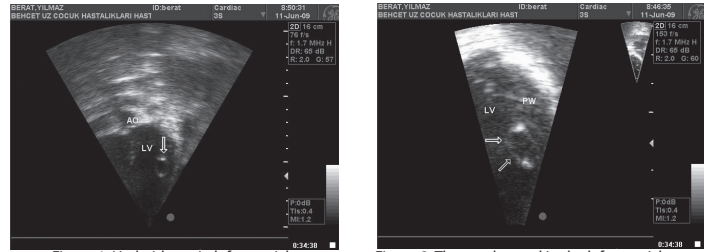


Figure 1: Hydatid cyst in left ventricle

Figure 2: The cyst located in the left ventricle was diminished in size

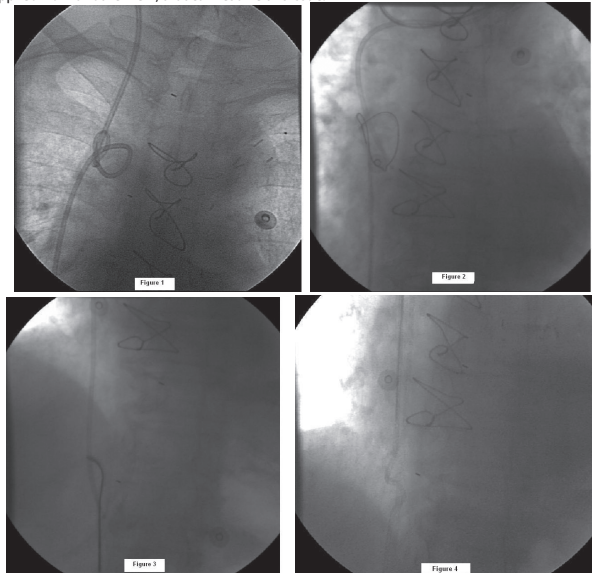
PP-014 A SWAN GANZ CATHETER KNOTTING CASE

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INTRODUCTION: Swan Ganz catheter is being used to assess the patient's hemodynamic and fluid status and also to determine the treatment regimen by measuring the right heart and pulmonary pressure, in cases of severe heart failure, valvular heart diseases, burns and kidney failure. It is an invasive method that can be applied bedside. Complications like injuries of neck veins, nerves and lung can be seen. Swan Ganz catheter knotting is a very rare complication.

CASE: 76 years old female patient, was admitted with shortness of breath and chest pain. On past history; she had hypertension, atrial fibrillation, heart failure and bypass surgery 13 years ago. On physical examination she had congestive heart failure findings such as apical pulmonary rales, peripheral edema and jugular venous distention. There was no murmur on cardiac auscultation. ST segment depression in anterior leads and atrial fibrillation were revealed on electrocardiography. Left ventricular systolic function was normal and there was no valvular heart disease on transthoracic echocardiography. On Laboratory CRP was 80mg/dl and leukocyte count was 14.900. Clinical findings did not regress despite appropriate antibiotics and diuretic therapy. Pulmonary wedge pressure measurement was planned in order to confirm the diagnosis. After the insertion of right jugular vascular sheath, Swan Ganz catheter was planned to advance through right jugular vein to pulmonary wedge. However, the catheter could not be advanced from the right ventricle to the pulmonary artery. It was repeatedly withdrawn and readvanced. Pulmonary or wedge pressure waves could not be obtained. While removing, the catheter could not be pulled back. Patient was taken to the catheter laboratory. Swan Ganz catheter knotting was seen on fluoroscopy (Figure 1). Another vascular sheath was inserted to right femoral vein. Snare catheter was advanced through femoral vein. Swan Ganz catheters' distal tip was caught with snare catheter (Figure 2) Swan Ganz catheters' proximal jugular tip was fixed then distal tip was pulled by snare catheter (Figure 3) Catheter knotting was resolved slowly (Figure 4). Then Swan Ganz catheter was pulled and got out of the body via Jugular vein.

CONCLUSION: Swan Ganz catheter knotting is a rare complication that can be seen during bedside catheterization. In order to resolve it, high technical equipment and experience is required. Snare catheter is a useful method, which can be applied from another vein, that can resolve this issue.



PP-015 AN UNUSUAL CASE OF LEFT AORTIC ARCH WITH RIGHT DESCENDING AORTA AND RIGHT DUCTUS

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INTRODUCTION: We report a case of arcus aorta anomaly with large patent ductus arteriosus because of rare presentation.

CASE REPORT: We present here a 5-years-old girl. She was admitted to our clinic for evaluation of her cardiac murmur. On admission she had tachycardia with heart rate of 160/min. On cardiac examination revealed a 3/6 holosystolic murmur and 3rd heart sound at the apex. The 2nd heart sound was loud on auscultation. The remaining of the physical examination was normal. Complete blood count and biochemical parameters were normal. Cardiomegaly detected and the aortic knob was left sided on chest roentgenogram. Electrocardiographic examination showed left axis deviation and left ventricular hypertrophy. The transthoracic echocardiography detected perimembranous nonrestrictive ventricular septal defect (VSD), mitral, tricuspid and pulmonary regurgitation. Barium esophagram in lateral and AP view showed large indentation on the esophagus (Figure 1,2). Esophagus was displaced to the left due to the pressure of cardiovascular structures. Cardiac MRI demonstrated cardiomegaly, dilatation of the pulmonary conus and left aortic arch with right descending aorta. Cardiac catheterization demonstrated the left aortic arch with right descending aorta which is connected to the main pulmonary artery by a right ductus arteriosus (Figure 3). Additionally left subclavian artery arising from the descending aorta as it turns from its transverse to more nearly vertical course (Figure 4). She had mo-

darate pulmonary artery hypertension with mean gradient of 40 mmHg. For the treatment of congestive heart failure, spironolactone, furosemid and captopril were given. During surgery the ductus was ligated.

CONCLUSION: The combination of left aortic arch with right descending aorta and right ductus was reported very rarely. We present this case with the aim to attract attention of the physicians to this abnormality.

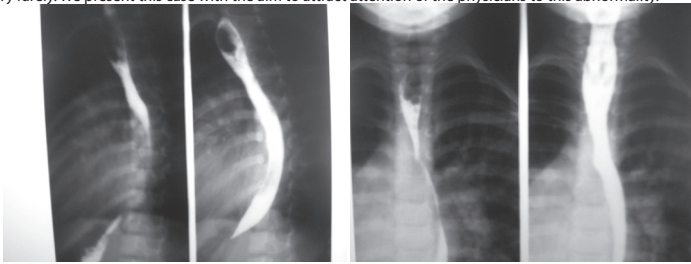


Figure 1.

Figure 2.

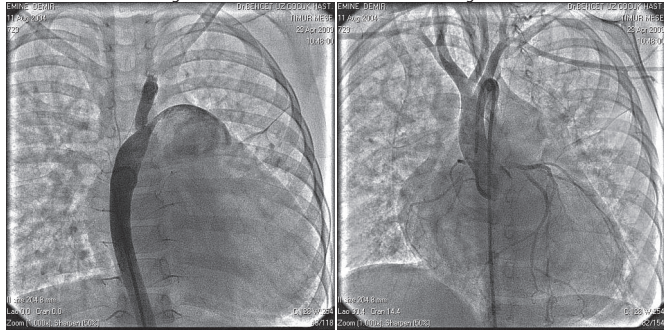


Figure 3.

Figure 4.

PP-016 MULTIDETECTOR CT IN THE FOLLOW UP OF THE CORONARY ARTERY DISSECTION

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Fifty six year old female patient (N. Ö) with persistent chest pain and heart burn went through coronary angiography two times in a different health center and took a diagnosis of right coronary artery (RCA) dissection extending from orifice to the distal segment. Surgery or percutaneous coronary intervention (PCI) could not be performed because of the long extend of the flap and high risk profile of the patient: long standing hypertension and type II diabetes mellitus.

In our outpatient clinic her blood pressure was 100/70 mmHg, S4 was audible in auscultation. Normal sinus rhythm, D3q, negative T at the inferolateral side was observed at ECG. Echocardiography revealed left ventricle ejection fraction of %58, minimally inferoposterolateral wall motion defect (hypokinesia), minimal aortic and mitral valve regurgitation. Clopidogrel, OAD, statin, ASA; AT2 blocker, trimetazidine, beta blocker was administered and patient was followed medically.

Six months later, Multidetector CT (MDCT) (Philips Brilliance 64 slice) was performed instead of coronary angiography in order not to aggravate the dissection by catheterization. Retrospective ECG gating and Bolus Tracking was used. The contrast material was given in biphasic pattern (80ml 350mg/ml Ioversol (Optiray[®]) with a 5ml/sn flow rate followed by 40ml saline with a 5ml/sn flow rate). The images were post-processed in a workstation and multiplanar reformat (MPR), curved MPR and 3D reconstructions were made for the diagnosis. The images revealed short chronic dissection flaps at the proximal and mid segment of the RCA (Fig.1,2,3). No clinically important stenosis of the lumen was observed. At he follow-up she was stable with medical regimen.

For the patients with coronary artery dissection MDCT can be a good non-invasive method in determining the extend of flap, the necessity of surgery or PCI and stability during follow-up.

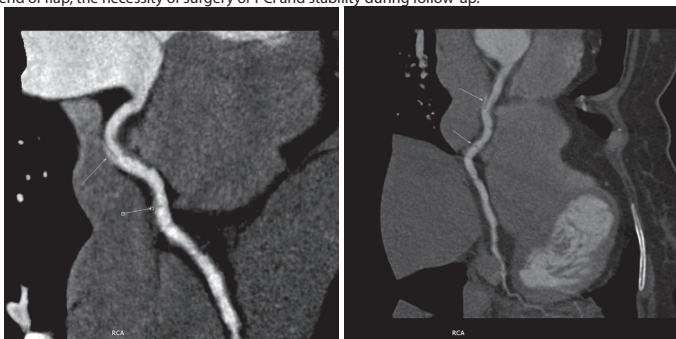


Figure I

Figure II

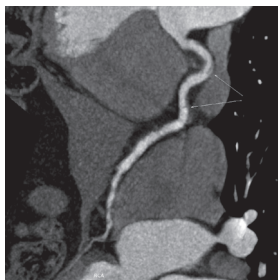


Figure III

PP-017 INTRACARDIAC THROMBUS WITHOUT LEFT VENTRICLE WALL FUNCTION FAILURE

Gülay Özkececi¹, Huseyin Dursun¹, Cevdet Ugur Kocogullari², Erkan Borazan¹, Ersel Onrat¹

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A 71 -year-old man who was admitted to hospital because of syncope, transient ischemic attack. On physical examination, he had left facial paresis. In his history; he had Inferior myocardial infarction and PCI to right coronary artery two years ago. Also he had peripheral artery disease and ileojejunal resection after mesenteric artery embolus. Electrocardiography revealed T-wave inversion in leads V4 through V6. The cardiac enzymes (Creatine phosphokinase-MB and Troponin-T) were normal. Laboratory analysis was normal. Echocardiogram showed an apical mass (1.5x2 cm) resembling thrombus in apical region of the left ventricle (Fig.1). But left ventricle wall functions were normal. (Fig1) The coronary angiography (CAG) of the patient showed that the patient's first diagonal artery (D1) was occluded. The other coronary arteries were normal. Brain computed tomography was normal. There was no stigma of connective tissue disorder. Due to the prolonged existence of mass and continuance of the patient's complaints despite the maximal anticoagulant treatment (keeping INR 2-3). Cardiovascular surgery department decided to operate the patient with the techniques of standard cardiopulmonary bypass with moderate hypothermia and cardioplegia arrest. In the operation, a mass including thrombus with diameters of 1.5x2 cm adjacent to the papillary muscles on the left ventricular apical region was resected (Fig. 2). Apical region was closed with felt and performed coronary artery bypass grafting (CABG) to D1. Histopathology examination showed dystrophic calcified bond tissue and thrombus. He had an uneventful recovery and was discharged home after surgery. He was observed to be doing well in the two-month follow-up visit.

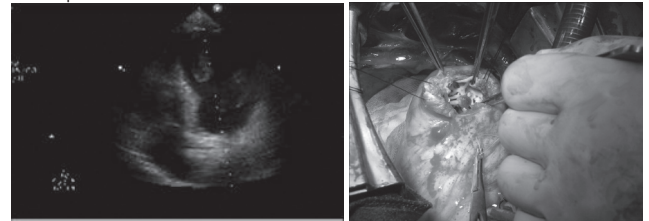


Fig.1

Fig.2

PP-018 ATRIOVENTRICULAR THROMBUS IN A 14-YEAR-OLD PATIENT

Özer Ulukan¹, Hüseyin Gemalmaz¹, Yavuz Beşoğlu¹

Eskişehir Osmangazi University¹

Right atrioventricular thrombus was diagnosed by echocardiography in a 14-year-old boy. Thrombus was reached through the right ventricle to the pulmonary artery and it was caused to tricuspid valve insufficiency. Surgical thrombectomy was performed and, he was treated with oral anticoagulation in postoperative period.

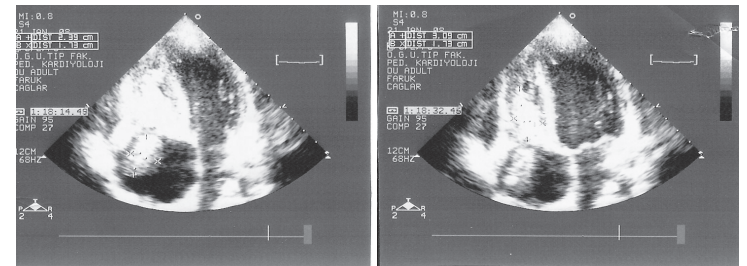


Figure 1. Echocardiographic view of the thrombi in the right atrium.

Figure 2. Echocardiographic appearance of thrombi in the right ventricle



Operative photograph of the thrombus from the right atrium to the right ventricle

The appearance of thrombus after thrombectomy

PP-019 CARDIAC COMPUTED TOMOGRAPHY; THE UNIQUE NONINVASIVE METHOD FOR THE DETECTION OF CORONARY ATHEROSCLEROTIC PLAQUE MORPHOLOGY AND FOR THE DIAGNOSIS OF SILENT ISCHEMIA, LUMEN NARROWING CALSIFICATION OF ADVENTITIA : WITH TWO CASE REPORTS

İpek Yönel¹, Munkhtsetseg Banzragch¹, Mustafa Özcan², Kamil Adalet², Faruk Erzenin²

Istanbul University Istanbul Medical Faculty Internal Medicine Department¹

Istanbul University Istanbul Medical Faculty Cardiology Department²

Cardiovascular diseases, especially coronary artery diseases and myocardial infarction remain the leading cause of morbidity and mortality in industrialized nations. Currently, multislice computed tomography (MSCT) is a tool for the noninvasive evaluation of coronary arterial pathology. MSCT also detects coronary atherosclerotic plaques without significant coronary stenoses. In comparison with IVUS, Stephan Achenbach et al found a sensitivity of 82% to detect coronary artery segments containing atherosclerotic plaque in patients without significant coronary artery stenoses. Initial clinical results indicate that multislice spiral computed tomography (MDCT) might be useful for the noninvasive characterization of human coronary plaque morphology by determining tissue density within the lesions. This seems to be of clinical relevance, because coronary artery disease might be detected at an early stage before calcifications occur and noncalcified plaques that may be more likely to rupture could also be visualized noninvasively. Herein, we presented assessment of a coronary artery disease in a 82-year-old male and another 57-year old male using a MSCT coronary angiography with 64-slice

technology, first described by Leschka S et al. First patient was admitted to the cardiology department with exercise dyspnea, spending for about one month. Efor test was determined as normal. To the patient who is a medical doctor denying directly coronary angiography, MSCT technique was applied; coronary artery plaque leading to severe coronary artery stenosis at middle segment of LAD was detected and served as a guide for invasive coronary angiography and for determining type and size of stent. Single coronary lesion (LAD) was detected, completely parallel to MSCT. Percutaneous coronary intervention was performed for LAD lesion and drug-eluting stent was implanted. The patient was asymptomatic in the first, third, sixth, ninth, twelve and twenty fourth months of the procedure. Second patient was admitted with sore throat together with diaphoresis and elevation of cardiac enzymes to the cardiology department. In this technique (MSCT), total occlusion from proximal segment in left circumflex artery and critical stenosis at the middle segment of LAD were detected and served as a guide for invasive coronary angiography. Percutaneous coronary intervention was performed for LAD and circumflex artery lesions and stent was implanted for lesions. (total occlusion of Cx artery was opened). The patient was asymptomatic in the first, third, sixth, ninth and twelve months of the procedure.

PP-020 INCIDENTAL BIG LEFT ATRIAL MIXOMA IN A HYPERTENSIVE HEART FAILURE CASE

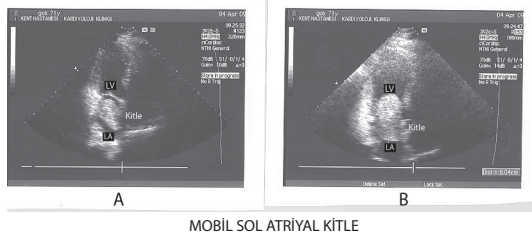
Abdi Saücan¹, Cevat Şekuri¹, Mine Tavlı¹, Zülfikar Danaoğlu¹, Özhan Göldeli¹, Selçuk Onur Duygu¹, M. Murat Tümüklü¹, Suat Büket²

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Clinical view of atrial mixomas is mitral and tricuspid valve failure, unexplainable high body temperature and weight loss, MI, pulmonary and peripheral emboly, sudden death and pericarditis. An inharmonious case with incidental left atrial big mixoma is presented that has been accepted with hypertensive pulmonary eudema. Case: Patient who was suffering from dyspnea and laying disability for two days had BP:218/139 mmHg, bi-basillary thin ralls at lungs, mild diastolic sufl on aortic area and 1/6 systolic sufl on mitral area in the physical examination of the. IV nitroglycerin and furosemid infusion had been started and heart failure had been under control.

An hyperekogen, mobile, 60x27 mm diameter smooth edge mass was seen which was going in to left ventricle at diastol time was shown in bedside echocardiography (figure A-B). On the other hand, LVEF and aortic failure were found 58% and 1-2 degree. Blood panel was normal, nonspecific T wave changes were found in ECG. Diffuze coronary ectasy and critical narrowness in proximal RCA were found in the coronary angiography which was performed after medical stabilization. CABG operation (SVG-RCA) and right atrial mass resection were performed to this case. The mass was seem as 34 gr weight, 60x40x35 mm, smooth, bright and half bleeding image. All of the material was reported as tumoral and diagnosed as mixoma. In clinical follow up transient paralytic ileus was seen and the patient was discharged with medical cure.

Atrial mixomas may not be seen as clinically expected. So bedside echocardiography should be performed to emergency hypertensive cases.



MOBİL SOL ATRİYAL KİTLE

PP-021 HEPATOCELLULAR CARCINOMA WITH INVASION INTO RIGHT ATRIAL CAVITY

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INTRODUCTION: Metastases to the heart are more common than primary cardiac tumors. In autopsy series performed on adult patients with cancer, the rate of heart metastases varies from 4% to 18%. Metastasis of a hepatocellular carcinoma (HCC) to the heart is also rare. In postmortem studies incidences of metastasis of HCC to the heart for in noncirrhotic and cirrhotic patients are 2.6% and 1.6 % respectively. Hepatocellular carcinoma metastases to the cardiac wall, as well as liver tumors extended to the right atrium or the inferior vena cava, have a poor prognosis as a result of surgical excision is often not complete and sometimes impossible. We report the case of a patient suffering from hepatocellular carcinoma who presented with a right atrial metastatic tumour as a result of invasion of the inferior vena cava and extension into the right atrium associating with renal vein thrombosis, causing renal failure.

CASE REPORT: A 60-year-old man was admitted to hospital with nausea, vomiting in the preceding 7 days, accompanied by exertional dyspnea, orthopnea, ascites and edema of the lower extremities. He had a history of cirrhosis due to hepatocellular carcinoma, treated by chemo-embolization. On physical examination; a pansystolic bruit and a diastolic rumble were audible at the tricuspid focus,hepatosplenomegaly and ascites were observed. Findings on laboratory tests were as follows: Hemoglobin was 14,9 mg/dl, white blood cell count (WBC) 16600 cells/ml (4500-11,000), BUN 53 mg/dl (6-21), creatinine 2,86 mg/dl (0.5-1.4), alanine aminotransaminase (ALT) 748 U/l (0-41), aspartate aminotransferase (AST) 1356 U/l (0-40), total bilirubin 2,96 mg/dl (0.2-1.2), direct bilirubin 1,86 mg/dl (0.1-0.31), CRP 236mg/l (0-10), INR: 2.89. He immediately hospitalised to care unit with a diagnose of acute kidney failure suspicion of renal vein thrombosis. On follow up he had sudden dyspnea and consulted to cardiology. Transthoracic 2-dimensional echocardiogram showed a semimobil, large mass with dimensions of 3.3x3.5 cm in right atrium(Figure 1), infiltrating inferior vena cava(Figure 2). This finding was further investigated and confirmed by an upper abdominal computed tomography; tumor mass involving both the right and left lobes of the liver extending to the inferior vena cava. After intensive interdisciplinary consultation with surgery department it was decided that patient was inoperably as a result of infiltrating the inferior vena cava and threated by chemo-embolization.

CONCLUSION: This case emphasizes the value of routine cardiac examination during the course of hepatocellular carcinoma. Secondary heart tumors should be investigated during the follow-up of hepatocellular carcinoma patients. Surgical management in the presence of metastatic right atrial tumour thrombus has poor results in the literature. In contrast surgical treatment should be reserved only for selected cases in which acute and severe cardiovascular distress due to obstruction of right ventricular inflow.

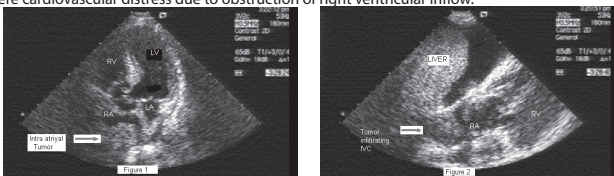


Figure 1

Figure 2

PP-022 HICUP AS A RESULT OF LATE LEAD PERFORATION

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OBJECTIVE: Late complications of pacemaker (PM) implantation include infection, pacemaker disfunction, subclavian vein thrombosis, lead displacement and perforation. Pacemaker lead perforation is a rare complication with an incidence of <1%. Late lead perforation is defined as perforation of the myocardium by the device lead more than one month after the implantation. Late lead perforation constitutes a small percentage of overall lead perforations and it has been described in several case reports. We, herein, report two patients with implanted pacemakers long ago and presented with hiccup secondary to partial lead perforation.

MATERIAL AND METHODS: The first case is a 73-year-old man with a VVI-R (Vitatron Vita 2 SSIR, Dieren, The Netherlands) PM and bipolar tined tip leads (Vitatron IMD 49B Excellence plus, Vitatron, Arnherm, The Netherlands; pacing threshold =1.2 mV, lead impedance =550Ω), implanted in 2006 due to several near syncopal attacks associated with bradycardia. He presented with incessant hiccup 2 years after implantation. The second case is a 65-year-old man with a VVI-R (Victory SSIR 5610, St Jude Medical, CA, USA) PM and bipolar tined tip leads (Membrane EX 1470T, St Jude Medical; pacing threshold =0.9 mV, lead impedance =780Ω) implanted in 2007 due to sinus node dysfunction associated with recurrent syncopal attacks. He presented with worsening dyspnea and hiccup starting 8 months after implantation. In both of the cases hiccup was misdiagnosed as a benign medical condition until they were referred to our specialised cardiac electrophysiology center. Pacemakers were reprogrammed and chest X-ray, CT, echocardiography, coronary angiography and electrophysiological study were performed to the patients.

RESULTS: In first case, although the device was reprogrammed to VVI mode at a rate of 40 b.p.m., underlying spontaneous sinus rhythm emerged and the patient continued to hiccup further without PM stimulation. Chest X-ray showed that PM lead position was not normal (Figure 1) and CT demonstrated that the tip of the lead was dislodged from the myocardium to epicardial fat layer (Figure 2A and B). Echocardiography revealed a mild dilated left ventricle with a global ejection fraction of 50% and mild mitral regurgitation. Coronary arteries were normal. He was not PM-dependent and also sinoatrial, atrioventricular nodes and infranodal conduction system were found to be normal in electrophysiological study. Since the percutaneous removal of the PM electrode might result in cardiac perforation, the displaced lead was removed by open chest surgery. The patient was totally asymptomatic at 6-month follow-up control. In second case, the device was reprogrammed to VVI mode at a rate of 30 bpm and diaphragmatic pacing ceased immediately. We conclude that hiccup was caused by phrenic nerve stimulation of the ventricular lead. Echocardiography revealed a normal left ventricle with a global ejection fraction of 60%. Although chest X-ray did not show the lead position exactly, CT showed that the tip of the lead perforated the inferior right ventricle apically (Figure 3A and B). Coronary angiography was normal. The displaced lead was removed by open chest surgery and then a new PM lead was implanted via contralateral subclavian vein due to thrombosed right subclavian vein. The patient was totally asymptomatic at 6-month follow-up control

CONCLUSION: In conclusion, all clinicians should keep in mind late lead perforation when a patient with PM presents with hiccup not explained by the other causes and chest CT is very valuable to establish the diagnosis in those patients.

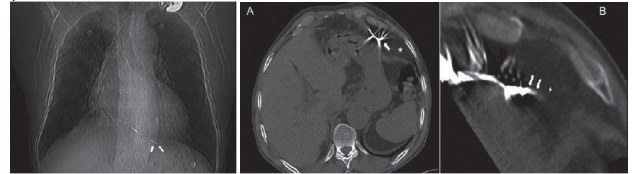


figure 1

figure 2

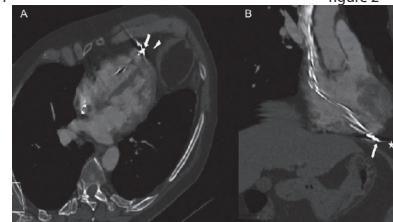


figure 3

CLINICAL CARDIAC ARRHYTHMIAS : DRUG EFFECTS, RISK ASSESMENT, DIAGNOSIS AND TREATMENT

PP-023 ASSOCIATION OF NEURAL MEDIATED SYNCOPE AND IRON DEFICIENCY

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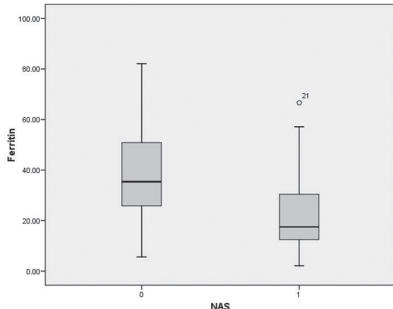
OBJECTIVES: Syncope in childhood is very common. The most common type of syncope in children and adolescents is neurally mediated syncope (NMS). The evaluation of pediatric syncope remains expensive, and testing has a low diagnostic yield. Patients with NMS have a high prevalence of chronic fatigue and orthostatic intolerance. Studies point to a potential role for iron deficiency (ID) without anemia in the pathogenesis of chronic fatigue. This study was planned to determine the role of iron in neurally mediated syncope.

METHODS: Between May 2008- December 2008, 66 children (21 boys, 45 girls) with syncope and were included. All patients suffered at least 3 syncope episodes per year. Before head-up tilt (HUT) testing, all patients underwent diagnostic testing that was unable to determine the etiology of their syncope. The diagnostic algorithm comprised a full history, physical examination, chest x-ray, electrocardiography, electroencephalography, and biochemical screening. A total of 66 patients were assigned into 2 groups according to the clinical and laboratory data as neural mediated syncope group and other syncope group (conversion, epilepsy). Serum ferritin (SF), iron, total iron binding capacity, and hemoglobin were measured, we defined iron deficiency (ID) as SF <12 .g/L, and low iron storage as SF <25 g/L.

FINDINGS: Among 66 included patients with syncope, 39 children had NMS (12.18 ± 1.98 ages), 27 had other causes of syncope (11.85 ± 2.12 ages). Prevalence of flushing symptom was significantly higher in NMS group comparing to other group (p=0.03). Hemoglobin (11.85 ± 2.12 vs. 12.18 ± 1.98, p=0.02) and hematocrit (36.3 ± 2.19 vs. 37.5 ± 2.26; p=0.02) parameters among the complete blood count indices were found significantly lower in NMS group. Ferritin (22.60 ± 3.66 vs. 38.90 ± 2.50; p=0.001) was detected significantly lower in

NMS group comparing to the other group.

RESULTS: Low iron storage may be related to the etiopathology of neurally mediated syncope which is commonly observed in children. Further studies are necessary to put forward the role of iron in the pathophysiology of syncope.



Ferritin levels in both groups 0: Control group 1: Neural mediated syncope

PP-024 PREDICTORS OF ATRIAL ARRHYTHMIAS IN PATIENTS WITH MITRAL VALVE PROLAPSE

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Gülkent Devlet Hastanesi Kardiyoloji Kliniği¹, Süleyman Demirel Üniversitesi Tıp Fakültesi, Kardiyoloji Anabilim Dalı², Kahramanmaraş Sütçü İmam Üniversitesi Tıp Fakültesi, Kardiyoloji Anabilim Dalı³, Özel Medical Park Van hastanesi, Kardiyoloji Kliniği⁴, Başkent Üniversitesi Tıp Fakültesi Kardiyoloji Anabilim Dalı⁵

BACKGROUND: Arrhythmias have been reported to occur frequently in symptomatic patients with mitral valve prolapse (MVP). The mechanisms causing atrial arrhythmias in patients with MVP have not been fully investigated. The purpose of this study was to determine the clinical, echocardiographic and heart rate variability parameters, and plasma concentrations of electrolytes and inflammatory markers in predicting atrial arrhythmias in patients with MVP.

METHODS: A total of 58 consecutive patients with MVP were included in this study. We performed electrocardiography, echocardiography, holter analysis, routine biochemical tests including plasma concentrations of electrolytes and inflammatory markers, and evaluated the clinical characteristics. Atrial arrhythmia defined as occurrence of any of the followings: atrial premature contractions, atrial couplets, atrial tachycardia, atrial flutter or fibrillation documented by holter analysis, continuous monitoring or by electrocardiography.

RESULTS: Twenty-eight patients (48%) had atrial arrhythmias, and 30 (52%) patients had no atrial arrhythmias. Univariable predictors of atrial arrhythmias included isovolumetric relaxation time, lateral systolic (S'), lateral late diastolic (A'), septal A', anterior mitral leaflet thickness, anterior mitral leaflet thickness of ≥ 5 mm, posterior mitral leaflet thickness and the occurrence of moderate to severe mitral regurgitation. Multivariable logistic regression analysis showed that occurrence of moderate to severe mitral regurgitation was the only independent predictor of atrial arrhythmias (relative risk: 2.4, 95% confidence interval 1.32-4.86, p=0.005).

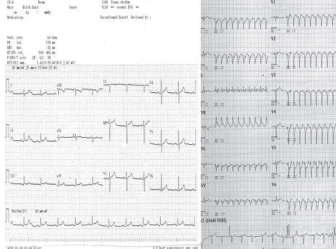
CONCLUSIONS: Present study showed that the only independent predictor of atrial arrhythmias in patients with MVP is the occurrence of moderate to severe mitral regurgitation.

PP-025 EARLY REPOLARIZATION ASSOCIATED MONOMORPHIC VENTRICULAR TACHYCARDIA DURING EXERCISE STRESS TEST, A CASE REPORT

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Early repolarization is a common electrocardiographic pattern characterized by a prominent J-point and ST-segment elevation especially on inferolateral leads. Since it was first reported, over 60 years ago, early repolarization has been considered a benign condition. However, there is a renewed interest in early repolarization because of its similarities to the arrhythmogenic Brugada syndrome. We present a case with early repolarization associated ventricular tachycardia during treadmill test.

A 54-year-old man with history of hypercholesterolemia, admitted to the our department with complaint of stabbing like chest pain. Physical examination was normal except with a blood pressure of 140/80 mmHg. Complete blood count and serum biochemistry were in normal range. His basal electrocardiogram revealed prominent J-point and ST-segment elevation on inferior leads. Treadmill exercise test (TMET) was performed to diagnose coronary artery disease. The patient exercised for 8 minutes (10.3 METs) achieving a heart rate of 174 bpm (105% of age-predicted maximal heart rate) and a blood pressure of 160/90 mm Hg. The test was terminated owing to monomorphic ventricular tachycardia. Patient turned to sinus rhythm without need of electrical or pharmacological intervention. Patient was undergone coronary angiography which revealed normal coronary arteries. Due to absent family history of sudden cardiac death, lack of polymorphic features of tachycardia and lack of reproducible ventricular tachycardia with recurrent exercises; catecholaminergic polymorphic ventricular tachycardia was excluded. Monomorphic ventricular tachycardia was thought to be related with early repolarization. Implantable cardioverter-defibrillator (ICD) implantation was offered to the patient but he did not accept ICD implantation. Although Some electrocardiographers reported that early repolarization may resolve with exercise-induced increases in heart rate, Haïssaguerre et al reported associations between sudden cardiac death and early repolarization which was triggered by exercise in 9% of the patients.



PP-026 PROLONGED QT AFTER THE INTAKE OF FEXOFENADINE IN THE PRESENCE OF HYPOKALEMIA AND HYPOCALCEMIA

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Some first- and second-generation H1- receptor antagonists have been associated with prolongation of corrected QT (QTc) time, and in rare cases ventricular dysrhythmias.. It has been reported that terfenadine use concomitant with hepatic metabolism inhibitors associated with torsades de pointes, ventricular tachycardia that can result in syncope. Fexofenadine, a carboxylate metabolite of terfenadine, is known to have no significant effect on QT or QTc time and to have no cardiovascular adverse effect.

Case Report: A 23 year-old healthy woman was admitted to us with syncope and unconsciousness. It has been learnt that she had intaken 20 tablet of fexofenadine (total: 2400 mg) and 9 tablet of furosemide (total: 360 mg) for suicide purpose from her relatives. ECG demonstrated bradycardia (48/min) and markedly prolonged corrected QT interval (684 msec) (Fig 1). The patient has been immediately performed endotracheal intubation and has been inserted a nasogastric feeding. Gastric lavage was implemented and activated carbon was performed. A transient pacemaker was implanted. When the patient was admitted, hypokalemia (3.3 mEq/L) and hypocalcemia (6.4 mg/dL) were also present and electrolyte disturbances were treated. Then, heart rate and corrected QT time were returned to normal limits (Fig 2). She was followed-up for 7 days in our hospital. Any ventricular arrhythmia was not seen over the follow-up period. She recovered completely and discharged.

Discussion: Controlled efficacy trials have demonstrated that fexofenadine does not prolong QTc and not cause torsades de pointes or any ventricular arrhythmia. Up to date, we found only one case report which revealed increased QTc time and ventricular tachycardia associated with fexofenadine in the literature. We suggest that bradycardia and markedly increased QTc time could not have been only associated with fexofenadine despite of the intake of high dose but also the coexistence of hypokalemia and hypocalcemia. It is possible that electrolyte imbalance might have contributed to such findings in the present case.

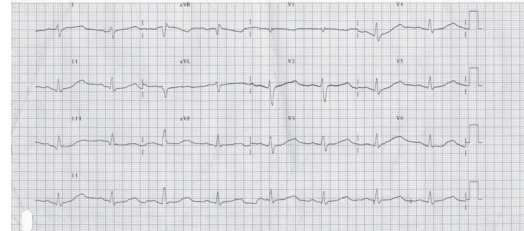


Figure 1. The ECG depicted bradycardia and markedly prolonged corrected QT time.

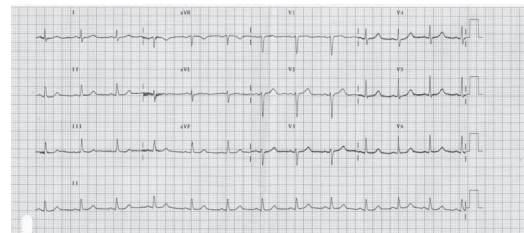


Figure 2. The control ECG showing heart rate and corrected QT time are in normal limits.

PP-027 ASSOCIATION BETWEEN RETINOPATHY AND P WAVE DISPERSION PROLONGATION IN HYPERTENSIVE SUBJECTS

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Fatih University Faculty of Medicine¹

AIM: This study was designed to evaluate relationship between prolonged P wave dispersion and development of retinopathy in hypertensive patients. Before this research we investigated the studies about relationship between retinopathy and heart beat rate, left ventricular dysfunction, left ventricular hypertrophy in various diseases; the studies demonstrating the relationship between the left ventricular mass and QT dispersion in hypertensive patients; the studies about association between prolonged P wave dispersion and paroxysmal arterial fibrillation in essential hypertension.

MATERIALS AND METHODS: This was a case-controlled analytical study. Hypertensive patients who presented to the Cardiology and Family Medicine outpatient clinics were investigated by clinical examinations, history, fundus examinations, and electrocardiography (ECG) and biochemical studies. Healthy individuals comprised the control group. The hypertensive patients were classified into two groups as those with retinopathy and those without. The values of the ECG parameters, QT dispersions, and P wave dispersions of the control and the patient groups were investigated and compared.

RESULTS: Forty-nine patients (21 male and 28 female) were included in the study. The P wave dispersions of the patient group were significantly longer than those of the control group. In male patients, those with retinopathy had significantly longer P wave dispersions than those without.

CONCLUSION: Hypertensive patients have prolonged P wave dispersion. In these patients, prolonged P wave dispersion is associated with retinopathy development, particularly in males. P wave dispersion of hypertensive patients should be routinely studied, and those with higher values, particularly patients with retinopathy, should be followed-up for possible paroxysmal AF development.

PP-028 IDIOPATHIC VENTRICULAR TACHYCARDIA RESULTING FROM ANOMALOUS MUSCLE BAND

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INTRODUCTION: We report an adolescent with ventricular tachycardia in whom, after clinical and laboratory examination, the final diagnosis was left ventricular anomalous muscle band.

CASE REPORT: The patient, a 16 year old adolescent was admitted to our clinic due to eight hour history of palpitation. On admission, vital signs were normal except heart rate 224 beats/min. He had a normal physical examination and no cardiac murmur. On the electrocardiogram, there was wide QRS duration of 200ms, left-superior axis, a right bundle branch block pattern (Figure 1). Lidocaine was administered full dose for 2 times owing the possible VT, but was unsuccessful. Then, Verapamil was administered as a infusion of 5 mg over 30 minutes. VT terminated after 10 minutes of Verapamil infusion. Echocardiography showed normal left ventricular (LV) function. In the four chamber view with posterior angulation, large anomalous muscle band 12 mm diameter (figure 2) was observing derived from interventricular septum traversing LV cavity. Verapamil sensitive idiopathic VT was diagnosed based on clinical and ECG data. B-blocker therapy was started and did not experience any tachycardia attack during a 6 month follow-up.

DISCUSSION: Idiopathic ventricular tachycardia (VT) submits to a clinical entity observed in children and adults, in whom conventional diagnostic evaluation fails to detect structural heart disease. Verapamil sensitive left posterior fascicular tachycardia is the most common form of idiopathic left VT. The ECG is characterized right bundle branch block and left superior axis as our patient's ecg.

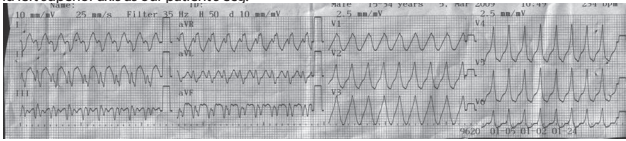


Figure 1 Twelve lead electrocardiogram demonstrated a right bundle branch block and left superior axis

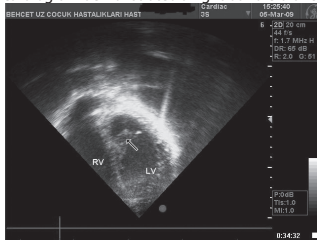


Figure 2 Echocardiogram showing the large muscular false tendon

PP-029 HYPOTENSION AND BRADYCARDIA SECONDARY TO HONEY INTOXICATION

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CASE REPORT: A previously healthy 52-year-old man, suddenly developed severe dizziness, weakness, nausea, vomiting, and abdominal pain. On questioning, the patient declared that his complaints had set in within one hour of consuming wild honey, which he had obtained from the Black Sea region of Turkey. The patient was in good condition; he was alert and cooperative. His heart rate was 50 beats/min, and blood pressure 80/50 mmHg. The remaining physical examination proved to be normal. All routine biochemical tests were also normal (Table 1). The electrocardiogram documented a sinus bradycardia of 40 beats/min (Figure 1). As the patient's history of consuming wild honey and the characteristic symptoms indicated a honey intoxication, gastric lavage was performed immediately, followed by the instillation of active charcoal. Parenteral hydration with saline was also implemented. No pharmacological or device based positive chronotropic and/or vasoactive treatment modalities were needed, and with the already mentioned conservative treatment measures, the heart rate and the blood pressure of the patient returned to normal within the following 8 hours.

DISCUSSION: Honey intoxication, a type of food poisoning, can be encountered in the Black Sea region of Turkey and in various parts of the world as well. Grayanotoxin, which is responsible for this clinical scenario, is a naturally occurring sodium channel toxin, which enters the human food repertoire by honey produced from the pollen and the nectar of the plant family rhododendrons. Grayanotoxin/mad honey intoxication is a well studied cholinergic toxidrome, resulting in incapacitating and, sometimes, life-threatening bradycardia, hypotension, and altered mental status. Complete atrioventricular block may occur in a significant fraction of the patients. Asystole has also been reported. Treatment with saline infusion and atropine is reported to be almost always successful. Our patient constitutes a typical case of honey intoxication, who was successfully treated with conservative measures.

CONCLUSION: Especially in the case of a compatible scenario (the geographic region, the symptoms and signs), the possibility of honey intoxication should be kept in mind while working out the differential diagnosis of patients presenting with dizziness, vomiting, hypotension and bradycardia.

TABLE-1:

	RESULTS		RESULTS
BUN	13.02 mg/dL (5-25 mg/dL)	CK	55.05 U/L (26-174 U/L)
Creatinine	1.06 mg/dL (0.4-1.2 mg/dL)	CK-MB	3.40 ng/mL (0.1-4.94 ng/mL)
AST	16.35 U/L (1-42 U/L)	Sodium	148.4 mmol/L (135-152 mmol/L)
ALT	26.33 U/L (1-41 U/L)	Potassium	5.03 mmol/L (3.7-5.5 mmol/L)
Glucose	79.88 mg/dL (65-105 mg/dL)	Hemoglobin	15 g/dL (12-18 g/dL)

Routine laboratory tests

PP-030 HEART RATE VARIABILITY IN PATIENTS WITH METABOLIC SYNDROME

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The metabolic syndrome (MS) is characterized by the clustering of various common metabolic abnormalities and it is associated with increased risk cardiovascular diseases. Subjects with MS have autonomic nervous system dysfunction characterized by predominance of the sympathetic nervous system in many organs. The augmented sympathetic activity in individuals with MS worsens prognosis of this high-risk population. The mechanisms linking MS with sympathetic activation are complex and not clearly understood. Whether sympathetic overactivity is involved in the development of the MS or is a consequence of it remains to be elucidated since data from prospective studies are missing. In this study, we aimed to show the heart rate variability in the patients with MS and the factors affecting HRV parameters.

Thirty-two (32) patients with MS were compared with 24 patients without. All patients underwent 24-hr holter monitoring for HRV analysis. The patients with coronary artery disease, severe systemic diseases, heart failure and valvular diseases were excluded. There were no differences between both groups regarding age, sex, hypertension and smoking. Total and LDL-cholesterol levels were higher, HDL levels were lower in the control group. GGT, CRP, uric acid and fasting blood glucose levels were higher in the patients with MS. As to HRV parameters, mean heart rate (HR), LF and LF/HF ratio were higher; SDNN, RMSSD, PNN50 and HF were lower in the patients with MS. Correlation analysis showed that mean HR was correlated with TG (r=0.4, p=0.006); SDNN was correlated with waist circumference (WC) (r=-0.4, p=0.001) and fasting blood glucose (FBG) (r=-0.3, p=0.03); LF was correlated with WC (r=0.6, p=0.001) and FBG (r=0.5, p=0.001); HF was correlated with WC (r=-0.4, p=0.003), CRP (r=-0.3, p=0.02) and FBG (r=-0.4, p=0.04); LF/HF was correlated with WC (r=0.6, p=0.001), CRP (r=0.3, p=0.01) and FBG (r=0.6, p=0.001). Regression analysis demonstrated that the only independent factor affecting SDNN was WC (β=-0.4, p=0.02); independent factors affecting LF/HF were FBG (β=0.3, p=0.02) and WC (β=0.4, p=0.01).

As a result, heart rate variability is decreased, sympathetic activity is increased and sympathovagal balance is impaired in the patients with MS. FBG, WC and CRP levels are major factors affecting HRV in these patients.

PP-031 QT INTERVAL PROLONGATION RELATED TO THE ADMINISTRATION OF METRONIDAZOLE

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 Başkent University Cardiology¹

INTRODUCTION: The drug induced Q-T prolongation might lead to torsades de pointes (TdP), ventricular tachycardia and sudden cardiac death. Several antimicrobial agents can cause QT prolongation. Metronidazole is a widely used antimicrobial agent and the effect of this drug on QT interval is not well documented. We report a case who developed marked QT prolongation after parenteral metronidazole.

CASE REPORT: A 71-year-old female patient was admitted to emergency unit with severe dyspnea, angina, and orthopnea symptoms in the preceding 5 days. She was on treatment for chronic obstructive lung disease, diabetes mellitus, hypertension and coronary artery disease. She also had a history of drug-induced QT prolongation associated with moxifloxacin. ECG on admission showed atrial fibrillation with a ventricular rate of 82 /minute. The corrected Q-T interval was 396 msec (Figure 1). Soon after the admission she had respiratory arrest and was intubated. She was treated for acute decompensated heart failure with diuretics, angiotensin converting enzyme inhibitors and bronchodilators. She responded well to the treatment and was extubated after 48 hours. On the 4th day she developed fever and was diagnosed as a nosocomial pneumonia. Antibiotic therapy was initiated with intravenous ceftriaxone 2 gr (once a day) and intravenous metronidazole 500 mg (every six hours). Two days after the initiation of antimicrobial therapy, the QT interval prolonged (corrected Q-T interval, 559 msec) and the T waves were inverted (Figure 2). Laboratory tests, including serum potassium and magnesium levels, were within normal limits. Metronidazole was immediately stopped and the ECG of the patient returned to normal within 48 hours. The pneumonia of the patient resolved with ceftriaxone and the patient was discharged home after a week of treatment in the hospital.

DISCUSSION: Commonly prescribed drugs, such as antibiotics, psychotropic agents, histamine H1-receptor antagonists and azole derivatives including fluconazole can prolong cardiac repolarisation and might trigger TdP. Metronidazole is a widely used antimicrobial medication, and is a potent inhibitor of CYP3A4 and CYP2C9 isoenzymes. Metronidazole can theoretically cause QT prolongation. There is only one case in the literature showing that metronidazole alone can cause QT prolongation. Our patient developed prominent QT prolongation upon administration of intravenous metronidazole. These effects were reversed by the discontinuation of metronidazole. In our patient there was no predisposing factor to prolong QT interval such as electrolyte imbalance or administration of other medications. She had similar problems in the past associated with florfenicol use and might therefore be a carrier of a silent mutation in one of the congenital long QT syndrome-associated genes. These patients are at high risk for developing QT prolongation and TdP when exposed to drugs which affect potassium channels

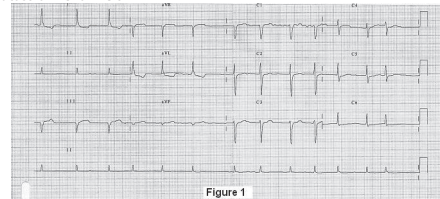


Figure 1

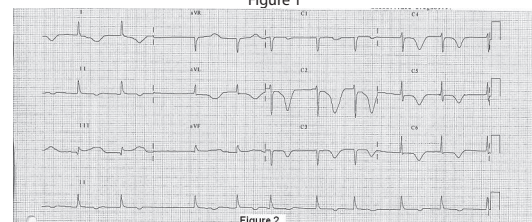


Figure 2

PP-032 PRECISE PLACEMENT OF TEMPORARY PACING WIRE AFTER CORONARY ARTERY BYPASS SURGERY: IS LEFT OF RIGHT VENTRICLE MORE CONVENIENT?

Onursal Bugra¹, Ahmet Sasmazela¹, Ali Fedakar¹, Ayse Baysal¹, Fuat Buyukbayrak¹, Hasan Erdem¹, Hasan Sunar¹
 Kartal Kosuyolu Yüksek İhtisas Research and Training Hospital¹

INTRODUCTION: The goal of this study was to investigate the left ventricular asynchrony of pacemakers in patients that require a pacemaker in the postoperative period after coronary artery bypass surgery.

MATERIAL AND METHODS: A total of 18 consecutive patients undergoing coronary artery bypass who were candidates for a pacemaker placement postoperatively were included in the study. [13 (67%) male, 5 (62%) female, mean age 66.21±12.4, range 47-77 years]. All patients had placement of intraepicardial temporary pacemaker placement on the right ventricle (RV) and left ventricle (LV) intraoperatively. The intraepicardial wires were placed in the RV to the outflow tract and in the LV to the apex. On the fifth postoperative day, echocardiography was performed (Vivid 7, Vingmed-General Electric Healthcare) and tissue Doppler measurements were done during basal, RV pacing ve LV pacing. The heart rate was increased above the basal rate during RV and LV pacing. At least three cardiac cycles were recorded in the Tissue Velocity Imaging (TVI) mode. The recorded images were analyzed by EchoPAC (EchoPAC 6.3, Vingmed-General Electric Healthcare). LV septal and lateral segments were marked on the images obtained from tissue synchronization and were subsequently analyzed for delay in the septo-lateral segment. The results were shown in mean ± standard deviation and the Wilcoxon signed rank test was used for statistical analysis (p<0.05)

RESULTS: During RV pacing, significant intraventricular delay was documented between the septum and the lateral wall in all patients (52.94±20.71 ms versus 20.61±14.63 ms, p<0.001). During LV pacing, intraventricular delay was measured shorter than the basal value in all patients (12.72±12.08 ms versus 20.61±14.63 ms, p=0.001). No complications were noted related to pacemaker wires placement, measurement of left ventricular asynchrony and during the removal of the wires.

CONCLUSION: In patients that are undergoing coronary artery bypass graft surgery, our observations demonstrated that in patients that require a pacemaker in the postoperative period, temporary pace wires should be placed to the left ventricle.

PP-033 EFFECTS OF PRE-OPERATIVE MAGNESIUM THERAPY ON ARRHYTHMIAS AND MYOCARDIAL ISCHAEMIA DURING OFF-PUMP CORONARY SURGERY

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 Eskişehir Osmangazi University¹

Heart manipulation during off-pump coronary artery bypass surgery may cause hemodynamical instability, and temporary coronary arterial occlusion may lead to myocardial ischemia. To reduce this, perioperative β-blocking agents or calcium antagonists can be administered. The effects of perioperative administration of magnesium on myocardial function were studied in patients undergoing coronary artery bypass grafting.

The aim of the study was to evaluate the effects of pre-operative magnesium administration on perioperative hemodynamics, ventricular arrhythmias and myocardial protection. We reviewed two patients groups, undergoing off-pump coronary artery bypass surgery. 24 patients (control group) have not received pre-operative intravenous infusion of magnesium, 23 patients (treatment group) have received pre-operative intravenous magnesium sulfate. The results demonstrated that it was reduced the heart rate, changes of ST segments, the needs of β -blocking agents and the use of intra-operative intra-aortic balloon pump and the inotropic usage. This treatment may be provide hemodynamic optimization during off-pump coronary artery bypass.

PP-034 OBSTRUCTIVE VALVE OF VIEUSSENS: A POTENTIALLY SIGNIFICANT OBSTACLE FOR LEFT VENTRICULAR LEAD PLACEMENT

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INTRODUCTION: Failure to access to the cardiac venous system during left ventricular (LV) lead implantation for cardiac resynchronization therapy (CRT) can be due to a prominent, obstructive valve of Vieussens (vV). The aim of this study was to determine the incidence of obstructive vV and practical interventions to overcome the problem.

METHODS: The study population consisted of 82 consecutive patients undergoing CRT between September 2004 and November 2008. Balloon occlusive coronary sinus (CS) angiography was performed in all patients. Obstructive vV was defined as the valve that allows only 0.014-mm diameter guide wire to pass through.

RESULTS: Obstructive vV was present in 4 (4.8%) patients (2M/2F, 22 to 68 y/o). Underlying heart disease was dilated cardiomyopathy in all patients. In patient 1 balloon dilatation of the vV with 2.5 mm standard, compliant balloon was successful but the LV lead could not be advanced because of the recoil of the vV. LV lead was placed in the posterior vein distal to the vV. In patients 2, 3 and 4 balloon dilatation of the vV with 2.0 mm (inner shaft diameter = 0.61 mm) Viva noncompliant angioplasty balloon (Boston Scientific, Natick, MA, USA) with long inflation time (up to 5 minutes) was successful and LV leads were successfully advanced into the posterolateral branches. Figure 1 shows the prominent vV (A, arrow) and posterolateral branch (A, asterisk), balloon dilatation of the vV (B) and final LV lead positions (C and D).

CONCLUSION: Obstructive vV was relatively common in our study population. Use of noncompliant balloon system with long inflation time is highly recommended for balloon dilatation.

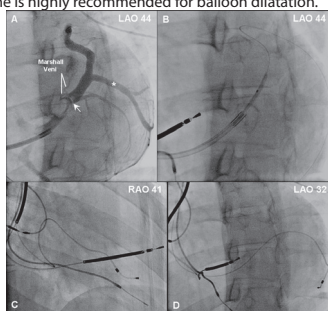


Figure 1

renal arteries, or an infrarenal aorta smaller than 10.3 mm just above the aortic bifurcation. Iliac and femoral vessels are typically correspondingly small in these patients, atherosclerotic changes occur in the lower aorta but the vessels below the iliac level, apart from being narrow, are relatively disease free. It has been described in females with a relatively early age of onset who are below average height and have smoked an average of 20 cigarettes per day for 20 years or more. The typical clinical presentation of this syndrome has been with bilateral buttock, thigh and calf claudication. Surgical treatment of these cases is challenging to surgeon and the preferred surgical method for reconstruction of the small aorta in symptomatic cases are still a debated issue. In this paper, we reported a case of small aortic syndrome associated with occlusion of the lower part of abdominal aorta. Moreover, the current literature knowledge about the etiology, the diagnosis and surgical management of this rare entity is discussed.

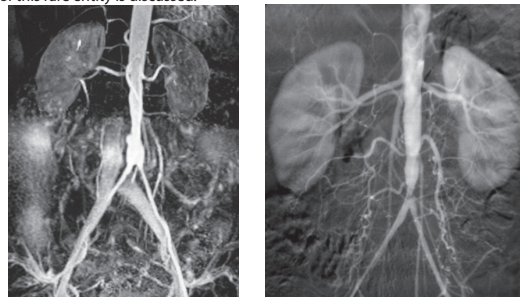


photo 1

photo 2

PP-037 A RARE CAUSE OF PERICARDIAL TAMPONADE: SPONTANEOUS RUPTURE OF ASCENDING AORTA

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Spontaneous rupture of ascending aorta is a rare condition which requires urgent diagnosis and treatment. However, sometimes diagnosis could be quite difficult. A 45 years old male with a body mass index of 39.2, and a history of chest pain and hypertension admitted to our emergency room with symptoms of loss of consciousness and dyspnea. He was investigated for aortic dissection and myocardial infarction. His tomography revealed the absence of dissection and transthoracic echo showed massive pericardial effusion. Since his symptoms are typical for aortic dissection and coronary artery diseases required to be ruled out, an aortogram and coronary angiogram was performed and his aortogram revealed a concave protrusion behind the ascending aorta. At his emergent surgery, a posterior aortic rupture was encountered. His ascending aorta replaced and early postoperative period was uneventful, however he had mediastinitis and reoperated at postoperative 7th day. In conclusion, although it is a rare condition, spontaneous rupture of ascending aorta has to be considered in patients with typical aortic dissection symptoms in the absence of aortic dissection in chest CT and it can be treated with low mortality and morbidity if diagnosed without delay.

PP-038 GIANT ABDOMINAL AORTA AND ILIAC ANEURYSM WITHOUT RUPTURE

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The clinical assessment of abdominal aortic aneurysm (AAA) rupture risk is based on the quantification of AAA size by measuring its maximum diameter from computed tomography (CT) images and estimating the expansion rate of the aneurysm sac over time.

The patient was 72 years old female. She had operated for gastric perforation by the general surgery clinic and when a giant aneurysm was seen in the abdomen we evaluated the patient intraoperatively. The aneurysm was begun from under the left renal artery to common iliac arteries which had nearly 16 cm thickness. We couldn't any approach to the patient because of patient hemodynamic status. In her history she has iliac aneurysm same diameter for five years. After 10 days from first operation we performed a new operation for aneurysm. (Fig.1) We replaced 18x9x9 mm Dacron bifurcation graft from abdominal aorta to right and left iliac arteries. In our case interesting point in spite of diameter of large common iliac arteries, iliac arteries had not ruptured for five years.

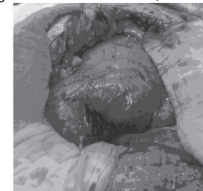


Fig.1

PP-039 EARLY ILIOLIAC ARTERIOVENOUS FISTULA FOLLOWING LUMBAR DISC SURGERY

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INTRODUCTION: Arteriovenous fistula (AVF) is a rare, late complication of lumbar disc surgery. Bleeding occurs to retroperitoneal or intraperitoneal spaces. Early diagnosis and treatment of vascular complications associated with disc surgery is essential due to their high mortality and morbidity rates. The incidence of vascular injuries after disc surgery is 1-5 in 10000 cases. It is seen more at the L4/5 level than other interspaces.

CASE: A 43 year old female presented with right lower quadrant pain 3 days following L4/5 herniated disc operation in Isparta State Hospital. Abdominal USG was normal, CT revealed dilatation of inferior vena cava. The hemoglobin level was 7.9 g/dL. Due to progressive deterioration and hypotensive state, the patient underwent emergent laparotomy. A thrill was detected at the right retroperitoneum spreading to whole abdomen. The case was consulted with our department. After exploration of the abdomen, an arteriovenous fistula was detected between the right common iliac artery and the iliac vein. After 1 cc heparin administration, the iliac artery and vein was clamped from the proximal and distal sites of the fistula. The fistula stoma was resected. The vein was repaired primarily. Patch plasty was applied to the iliac artery with 5x10 mm PTFE graft. There wasn't any problem at the postoperative stage. USG on postoperative 3rd month was normal.

CONCLUSION: Despite its low incidence, iatrogenic vascular injury related to lumbar disc surgery is a possible complication. During lumbar disc operations early diagnosis of vascular injuries and urgent transperitoneal surgery can save patients' lives. For elective cases endovascular repair is suggested.

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DISEASES OF THE AORTA AND THE AORTIC ARCH : CRITICAL OBSERVATION AND SURGICAL EXPERIENCE

PP-035 AN ALTERNATIVE SURGICAL APPROACH FOR ASCENDANT AORTA, INNOMINATE ARTERY AND ARCUS ANEURYSM WITH CONCOMITANT LEFT INTERNAL CAROTID ARTERY OCCLUSION

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Ascendant aorta innominate artery and arcus aneurysm with concomitant internal carotid artery occlusion is a rare vascular pathology. As these complex conditions we need alternative surgical approaches. We aimed to conclude an interesting approach that we performed to one of our cases.

The patient was hospitalized to cardiology clinic with aortic valve stenosis and bacterial endocarditis diagnoses at 13 August 2007. He treated with penicillin G 4x5.000.000 unit/day, ampicillin 1x1 gr/day, and coumadin 5 mg/day for 6 weeks. TEE showed vegetation like image and arcus aorta and innominate artery aneurysm diagnosed by CT and left internal carotid artery occlusion reported at duplex USG. We learned that he had treated with optic neuropathy diagnosis at 12 April 2007. Cerebral CT and MRI was normal at that time. He referred to cardiovascular surgery department for surgical treatment at 13 September 2007.

He went to operation at 3 October 2007. Carotid endarterectomy planned first but we saw that ICA occlusion was extended to intracranial segment. Then we made median sternotomy and 8 mm PTFE graft was interposed between left and right subclavian artery. Right femoral artery and bicaval cannulation was performed. The patient cooled to 26 °C. Cross clamp was inserted between left common carotid artery and left subclavian artery. Cardioplegia was given by selective method after aortotomy. Aortic valve excised and 21 no mechanical Carbomedics aortic valve replaced. Then aorta was excised from superior of coronary ostium to proximal of left subclavian artery and aneurysmatic proximal segment of innominate artery was also excised. 28 mm dacron graft was replaced to ascend aorta and arcus aorta by haemiarcus technique. Then a 12 mm PTFE graft was anastomosed to innominate artery from arcus aorta. 8 mm PTFE graft which we interposed between subclavian arteries was excised.

He extubated 6 hours after the operation. Postoperative transthoracic echocardiography showed good aortic opening. He extubated at 10th postoperative day.

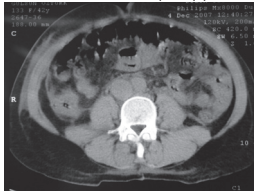
Antegrade or retrograde cerebral perfusion with deep circulatory arrest methods are generally used for arcus aorta reconstructions. In our patient we think that we need an alternative approach because of concomitant optic neuropathy and present vascular pathologies. For this reason our graft which we interposed between subclavian arteries had maintained antegrade cerebral perfusion during operation. We don't need deep hypothermic circulatory arrest. We think that this is a useful method for arcus aorta and supraortic branch pathologies.

PP-036 SURGICAL MANAGEMENT OF A PATIENT WITH SMALL AORTIC SYNDROME

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Small aortic syndrome is characterized by infrarenal aortic diameter measuring less than 13.2 mm just below

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Abdominal CT of the patient

PP-040 MANAGEMENT OF RUPTURED ABDOMINAL AORTIC ANEURYSM

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BACKGROUND: Abdominal aortic aneurysm (AAA) is a common degenerative condition with a high mortality rate related to perforation and it can continue to expand and rupture spontaneously, exsanguinate, and cause death. Although elective aortic aneurysm operation is now a safe operation, the mortality related to a ruptured one remains significant. The purpose of this study was to identify the outcome of patients with a diagnosis of ruptured abdominal aortic aneurysm.

PATIENTS AND METHODS: Five patients who operated on for a ruptured abdominal aortic aneurysm at our hospital were evaluated retrospectively. Patients who died before operation were not included in the study. Diagnosis has been made by means of CT scan in 2 patients. In the remaining 3 patients, the diagnosis was made only with clinical criteria and they were taken into operation room in hemorrhagic shock.

RESULTS: Of the 5 patients, 4 were male and the remaining one was female. The youngest of them was 13 years old and the oldest was 75 years old. Diameter of aneurysm ranged between 4 to 12 cm. 3 patients were taken into operation room in hemorrhagic shock. Mortality was seen in one of these 5 patients. Three patients underwent aortobiliac graft and the remaining 2 aortic graft. All patients were transferred to the intensive care unit alive. Mortality was seen in one of these 5 patients.

CONCLUSION: In our region, often there is no knowledge of the presence of an aortic aneurysm and the first sign is rupture and exsanguination. Therefore, surgical intervention affords the best chances for survival and should be performed to all viable patients

PP-041 ASYMPTOMATIC FEMALE PATIENT WITH RUPTURED SINÜS VALSALVA ANEURYSM: A CASE REPORT

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Sinus of Valsalva aneurysms (SVA) are relatively rare lesions with a variable clinical presentation. Rupture of a SVA often causes hemodynamic instability due to intracardiac shunting or cardiac tamponade, therefore immediate diagnosis and urgent treatment are required. In this case, we presented a 53-year-old asymptomatic female patient, who had a ruptured right SVA with a fistula from the right sinus of Valsalva to the right ventricle (RV) of unknown etiology.

CASE: A 53-year-old female patient with a history of erythema nodosum (EN) and hypertension (HT) for 10 years was referred to our clinic, from department of dermatology for detailed evaluation of HT and target tissue damage. She had recently been diagnosed with type 2 diabetes and had been smoking a pack of cigarettes a day for 30 years. Her blood pressure was 120/80 mmHg and heart rate was 82 beats/minute; a 3/6 degree systolic-diastolic murmur was heard, best audible over the left 3-4. intercostal spaces and right sternal border, radiating to the subxiphoid area. She had mild anemia (hemoglobin: 11,7 gr/dl) and occult blood in stool (OBS) was positive. Because of the EN and OBS, colonoscopy was offered to exclude inflammatory bowel disease but the patient refused this procedure. Detailed examination revealed no oral ulcers, genital ulcers or uveitis. Pathergy test was also negative, therefore Behçet's disease was also ruled out. Cardiac shadows were normal on the chest X-ray and thorax computerized tomography. Electrocardiography showed sinus rhythm, normal axis and nonspecific ST segment and T wave changes. Two-dimensional echocardiography (TDE) revealed an enlarged right SVA and color Doppler echocardiography showed mild mitral regurgitation and a left to right shunt between right SVA and the RV. The SVA rupture was clearly visualized with transesophageal echocardiography (TEE) performed to further delineate the aortic valve pathology. At the end of the examination, we had performed a cardiac catheterization and demonstrated a small shunt between the right SVA and the RV. The patient underwent cardiac surgery and right SVA rupture was repaired by direct closure. Postoperative TDE revealed no abnormality. The patient is currently on follow up with medical treatment.

DISCUSSION: SVA is a rare anomaly that usually involves the right coronary sinus (76,8%), the non coronary sinus (20,2%) or the left coronary sinus (3%). SVA occurs when aortic media is defective and there is absence of fusion between aortic media and the annulus fibrosus of the aortic valve, with subsequent aneurysmal enlargement at this weak point due to the high pressure at the root of the aorta. It is usually congenital but less commonly is associated with endocarditis, atherosclerosis, trauma, syphilis, aortic dissection, ulcerative colitis, Behçet's disease. The male-to-female ratio is 3,5:1 and symptoms usually develop in the adult population. Our case is interesting, because of she has got no significant symptoms and was determined incidentally.

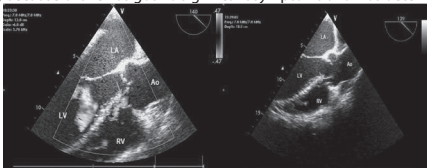


Figure-1 TEE, midesophageal aortic valve long axis view demonstrated left to right shunt between the right SVA and the RV

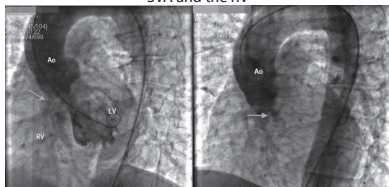


Figure-2 Cardiac catheterization images demonstrated left to right shunt between right SVA and the RV

PP-042 SURGICAL REPAIR OF INTERRUPTED ARCUS AORTA TYPE A IN AN ADULT PATIENT

Murat Özeren¹, Mehmet Kerem Karaca¹, Özden Vezir¹, Özlem Güleç¹, Barlas Aytacıoğlu¹, Nehir Sucu¹
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Interrupted arcus aorta (IAA) is defined as the absence of luminal continuity between the ascending and descending portions of the aorta and is a very rare congenital malformation. There are a few adult patients with surgical repair of isolated IAA in the literature. A 56 year-old male patient was admitted to cardiology clinic because of chest pain and dyspnea. Intracranial hemorrhage was exist in his past history. An angiography was performed via femoral approach for coronary artery imaging but catheter could not be proceeded to the arcus aorta and interruption of the thoracic aorta was suspected, then angiography repeated via brachial approach and Type A interrupted arcus aorta was diagnosed with normal coronary arteries. Elective surgery was planned for the patient. Extra-anatomic bypass was performed between the arcus and descending aorta by using 22mm dacron tubular graft with left posterolateral thoracotomy. Rebound hypertension and arterial mesenteritis was observed postoperative first and third days. The patient was discharged normally at the fourteen postoperative day.

PP-043 SURGICAL MANAGEMENT OF PSEUDOANEURYSM-DISECTION AFTER PREVIOUS SURGICAL REPAIR OF ACUTE ASCENDING AORTIC DISECTION

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Objective: After the surgical repair of acute ascending aortic dissection, false aneurysm-dissection formation is one of the long-term complications. The conventional surgical approach is complex and associated with high morbidity and mortality rates. We report our experience of surgical management ascending aortic aneurysm-dissection of previous surgical repair of ascending aortic dissection.

Methods: 52 years old patient had undergone previous surgical intervention with the diagnosis of acute ascending aortic dissection. On his medical history patient was suffering from syncope when he was coughing. The previous surgery consisted of graft interposition between ascending aorta and the beginning of the brachiocephalic artery. Aortic pseudoaneurysm was formed after the graft and the dissection was started thereafter. And also bilateral carotid artery had a false lumen. The size of the pseudo-aneurysm was 39 mm-106 mm changing respectively. Mean time between the first-last surgery treatment was 2 years.

Results: No major complication occurred during the procedure and from then on. The last previous surgery consisted of Y graft interposition between ascending aorta and bilateral carotid artery and the ligation of the carotid artery at the origins. Then graft interposition was performed between bilateral carotid artery and bilateral subclavian artery. Thoracic stent-graft was tried to used but couldn't be applied. The space at the proximal side was not enough for launching. After the surgery, the patient was asymptomatic and CT scans demonstrated of Y graft interposition between ascending aorta and bilateral carotid artery and bilateral carotid artery and bilateral subclavian artery (Figure 1).

Conclusions: The conventional management of aneurysms and dissection formation after previous surgical repair of acute ascending aortic dissection is not a practicable solution. We approached this challenging surgical situation as firstly to make bypass grafts to carotis and subclavian arteries and thereafter endovascular management of aneurysms- dissection formation (hybrid approach). The last previous surgical intervention couldn't be done.

PERIPHERAL VASCULAR DISEASES : DIAGNOSIS AND TREATMENT

PP-044 TAKAYASU'S ARTERITIS WITH CORONARY AND RENAL ARTERY INVOLVEMENT

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Dicle University Cardiology¹

Takayasu's arteritis with coronary and renal artery involvement is very rare, and there is no published information on the subject (both coronary and bilateral renal artery stenosis). We report a case of Takayasu arteritis with a presentation of a pulmonary edema and renal failure in a 46-year-old woman. She was admitted to the hospital for acute pulmonary edema. On evaluation she had no conventional risk factors for atherosclerosis. Her physical examination showed right arm blood pressure of 120/80 mmHg, Her left radial, brachial and carotid pulses were not palpable and the pulses that belong to the lower extremities were palpable bilaterally. Chest X-ray revealed diffuse pulmonary edema. ECG showed sinus rhythm with ST segment depression in the V5-V6, D2, D3 and aVF leads, suggesting myocardial ischemia. Echocardiography revealed a left ventricular ejection fraction of 40-45 %, symmetric left ventricular hypertrophy, severe mitral regurgitation, moderate tricuspid regurgitation and mild pulmonary hypertension.

Abdominal aortography demonstrated completely stenosis of the bilateral renal arteries. Coronary angiogram revealed total occlusion of ostium of right coronary artery (RCA). Arch aortogram showed complete occlusion of the left subclavian artery and a tight significant stenosis of the proximal right subclavian artery (Figure A,B,C). There was no stenosis at the pulmonary arteries.

The initial presentation of Takayasu arteritis as a pulmonary edema with severe acute renal failure and ischemic heart disease is unusual; to our knowledge, this has not been described previously in the literature. Patients with Takayasu arteritis may have atypical clinical presentation of the disease, and a diagnosis of Takayasu arteritis should be kept in mind in the differential diagnosis of secondary hypertension and coronary artery disease especially, in middle-aged woman.

PP-045 OUR EXPERIENCES IN PERIPHERAL BYPASS UNDER THE POPLITEAL SEGMENT

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PURPOSE: We purposed evaluation of peripheral bypass under the popliteal segment retrospectively. **MATERIAL AND METHOD:** In our clinic, we retrospectively examined the records of 11 patients who underwent surgical treatment for peripheral bypass under the popliteal segment. We made 12 peripheral bypasses for 11 patients between January 2005 and January 2009. The patients are still in our clinic control and the grafts patency were evaluated with Doppler, MRI angiography or conventional angiography.

RESULTS: 2 patients had critical leg ischemia, 3 patients had gun shot and 6 patients had claudication intermittent. 10 saphenous vein and 2 PTFE grafts were used for bypass. All the proximal anatomizes were made to common femoral artery, and 6 distal anatomizes were made to posterior tibial artery, 4 to anterior tibial artery and 2 to antero-posterior tibial artery. Early graft occlusion was in 1 graft that had a critical leg ischemia and had a very bad outflow tract. Although he had several times embolectomy and interventions the leg had amputated. This patient was one of the PTFE graft his patient.

CONCLUSION: Especially peripheral bypass under the popliteal segment we preference use native saphenous vein.

PP-046 ENDOVASCULAR REPAIR OF INTRATHORACIC GIGANT SUBCLAVIAN ARTERY ANEURYSM WITH AN UNUSUAL ETIOLOGY

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INTRODUCTION: Subclavian artery aneurysms are rare, but potentially life threatening because of the risk of rupture, distal embolization and thrombosis. Intrathoracic segment of the subclavian artery is a rare location for a peripheral arterial aneurysm. Atherosclerosis, medial degeneration, trauma, and infection are important risk factors for intrathoracic subclavian artery aneurysms. Most injuries to the subclavian and axillary arteries occur following penetrating trauma. Blunt trauma is rare. Standard treatment modality for subclavian artery aneurysms is open surgical repair. Invasive approaches such as sternotomy or lateral thoracotomy are necessary for exposure of intrathoracic segment of subclavian artery aneurysms. Recently, endovascular treatment using stent-grafts and combined open and endovascular techniques have been reported as an alternative method. Here we present a case of true aneurysm of the intra-thoracic portion of the right subclavian artery which occurred following blunt gun trauma and successfully treated by an endovascular technique.

MATERIAL-METHOD: A 48-year-old male patient was admitted to our hospital with right upper extremity and shoulder pain and dispnea. He has no history of penetrating trauma or chronic lung disease. Only he has a history of repetitive blunt trauma to the right clavicle during hunting activities. Chest x-ray revealed a large mass in the upper lobe of the right lung that shift trachea to the left side (figure 1). Torax CT scan showed the lesion was a giant aneurysm of the right subclavian artery with a diameter of 7,1 cm.(figure 2). Angiographic investigation planned to evaluate the aneurysm morphology and decide treatment modalities (figure 3) and endovascular treatment was planned.

RESULTS: Completion angiography revealed successful exclusion of the aneurysm with minimal leakage from the proximal neck (figure 4). Since endoleak was minimal, only an additional balloon dilatation applied to the proximal part of endovascular graft.The patient has no postoperative complication and discharged on the 2nd postoperative day.

DISCUSSION: Transluminal placement of a stent graft is a new approach that can be used in the treatment of subclavian artery aneurysms since obviates the need for thoracotomy, clavicular resection or sternotomy. There is also a decreased risk of injuring important surrounding structures, such as the subclavian vein or brachial plexus.In conclusion, we successfully treated a true intrathoracic right subclavian artery aneurysm by endovascular stent-grafting. This endovascular treatment may represent a valuable and less-invasive alternative to open surgical approaches necessitating sternotomy or lateral thoracotomy.



Figure 2

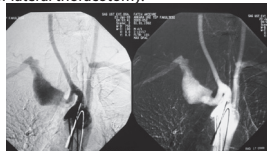


Figure 3

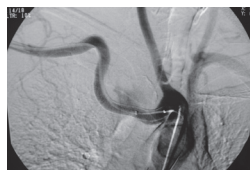


Figure 4

PP-047 TRAUMATIC OCCLUSION OF THE RIGHT EXTERNAL ILIAC AND COMMON FEMORAL ARTERIES

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OBJECTIVE: External iliac and/or common femoral arteries injury from blunt trauma is uncommon. The role of trauma as a causative factor in this condition has been previously documented rarely.

MATERIAL AND METHOD: Our case was a 50-year-old male. He admitted to our clinic with chief complaint of claudication in his right leg with a walking distance limited to 100 m for about 5 months. His past medical history was significant for a blunt injury at a car accident 6 months ago. At that time, he had experienced deep abrasions on his lower extremities and he had been hospitalized for a week. He admitted to our outpatient clinic with a chief complaint of claudication in his right leg, several weeks after the accident. His physical examination revealed absence of the right femoral and distal pulses. Ipsilateral ankle-brachial index was 0.5. Aortobi-femoral DSA investigation showed narrower calibration in the proximal right external iliac artery and occlusion of the distal external iliac artery and common femoral artery. Filling of the right superficial femoral artery was provided by collateral circulation. Posttraumatic occlusion was thought to be the etiology.

RESULTS: With these results, he was taken to the operating room. Under general anesthesia, extraperitoneal approach was preferred. Femoral incision contained the excessive scar tissue, possibly formed after the previous trauma. This tissue was extirpated. Then, an 8-mm ringed polytetrafluoroethylene (Goretex) graft was interposed between right common iliac artery and bifurcation of the right common femoral artery. Our patient was discharged on 5th postoperative day.

CONCLUSION: Chronic post traumatic ischaemia is a specific late complication of vascular injuries (1). Complete vessel occlusion arises from intimal injury. The most frequent mechanism is compression from a seat belt or steering wheel during a motor vehicle crash. Patients present with absent femoral and distal pulses in association with lower extremity neuropathy. Intervention commonly involves bypass grafting (2).

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PP-048 CORONARY SUBCLAVIAN STEAL SYNDROME

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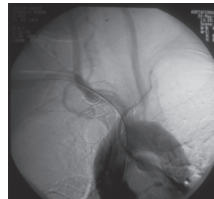
INTRODUCTION: Coronary-subclavian steal syndrome(CSSS) is relatively uncommon. It is a well documented cause of graft failure in patients having undergone coronary artery bypass graft surgery using the left internal mammary artery.

CASE REPORT: A 56 years old men was admitted with recurrent angina pectoris, parestesia of left arm and bilateral lower limb claudication. He had undergone aortabifemoral bypass surgery 3 years ago and coronary artery bypass graft surgery 1 year ago. The long saphenous vein and left internal mammary artery (LIMA) were used as conduits in the coronary artery bypass surgery. An electrocardiogram showed myocardial ischemia in

leads V1-3, D1 and echocardiography showed anterolateral hypokinesia. Aortography demonstrated total occlusion of the left subclavian artery at the proximal origin and reversal flow, through from left anterior descending artery (LAD) to LIMA. At the selective angiography of left subclavian artery, LIMA could not visualised and a coronary-subclavian steal syndrome was thought.

Carotico-subclavian bypass surgery was performed.The distal pulses of left arm were palpabl. There were no complications and he was discharged 6 days after surgery.

DISCUSSION: The incidence of CSSS is less than 0.5% It is caused by a significant subclavian artery stenosis present at the time of CABG, or may occur post-CABG following the progression of disease. Direct transthoracic revascularization (aorta to SCA bypass) and extrathoracic carotid-subclavian bypass are popular treatment procedures



Aortic Angiography



Operation

PP-049 MANAGEMENT OF ABDOMINAL GREAT VASCULAR INJURIES

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Yüzüncü Yıl University¹

Background: Injuries to the abdominal great vessels incur high mortality rate. These victims usually succumb in the field due to exsanguinating hemorrhage. The purpose of this study was to review our experience with abdominal major vascular injuries over a 9-year period, describing the type of injury, surgical procedures and complications.

PATIENTS AND METHODS: Ten patients with abdominal vascular injury, who had undergone operation in the Department of Cardiovascular Surgery, Yuzuncu Yil University Medical School, were included in this study. The majority of the victims were young men who sustained penetrating injuries. The cause of the injury was blunt in 2 patients and penetrating in 8 patients.

RESULTS: There were 9 male and 1 female patients ranging in age from 14 to 46 years. In all patients, the diagnosis was made with clinical criteria and during exploratory laparotomy. The abdominal aorta, inferior vena cava and iliac artery and vein were the most commonly injured vessels. Mortality was seen in one of these 10 patients.

CONCLUSION: Major abdominal vascular injury continues to be challenging injury. The persistence of shock is predictor of poor prognosis. Short prehospital time, prompt surgical intervention and suitable postoperative management are the important factors to increase the rate of survival in these critically injured victims.

PP-050 FEMORAL ARTERY PSEUDOANEURYSM ASSOCIATED WITH CARDIAC CATHETERIZATION AFTER FEMOROPOPITEAL BY PASS GRAFTING OPERATION

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The common femoral artery is commonly used as arterial access for a wide range of radiological and cardiovascular procedures. Pseudoaneurysm formation is the most common arterial complication of femoral artery catheterization.

A 69-years-old man, who had progressive swelling and pain at right hip was admitted to our clinic. In his history, there were aorto-femoral graft by-pass with synthetic graft and right femoro-infrapopliteal by pass graft with saphenous vein operations 2 years ago. The patient was made coronary angiography from right femoral artery for chest pain, 10 days ago. After angiography, the swelling occurred to the right femoral region. For diagnose, we were used arterial doppler ultrasonography and magnetic resonance imaging angiography (Figure 1). In radiological techniques, the pseudoaneurysm was determined in right femoral site. Operation was made by general anesthesia. We were seen pseudoaneurysm sac approximately in size 76 x 55 mm next to proximal of ilio-femoral junction in operation (Figure 2). After the femoral artery was controlled from distal and proximally, was made a direct incision to the aneurysmatic sac. The pseudoaneurysm was arising from end-to-side anastomosis of the saphenous vein of the femoro-popliteal by pass graft. After sac excise, patchplasty was performed to this lesion by using synthetic graft for arterial defect and than the femoropopliteal by pass grafting was refreshed by using saphenous vein. Postoperatif all pulses were palpable. The patient was discharged without complication at sixth day.

Pseudoaneurysm is a common complication in patients undergoing diagnostic or therapeutic catheterization. If the patient was operated with autogenous or nonautogenous graft for a lesion of lower extremities, using of upper extremity arteries for preventing complications of invasive arterial procedures is more convenient and safety.

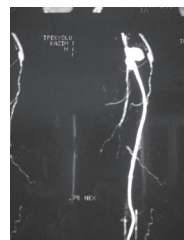


Figure 1

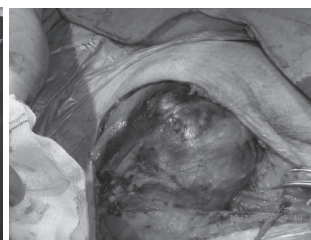


Figure 2

PP-051 USE OF THE HARMONIC SCALPEL (ULTRACISION) IN CAROTID BODY TUMOR SURGERY

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PURPOSE: Resection of carotid body tumors carries inherent risks of injury to the cranial nerves, carotid arteries as well excessive blood loss. The purpose of this paper is to evaluate the safety and efficacy of the harmonic scalpel for resection of carotid body tumors.

METHOD: In this study, harmonic scalpel was used for resection of carotid body tumors in 7 patients (7 females and 0 males) between 2007 and 2009 at our department. The ages of the 7 surgically treated patients ranged from 42 to 73 years. A mass in the neck was the common symptom in all patients. Harmonic scalpel (UltraCision) was used in all patients for tumor resection as the only instrument to achieve haemostasis.

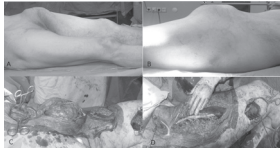
RESULTS: All of surgically treated patients were confirmed carotid body tumor by histopathology. The carotid body tumors were resected without a shunt procedure. The surgical results of these patients were excellent as an easy dissection, minimal hemorrhage, and short-time operation. There were no intraoperative complications. No mortality or malignant course was observed.

CONCLUSIONS: Tumors of carotid body are infrequent neoplasms; their surgical treatment is highly dependent on the ability and experience of the surgeon. The main advantage of harmonic scalpel is that it enables simultaneous and safe and fast tissue dissection, haemostasis and cutting, avoiding the exchange of several instruments. It could become the first choice instrument for this procedure.

PP-052 SURGICAL TREATMENT OF GIANT TRUE FEMORAL ARTERY ANEURYSM

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Isolated femoral artery aneurysms are rare, and frequently associated with aneurysm in other locations (arterio-aneurysmally). We report a case of 84 year-old male patient with a giant isolated femoral artery aneurysm (14x9 cm)(figure 1A, 1B, and 1C) who was ulcerative colitis disease for 10 years. Patient suffered his aneurysm disease approximately for 10 years. Clinical presentation was leg pain; enlarge mass, decreasing leg sense, venous stasis. Patient's preoperative hemoglobin level was nearly 6,8 mg/dL, and hematocrit level was %22,3. After four unit blood transfusion preoperatively, aneurysm resection and iliofemoral bypass were performed (figure 1D). Postoperative period was uneventful. Patient was discharged at postoperative 7th day. Summary, risk of rupture is related to the size of the aneurysm and isolated femoral artery aneurysms must be treated with suitable surgical option.



Giant left femoral artery aneurysm

PP-053 A CASE REPORT:BRACHIAL ARTERY ANEURYSM

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The frequency of upper extremity peripheral artery aneurysms is much less than lower extremity peripheral artery aneurysms. Their diagnosis and surgical treatment is important because they can cause functional loss such as upper extremity and finger losses. A 65-year-old man presented with an asymptomatic left antecubital fossa pulsatile mass. Demonstrates a thrombus-filled primary left brachial artery aneurysm. A preoperative DSA confirms the findings and documents occlusion of the left radial artery but a patent left ulnar artery. Intraoperative findings are shown in (Figures 1).The aneurysm was excised and the patient underwent a successful left brachial to ulnar artery bypass with reversed greater saphenous vein (Figure 2).

PP-054 A CASE WITH BILATERAL VERTEBRAL ARTERIES KINKING AND COILING

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OBJECTIVE: Coiling or kinking of the vertebral artery is a rare morphologic entity and it is rarely reported because it remains asymptomatic and has no clinical relevance.

MATERIAL AND METHOD: Our case admitted with complaints of fatigue and hoarseness that were prominent. Color Doppler ultrasound revealed monophasic flow pattern within both subclavian arteries throughout its whole course.

RESULTS: Bilateral vertebral angiogram showed two subsequent kinking lesions of the right subclavian artery containing a coiling lesion in the middle. Left vertebral angiogram of our case showed both coiling and kinking lesions, as well. Our case was discharged with recommendations of follow-up by the outpatient clinics due to lack of the neurological symptoms originating from these arterial segmental abnormalities.

CONCLUSION: Generally, coiling or kinking anomalies are not correlated to neurological symptoms. Surgery may be considered in symptomatic cases.

PP-055 A CLINICAL APPLICATION OF THE OMNIFLOW II COLLAGEN-POLYMER VASCULAR PROSTHESIS IN A POLYTETRAFLUOROETHYLENE GRAFT INFECTION CASE

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OBJECTIVE: Arterial reconstruction is the most important surgical strategy for patients with arteriosclerotic obstruction in the lower limbs. The Omniflow vascular prosthesis is a collagen-polyester composite which has been used successfully for peripheral arterial reconstruction.

METHOD: Our case was a 62-year-old male. He had undergone right femoropopliteal bypass surgery with 6 mm ringed polytetrafluoroethylene graft 6 months ago. One month after the surgery he had undergone another procedure for hematoma extraction at femoral region. This time he was admitted to our hospital with complaint of protrusion of the synthetic graft from the skin over the midportion of the subcutaneous tunnel for 10 days, probably secondary to destruction of the cutaneous tissue overlying the graft. He was diagnosed as graft infection and taken to the operating room.

RESULTS: First of all, his infected graft was extirpated. A new tunnel was prepared, located more laterally. Afterwards, distal and proximal anastomoses of the collagen-based composite biosynthetic graft of Omniflow II Vascular Prosthesis-Straight were completed after preparation of the graft. Postoperative period was event-free. Distal pulses of the right lower extremity were manually

CONCLUSION: The main factors to be considered when choosing a prosthesis are patency, susceptibility to infection and formation of aneurysms. Omniflow, the ovine biosynthetic prosthesis, has significantly improved surface and mural properties over previous attempts at producing prostheses for vascular reconstruction. The patency rate of biosynthetic grafts was higher than that of e-PTFE grafts.

PP-056 ATHEROSCLEROTIC AXILLARY ARTERY ANEURYSM

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Harran Ün. Tıp. Fak. Kalp Ve Damar Cerr AD¹

INTRODUCTION: Real Axillary artery aneurysms are very rare. Surgical treatment of axillary artery aneurysms is importance in avoiding thromboembolism and ischemia, which can lead to gangrene and amputation of the affected extremity for this reason, operative management of such cases should not be delayed.

CASE REPORT: A 48-year-old women patient presented with complaint of swelling in the right upper ext-

remity, forearm and the axilla. Axillary artery aneurysm was detected by dopler ultrasonography (3.27-2.23 cm). There is no trauma history. She was have 10 childbirth. Laboratory examination was normally. Abdominal ultrasound revealed normally. Chest x-ray normal.

Patient underwent operation and axillary artery aneurysm was resected. In reconstruction saphenous vein graft were used. Histopathologic examination showed atherosclerotic degenerative changes.

DISCUSSION: Axillary artery aneurysms are rare and almost occur as a result of penetrating or blunt chest trauma. There is no history of trauma in our patient. We found no evidence of thoracic outlet syndrome and compressing to the brachial plexus. Axillary artery aneurysms which atherosclerosis a cause is very rare (1). We think that atherosclerosis cause may be axillary artery aneurysms in our patient.

In conclusion, many vascular problems can be treated by endovascular intervention. But, the surgical approach is still in numerous instances.

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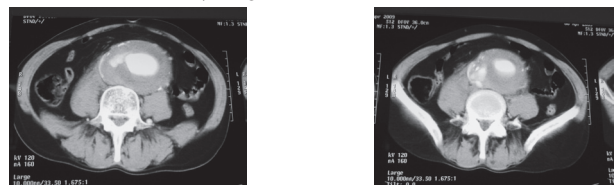
1-Tetik et al.Surgical treatmentof axillary artery aneurysm. Tex Heart Inst J.2005;32:186-188.

PP-057 AORTOCAVAL FISTULA PRESENTING WITH BILATERAL LEG ISCHEMIA DUE TO ABDOMINAL AORTIC ANEURYSM; AORTOCAVAL FISTULA STEAL SYNDROME

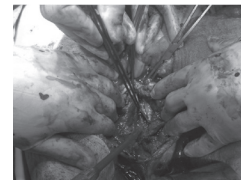
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Kartal Koşuyolu Yüksek. İht. Egt. Arş. Hast./ Kardiyovasküler Cerrahi Kliniği¹

Aortocaval fistula is a rare complication of abdominal aortic aneurysm however it carries a high operative mortality especially if it can not be diagnosed preoperatively. Recent worsening of symptoms in known cardiac failure patients or realizing congestive heart failure symptoms accompanying to classical signs of an AAA should raise suspicion about the pathology. Hematuria is also reported to be a sign of aortocaval fistula (1) However, authors did not encounter an aortocaval fistula case presenting with bilateral leg ischemia and associating hemodynamic derangement in review of the related literature. A case report of 50 year old male who presented to the emergency room with hypovolemic shock and bilateral leg ischemia with a radiographically confirmed abdominal aortic aneurysm and who was recognised to have an aortocaval fistula intraoperatively, is presented along with a review of the literature.

KEY WORDS: Aortocaval, fistula, aneurysm, leg, ischemia, steal



Picture 1: Infrarenal aneurysmatic aort segment and bilaterally dilated iliac veins could be seen in contrasted CT scan.



Picture 2: An aortocaval fistula was recognized between aneurysmatic aort segment and vena cava inferior when aneurysm sac was opened.

PP-058 SYMPTOMATIC DISTAL RADIAL ARTERY OCCLUSION: OUR MEDICAL TREATMENT PROTOCOL

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OBJECTIVE: The vascular patterns of the palmar arches and their interconnecting branches present a complex and challenging area. (1).

MATERIAL AND METHOD: Our case was a 46-year-old male. He was suffering from pain in the left hand and discoloration and coldness of the tips of 3rd and 5th digits for two weeks. Only the left radial arterial pulse was detectable with sonic Doppler device and the remaining pulses were easily palpable. His past medical history was significant for Type 2 Diabetes Mellitus.

RESULTS: Selective left upper extremity DSA revealed patent left subclavian- axillary- brachial- and ulnar arteries. Left radial artery was occluded at distal segment (Figure 1). Moreover, palmar arch was hypoplastic. Taking these findings into account, our medical treatment strategy was as follows (TABLE 1): He completed the late period after the onset of therapy with this ambulatory treatment protocol. His complaints of pain and discoloration completely faded away.

CONCLUSION: Because damage to either the radial or the ulnar artery in the form of laceration or thrombosis can occur with no or minimal symptoms due to adequate collateral circulation, the prevalence of asymptomatic occlusions is unknown (2). Most patients presenting with upper extremity ischemia have small vessel disease that is not amenable to surgical treatment. The primary treatment of upper extremity ischemia remains cold avoidance, with pharmacological treatment added in a limited number of patients(3).

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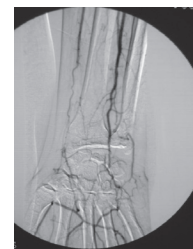


Figure 1 Image of DSA

Our medical treatment strategy

Administered drug	Dose (per day)	Duration of treatment
Cilostazol 100mg	2x1	6 months
Clopidogrel 75mg	1x1	Continuous
Pentoxifylline 600mg	2x1	Continuous
Diosmin 450mg+Hesperidin 50mg	1x2	6 months
Nifedipine 30mg	1x1	6 months
Tiamin 250mg+pyridoxin 250mg	2x1	6 months

TABLE 1.

PP-059 STENOSIS OF THE FIRST SEGMENT OF LEFT SUBCLAVIAN ARTERY PRESENTING WITH DIGITAL ISCHEMIA: A CASE REPORT

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OBJECTIVE: The relative rarity of vascular disorders of the arm accounts for unfamiliarity with upper extremity diagnostic testing on the part of even experienced vascular clinicians (1). Upper-extremity digital ischemia needs a high index of suspicion in cases with unknown or unproven primary focus of the emboli. Prompt recognition and early consultation seem necessary to prevent or reduce the extent of the amputation (2).

MATERIAL AND METHOD: Our case was a 67-year-old male. He was suffering from pain in the left hand and discoloration of the ipsilateral 2nd to 5th fingers. The onset of symptoms was 15 days ago and these symptoms increased in intensity (Figure 1). Although left axillary and distal pulses were palpable, their amplitudes were predominantly reduced in comparison with contralateral limb. Intraarterial selective upper extremity DSA was ordered.

RESULTS: DSA investigation revealed an ulcerated atheromatous plaque located 1 cm distal to the origin of the left subclavian artery, causing a stenosis of 70%, but not disturbing the flow patterns (Figure 2). Moreover, he had undergone coronary angiography at another institution showing non-critical lesions leading to a decision of medical therapy, previously. An intensive medical therapy protocol was initiated and revascularization was planned.

CONCLUSION: The diagnosis and localization of arterial occlusive disease is dependent on the use of DSA. Arteriography can be useful in the identification of upper extremity emboli and their source, and should include studies of the aortic arch, proximal subclavian artery, and digital arteries (3).

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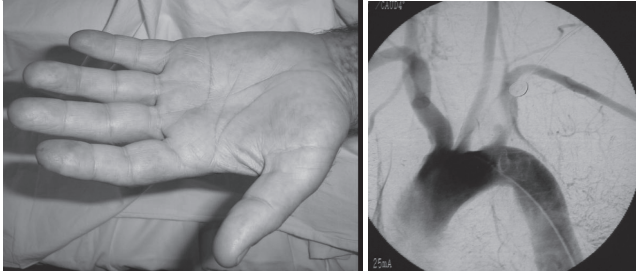


FIGURE 1.

FIGURE 2.

PP-060 THE SYNCHRONOUS GLOMUS VAGALE AND GLOMUS CAROTICUM TUMOURS: A CASE REPORT

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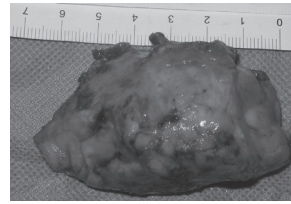
AIM: We report one patient with synchronous ipsilateral glomus caroticum and glomus vagale tumour on the left side of the neck and their treatment.

CASE REPORT: A 55 year-old man presented with a mass(10x10cm) under the left mandibular angle which had grown in size over the previous 14 years.He had no other symptoms and family history.Magnetic resonance angiography showed a widely spaced left carotid bifurcation by the tumour.Conventional MR showed a 65x37x35cm hyperdense convoluted mass between internal and external carotid arteries.The patient had a glomus vagale tumour in the same time glomus caroticum tumour synchronously.The patient was classified according to Shamblin classification Type III. Since the feeding vessel of these tumours was originated from internal carotid artery that,embolization was not achieved.During the operation one compact mass of two tumours was encountered as were seen on MR imaging.The glomus vagale was not dissected easily from the surrounding tissue.The vagus nerve was extracted with the uppermost portion of it.Two tumours and carotid artery bifurcation was extracted totally and 6mm poly tetrafluoroethylene internal ringed vascular graft was interposed between the CCA and ICA, ECA was ligated.The cross clamp time was 31 minutes. Horner Syndrome was determined postoperatively.The patient was discharged postoperative second day. The histopathological examination of the tumours was glomus caroticum and glomus vagale tumours.

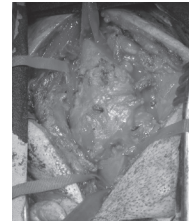
DISCUSSION:Incidence of ipsilateral multiple glomus tumor is 10%, and familial type is significantly higher in this population.1 Vocal cord paralysis due to the resection of the vagus nerve is an almost avoidable consequence of glomus vagale surgery.2 Surgery for vagal paragangliomas situated below the skull base might also place cranial nerves IX,XI,XII at risk,besides the vagus nerve itself.3 Conclusions:Surgeons should inform patients about the probable hoarseness and aspiration problems caused by both superior and inferior laryngeal nerve paralysis.Early operative management is warranted to avoid the possibility of eventual metastasis and progressive local invasion to the point of inoperability.

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Glomus 1



Glomus 2



Glomus 3

PP-061 SUCCESSFUL TREATMENT OF FEMORAL VEIN LACERATION BY PENETRAN FOREIGN SUBSTANCE

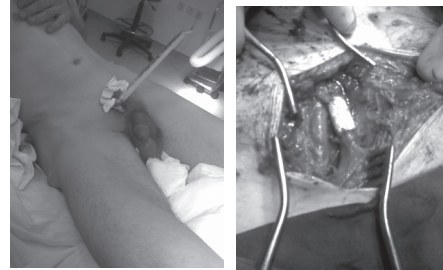
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BACKGROUND: Penetrant foreign substance laceration mostly occurs with judicial cases, sometimes should be appear by work accident. Penetrant laceration accompanies with stab, skewer etc. Sometimes it causes via smooth or unexpected substance.

CASE: The man patient age is 39. He was badly wounded by wood stick to be in hand on the woodcutter machine . The wood stick has punctured the skin nearly right side of the symphysis pubis. Distal side of the wood stick has reached the right side of the glutea with passes through the right femoral region. The laceration region is too close to femoral vessels and the patient forwarded to our clinic by ambulance immediately. Figure 1.

SURGERY: Patient was reach the operation theatre immediately . Femoral region explored via right femoral incision.The wood stick has ruptured and tamponed the common femoral vein. The vein has totally ripped. The wood stick was oriented to under femoral artery but femoral artery was intact. The wood stick cutted two pieces by air sternum saw on the femoral region.First part of wood stick pulled above symphysis pubis and second part of wood stick pulled under right side of the glutea via skin incision.The femoral region cleaned by % 0.9 isotonic solution. Femoral vein had widely lost substance. Proximal and distal part of the vessel founded by tissue dissection. Femoral vein was repair via prosthetic graft interposition, using by 2 cm long PTFE graft . Figure2.

CONCLUSION : Complex extremity vascular trauma should be cause to mortality via bleeding or ischemia. The extremity amputations are most reason of the vascular trauma. Most of the time should be planning to aggressive and rapid therapy. Usually vascular lacerations occurs by penetrant and sharp substances. Smooth or unexpected substance are rare.Vein repair should be perform different way.In this case we were prefer the prosthetic graft interposition. The traumatic region debrided and irrigated by %0.9 isotonic and antiseptic solutions for possibility against infection. The patient avoided for infection via large spectrum antibiotics. Some authors advice to using olograft for infection risk. Saphenous veins are not acceptable for using the graft interposition, because laceration region and femoral vein diameter were too wide. After the operation extremity function was completely normal.



Resim1 Resim2

PP-062 BLUNT VASCULAR TRAUMA IN THE EXTREMITY

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INTRODUCTION: Blunt vascular trauma in an extremity is an uncommon diagnosis in general trauma population. Although most patients who are admitted to trauma center sustain blunt mechanisms for injury, vascular trauma is sometimes diagnosed in the follow-up period with late diagnostic angiography. Objectives of this retrospective review were to review diagnosis and management of this rare and mostly misdiagnosed entity.

METHODS: Retrospective analysis of data of adult and pediatric patients who had blunt trauma together with vascular injury in the extremity was done. Surgical options are reviewed at early and late diagnosis. 72 patients (58 male, 14 female) with blunt trauma were analysed.

RESULTS: From January 1998 to December 2005, 72 patients (80.5% male, 19.4% female) with main age of 33.2 years sustained blunt trauma with 89 vascular injuries(23 upper extremity, 66 lower extremity). Associated bone fracture was detected in 59 patients. Diagnosis of the vascular pathology was in the follow up period in 15 patients. These patients vascular investigations were totally normal at admittance. Mostly used techniques were saphenous vein interposition, intravascular shunts and fasciotomies.

CONCLUSION: Blunt vascular injuries are seen more in lower extremities because of nature of the pathology. Injuries at proximal parts of the arteries mostly need graft interposition. On the other hand fasciotomies must be performed without any hesitation especially in patients with combined arterial and venous injuries with crushed extremities.

PP-063 SFA PSEUDOANEURYSM PRESENTED AFTER PENETRATION OF KIRSCHNER WIRE WHILE THE SUPRACONDYLAR TRACTION

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28 years old male patient presented SFA pseudoaneurysm above the hunter canal due to over penetration of kirschner wire while the supracondylar traction.

He sustained gun shot injury from inguino-femoral side in right proximal femur three months ago. Skeletal traction from supracondylar femoral region maintained by Kirschner wire from medial side of femur nearly to hunter canal. Three days after external fixation of femur maintained in orthopaedic department.

After three weeks from injury intramedullary nail treatment had been obtained for definitive surgery.

Patient presented pain and swelling at supracondylar femoral region Pseudoaneurysm confirmed by Ct and DSA studies.

Surgery performed anteriorly and pseudoaneurysm explored by longitudinal cut. SFA repaired with sphenous graft. After surgery patient followed at ward. Swelling reduced and physiotherapy started. on the last follow up 6 weeks later the patient was symptom free with resumption of normal activities of every day life.



Fibroelastoma on the ventricular surface of the anterior mitral valve leaflet

DISEASES OF THE HEART VALVES : SURGICAL ASPECTS AND COMPLICATIONS

PP-064 BEATING HEART MITRAL VALVE REPLACEMENT IN A PATIENT WITH A PORCELAIN AORTA

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Conventionally, mitral valve replacement (MVR) is performed under cardioplegic arrest, giving us perfect results in most patients. Certain situations, such as heavy calcification or severe adhesions around the ascending aorta, may not allow us to place the cross-clamp on the aorta safely. In this subgroup, MVR without cross-clamping is another option to be considered. Beating heart surgery without cross-clamping the aorta has been used for valvular operations and reoperations with acceptable clinical results. 1 Our group adopted a technique for mitral valve surgery with normothermic cardiopulmonary bypass (CPB) without cross-clamping the proximal aorta; meanwhile, the heart is perfused antegradely and anatomically. 2 We believe that this technique is simple and eliminates myocardial ischemia during cardioplegic arrest. From the surgical viewpoint, no dissection of the ascending aorta minimizes the risk of injury and embolic complications. We present our experience with MVR without cross-clamping the ascending aorta in a patient with a porcelain aorta.

CASE: 69 years old hypertensive male admitted to hospital with the severe dyspnea and palpitation. Transthoracic echocardiography showed that fibro-calcified mitral valve stenosis with the valve area 0.8 cm², mitral valve gradient:14/9 mmHg, SPAP:52 mmHg, minimal aortic insufficiency, cardiac rhythm is atrial fibrillation, Coronary angiography showed only minimal coronary arterial disease. So patient was prepared for the mitral valve replacement

OPERATION: After median sternotomy and pericardiectomy, we saw that ascending and arcus aorta is fully calcified which is called porcelain aorta. So we changed the operational preference and we decided to perform mitral valve replacement with the beating heart technique. Femoral arterial cannulation and bi-caval venous cannulation performed and without cross-clamping the aorta normothermic cardio-pulmonary perfusion was started. After left atrium dissected mitral valve is excessively calcified so it is dissected and replaced with 29 number mitral mechanical prosthetic valve. Left atrium sutured and cardio-pulmonary perfusion was terminated (CPB time: 62 min) and after decannulation and closure of the sternum, patient was discharged to ICU.

FOLLOW-UP: there is no complication at ICU unit. Patient started to awake 3 hours and extubated 9 hours after operation and he was discharged to ward at 1st day of operation. 5 days after operation patient was discharged from hospital in very well condition. Conclusion: In a unique situation like patient has mitral valve disease and undergone operation for mitral valve with a co-morbid porcelain aorta, on-pump beating heart mitral valve replacement is alternative, easy, acceptable and safe way of performing mitral valve replacement at patient who has a porcelain aorta because of the no touch of the aorta.

PP-065 COMPARISON OF THE IMPROVEMENT IN PREOPERATIVE AND POSTOPERATIVE PULMONARY ARTERIAL PRESSURE VALUES IN TERMS OF THE SUTURE ANNULOPLASTY AND KALANGOS BIODEGRADABLE RING ANNULOPLASTY TECHNIQUES USED IN TRICUSPID REGURGITATION

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OBJECTIVE: Cases that underwent tricuspid ring annuloplasty and tricuspid suture annuloplasty at our institution between March 2001 and February 2008 were evaluated retro- and prospectively.

METHODS: Tricuspid valve suture or ring annuloplasty was performed to 16 patients with severe tricuspid insufficiency accompanying other cardiac pathologies. Eleven (68%) of these cases were female, whereas 5 (32%) were male. Mean age of these patients were 46.78±16.91. General anesthesia was conducted after proper pre-medication. All the patients were monitored via radial arterial and jugular venous catheters, measuring arterial and central venous pressures. Pulmonary capillary wedge pressure was also monitored.

RESULTS: Pulmonary arterial pressures showed improvement during postoperative period in both groups. But there weren't any significant intergroup differences statistically (p>0.005).

CONCLUSION: Postoperative pulmonary arterial pressures were significantly lower than that of preoperatively. It is known that remaining of the pulmonary arterial pressure values still high after corrected tricuspid pathologies increases tricuspid insufficiency. Therefore, decrease in pulmonary arterial pressure value postoperatively forms significance.

PP-066 FIBROELASTOMA ON THE ANTERIOR MITRAL VALVE LEAFLET

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We present a 27 year old male who had suffered from a right hemiplegia 6 months before he was referred to our clinic. Transthoracic and transesophageal echocardiographic studies revealed 1.3 x 0.6 cm mobile, well demarcated, and uncalcified mass on the ventricular surface of the anterior mitral valve leaflet (AMVL). Minimal mitral insufficiency and patent foremen ovale were observed. The patient was operated on cardiopulmonary bypass machine. On opening the right atrium we observed the foremen ovale. We made an incision on the atrial septum thus the mitral valve was exposed. We made an incision on the AMVL and on reflecting it we found 1 x 0.5 cm whitish, lobulated mass on the ventricular surface of the anterior leaflet. We excised the mass completely. A 2x10mm pericardial patch was used to repair the anterior leaflet. After that we closed the atrial septal defect as well as the patent foremen ovale primarily. Postoperative period was uneventful.

PP-067 MAJOR DEHISCENCE OF A MECHANICAL PROSTHETIC AORTIC VALVE DUE TO MASSIVE INFECTIVE ENDOCARDITIS: A CASE REPORT

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Türkiye Yüksek İhtisas Hastanesi¹

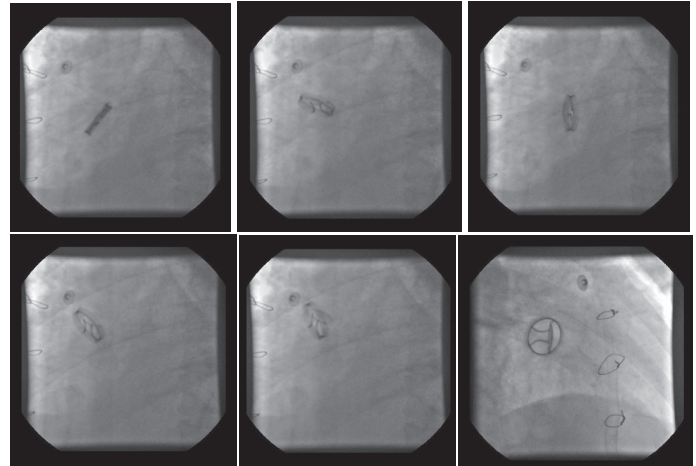
Extensive dehiscence of mechanical prosthetic aortic valve can cause many important clinical problems, morbidity and mortality. Major reason of dehiscence is generally infective endocarditis which can cause clinical symptoms of fever, heart murmur, splenomegaly, embolic manifestations, and bacteremia or fungemia. Early diagnosis and combined treatment (antibiotics combined or not with surgery) are life-saving and also reduce major complications for example; embolic events, heart failure, septic shock etc. Patients with prosthetic aortic valves may have an incidence of infective endocarditis of 0.2 to 1.4 attack per 100 patient-years, which is related with the type of aortic valves. Staphylococcus epidermidis, S. aureus, and Enterococcus faecalis are common microorganisms responsible for early prosthetic valve endocarditis and this condition is mostly related with time of implantation and perioperative bacteremia. In a small proportion of cases of aortic valve endocarditis, no microorganism can be cultured.

CASE: 47 years of female who had a history of mechanical aortic valve replacement at 15 years ago, was admitted to emergency department of our hospital with the complaints of low grade fever and chills. Transthoracic echocardiography findings were mechanical aortic dehiscence, suspicious vegetations and abscess formations. Fluoroscopy showed that extensive dehiscence of mechanical prosthetic aortic valve which moves from outflow track of chamber of left ventricle to aorta. Under this emergent condition patient was taken to urgent surgery.

OPERATIVE PROCEDURE: Re-median sternotomy, Cardio-pulmonary bypass (CPB), after aortotomy we saw that only two sutures were holding mechanic aortic valve and massive infection was found around the valve. The old valve (23 size Medtronic-Hall (MH) monoleaflet valve) dissected and taken out and infectious materials were cleaned up.

POSTOPERATIVE PERIOD: Postoperative 2th hour patient was started to awake and 6th hour she was extubated. Cardiac inotropic agents were depleted in steps. Postoperative 45th day because of the ischemic emboli which is most probably septic in origine, patient were died

DISCUSSION: Mechanic prosthetic valve dehiscence because of the infective endocarditis needs early detection and urgent treatment which can be provided by antibiotics combined or non-combined with the surgery. But if the dehiscence is so massive like our case, before developing hemodynamic instability early intervention is usefull due to providing of washout the infective materials and also should be combined with effective multichoice antibiotics until the specific microorganism can be cultured and demonstrated form the surgical materials or blood culture.



PP-068 COMPARISON OF AORTIC CROSS-CLAMPING TIME AND CARDIOPULMONARY BYPASS TIME ACCORDING TO THE ANNULOPLASTY TECHNIQUE USED IN TRICUSPID REGURGITATION ACCOMPANYING LEFT HEART VALVULAR PATHOLOGIES

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OBJECTIVE: Tricuspid regurgitation usually develops secondary to left heart pathologies, although it may develop primarily, as well. Functional tricuspid insufficiency is a pathology derived due to left heart pathologies that may affect morbidity and mortality rates unless intervened. Several techniques are used in repair of this pathology.

METHODS: Tricuspid valve suture annuloplasty was performed to 8 patients with severe tricuspid insufficiency accompanying other cardiac pathologies, whereas remaining 8 patients underwent tricuspid ring annuloplasty. All the patients possessed functional tricuspid insufficiency. There wasn't any isolated tricuspid valvular disease.

RESULTS: When perioperative cross-clamping time and cardiopulmonary bypass time were compared between two groups, these periods were found to be slightly shorter in suture annuloplasty group. But there wasn't any statistically significant difference (p>0.005).

CONCLUSION: It is remarkable that morbidity and mortality rates are higher and their quality of life decreases in long-term follow-up period of patients with tricuspid insufficiency developed due to left cardiac pathologies that were not corrected surgically. Our opinion is that it is a necessary to perform concomitant tricuspid annuloplasty to patients with moderate-to-severe tricuspid insufficiency undergoing left valvular intervention.

PP-069 AORTIC VALVE REPLACEMENT AFTER PREVIOUS CABG WITH FUNCTIONING IMA GRAFT

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The use of the left internal mammary artery (LIMA) is now routine in most CABG operations. An injury to patent coronary artery bypass grafts, especially internal mammary artery grafts, during reoperation via a redo sternotomy, may be fatal. Aortic valve replacement in these patients presents a challenging problem for the cardiac surgeon.

A 58-year-old woman was referred to our hospital for aortic valve replacement for severe aortic insufficiency 7-years after undergoing a single coronary artery bypass graft, left ITA to left anterior descending artery. On physical examination a grade III/IV diastolic murmur was detected over the second intercostal space on the right. A transthoracic echocardiography was performed and demonstrated moderate to severe aortic valve insufficiency. Coronary angiography showed a patency of the LIMA graft, with an ejection fraction 40 %, and aortography confirmed the presence of severe aortic valve insufficiency. The operation was performed by a median sternotomy. Minimal dissection of the heart was performed. Only the ascending aorta and the right atrium were dissected to allow the insertion of an arterial cannula and a two-stage single venous cannula. No other segment of the heart was dissected, in particular the ventricle. Cardiopulmonary bypass was initiated and the patient is cooled to 25°C. No attempts to limit IMA flow are performed. The aorta was cross-clamped. The aorta was opened and an intermittent antegrade blood cardioplegia was injected by a selective perfusion of coronary ostia. Aortic valve replacement was performed with a bileaflet mechanical prosthesis using standard surgical techniques. Postoperative course of the patient was uneventful, and she was discharged from the hospital on the 8th postoperative day.

Valve surgery in patients with patent ITA grafts remain a surgical challenge because of the possibility of injury to ITA graft and inadequate myocardial protection. Aortic valve replacement after previous CABG can be accomplished with low morbidity and mortality, provided that (i) mediastinal dissection is kept to a minimum, (ii) myocardial protection is maximized by moderate hypothermia and venting is performed.

PP-070 LARGE PSEUDOANEURYSM OF THE SINUS OF VALSALVA FOLLOWING SURGERY FOR AORTIC VALVE ENDOCARDITIS

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INTRODUCTION: Aortic root or sinus of valsalva pseudoaneurysm formation in the absence of recurrent infection following prosthetic aortic valve replacement for infective endocarditis is rare. We report the successful surgical treatment of a pseudoaneurysm of the sinus of valsalva after surgical intervention for aortic valve endocarditis.

CASE: The patient, a 30 year-old man with a history of rheumatic valve disease, was admitted to emergency service of our hospital with complaints of high fever, chills, nausea, vomiting and diarrhea. Echocardiography demonstrated mild aortic regurgitation, a small vegetation on the aortic valve, serious mitral stenosis and dilatation of left heart cavities. He was referred to cardiac surgery. There was a vegetation on the aortic valve and abscess formation at commissure of right and left coronary cusps. After debridement of infected tissues, abscess cavity was sutured to the annulus by 5/0 polypropylene suture supported by teflon pledgets. Then, aortic and mitral valves were replaced. Three months after the operation, he was readmitted to our emergency service with chest pain and shortness of breath. Cardiac computerized tomography demonstrated an aneurysm originating from the sinus of valsalva which protruded towards the right ventricular cavity without communicating with it. Reoperation was applied for aortic pseudoaneurysm. The prosthesis was removed and modified Bentall operation was performed.

DISCUSSION: Fistulization of perivalvular abscesses in infective endocarditis has been found in 6% to 9% of cases. Aortic root pseudoaneurysm formation following aortic valve endocarditis is rare- especially pseudoaneurysm of sinus of valsalva. We reconstructed the pseudoaneurysm successfully by modified Bentall procedure.

PP-071 MITRAL VALVE REPAIR IN A CASE WITH VERY LARGE GIANT LEFT ATRIAL ORGANIZED THROMBUS

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OBJECTIVE: Large left atrial mural thrombus is usually observed with mitral valve disease. This mass has risks of sudden circulatory collapse and systemic embolization. The aim of mitral valve repair is to obtain a component mitral valve with the largest possible nonstenotic orifice and this repair represents a better alternative than valve replacement.

METHODS: In this study, we report a patient in whom a very large and organized thrombus in the left atrium with mitral valve stenosis and our successful surgical removal therapy.

RESULTS: We considered the emergent surgery for the large left atrial mural thrombus. This approach at the time is the best treatment option.

CONCLUSION: Mitral valve repair is now clearly established that restoration of a normal mitral valve function with reconstructive surgery is preferable to replacement with a device, whether bioprosthetic or mechanical.

PP-072 NORMALLY FUNCTIONING AORTIC CAGED BALL PROSTHESIS AFTER 35 YEARS

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Bursa Yüksek İhtisas E.A.H.¹

INTRODUCTION: The Starr-Edwards caged ball valves were widely used all around the world in the past decades.

CASE REPORT: A 53 years old man was referred to our institute with exertional dyspnea and angina. He had undergone aortic valve replacement with Starr-Edwards caged ball valve prosthesis in 1974. His echocardiography revealed a normally functioning aortic caged ball prosthesis and severe mitral valve regurgitation. Routine cardiac catheterization showed a 90% proximal LAD stenosis. The patient underwent CABG with redo aortic valve and mitral valve replacement.

We replaced this functioning aortic valve with a bileaflet mechanical valve prophylactically to achieve a better hemodynamic performance and for a lower INR ratio in the follow-up period. He had a uneventful postoperative period and was discharged 8 days after surgery.

DISCUSSION: The first mechanical heart valve successfully used for cardiac valve replacement was the Starr-Edwards caged-ball valve that was used in mitral position 1960 and was introduced by Albert Starr in 1961. Despite complications such as high-pressure gradient, paravalvular leakage, pannus formation, thrombosis and thromboembolic events that occur in variable frequencies, this artificial valve have been used worldwide in the past decades. There are a few patients reported to have lived with an aortic Starr-Edwards caged ball prosthesis over 30 years or longer especially without mechanical or hemodynamical deterioration. Therefore survival for 35 years with still normally functioning aortic Starr-Edwards caged ball prosthesis is noteworthy.

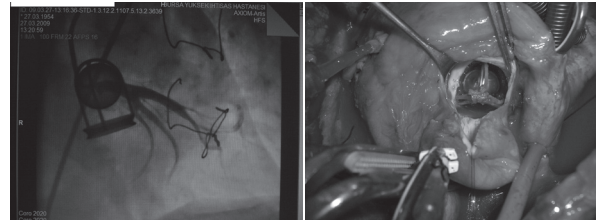


figure 1

figure 2

PP-073 SUCCESSFUL FIBRINOLYTIC THERAPY OF AN AORTIC PROSTHETIC VALVE THROMBOSIS WITH A LOW-DOSE REGIMEN. IS IT REALLY EFFECTIVE AND SAFE?

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Prosthetic valve thrombosis (PVT) is a life-threatening complication, with an incidence of 0.03 to 4.3 % per patient year. This rare but life-threatening complication of prosthetic valve replacement is dependent on valve design (tilting disc valves and caged ball valves), structure (mechanical valves), location (most frequent in tricuspid, less frequent in mitral and aortic position) and patient compliance with oral anticoagulation. Inadequate anticoagulant therapy is the main cause of this complication. Because of the higher mortality of this complication, it requires immediate diagnosis and treatment. Optimal management of patients with obstructive prosthetic thrombosis remains controversial, although surgery is usually favored. With relatively high mortality following redosurgery especially in high risk patients, fibrinolytic therapy (FT) has emerged as a non-invasive and satisfactory alternative therapy. However, the application of the fibrinolytic therapy may also be limited by increased risks of thromboembolic events and haemorrhage.

As known that rapid infusion of fibrinolytic agents has been associated with higher complication rates. Therefore by determining the lowest effective dosing regimen for specific patients subgroups who are hemodynamically stable may be minimize risks of fibrinolytic therapy. We hereby report of a case of an aortic prosthetic valve thrombosis who treated with the use low-dose fibrinolytic regimens, in order to better define the efficacy and safety of such treatment.

PP-074 MITRAL VALVE REPAIR PROCEDURES IN OUR INFECTIVE ENDOCARDITIS CASES COMPLICATED WITH CEREBRAL COMPLICATIONS

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OBJECTIVE: Patient can have severe cardiac injuries after infective valve endocarditis. Leaflets are the most frequent effected part in mitral valve endocarditis. Following the endocarditis; embolism due to vegetations or infected tissues is the most frequent complication that is closely related with prognosis. Cerebrovascular events complicate the management of infective endocarditis (1). Neurological complications are very frequent in patients with infective endocarditis (20-40 %) (2).

METHODS: Our first patient was a 30-year-old woman. Her transthoracic echocardiography (TTE) revealed severe aortic regurgitation, severe mitral stenosis and a vegetative mass on the right coronary cusp of the aortic valve. Cranial MR imaging showed septic emboli in the distal branches of the left middle cerebral artery (MCA) and associated perilesional contrast enhancement supporting the diagnosis of focal abscess formation. This lesion was consistent with left fronto-temporal infarcted area involving both cortex and white matter and an abscess developing on this ground. A control MR imaging was held 6 weeks later demonstrating near-total shrinkage of the abscess. She was consulted with the Neurosurgery Clinic repeatedly. Neither an immediate nor an elective surgery was planned. Neurology Clinic recommended the maintenance of prophylactic anti-convulsive therapy since this abscess was located at left parietal region next to the cortex. Our case was taken to the operating room electively.

Our second patient was a 53 years old man. TTE which showed that his mild mitral regurgitation progressed and a mobil vegetation developed at posterior mitral leaflet. Further investigations with cerebral MR angiography showed bilobulated sacular aneurysm at left middle cerebral arterial bifurcation level which was consistent with mycotic aneurysm secondary to septic embolization. In addition; multiple infarction images characterized with gyral thickness and edema at left posterior frontal region and vertex level could be consistent with the same etiology. Neurosurgical consultation didn't recommend emergent surgery. He went under operation.

RESULTS: For our first case there was a severe mitral stenosis. The bilateral commissures were incised while leaving one millimeter of valvular tissue intact as in the normal anatomy. The underlying chordae and papillary muscles were then incised accordingly. After this step we performed bilateral segmental annuloplasty. We tested the valve competence and valve competence and closure were excellent. Following aortotomy we explored that right coronary leaflet contained a vegetative mass of 1x1 centimeter in diameter. Native aortic valve was resected. We performed an AVR (21 no St Jude bileaflet mechanical valve) with separate sutures.

In the surgical exploration of our second case there were vegetative formations on a teared basal chordae at posterior leaflet P1 region near the anterolateral commissure. At A2 region of anterior leaflet there was calcific formation, extending to left atrium and limited with endocardial layer of leaflet. Calcific vegetative formation of anterior leaflet was stripped without harming the leaflet. Vegetation at posterior part, extirpated with broken basal chordae extensions. Chordae counts of both anterior and posterior leaflets were sufficient. Because of resected posterior leaflet's chordae, unilateral segmental annuloplasty was performed to posteromedial commissure. Following we performed mitral ring annuloplasty with Duran flexible ring. We re-tested the valve competence after this step on observing valve closure with saline solution. Valve competence and closure were excellent.

CONCLUSION: A significant correlation existed between the interval and the exacerbation of cerebral complications. Successful management requires a multidisciplinary approach involving microbiologists, cardiologists, and cardiothoracic surgeons. Antibiotic and surgery combination is the best and most effective treatment method.

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PP-075 POSTERIOR WALL RUPTURE OF THE LEFT VENTRICLE AFTER MITRAL VALVE REPLACEMENT

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OBJECTIVES: Posterior wall rupture of the left ventricle after mitral valve replacement is a rare but potentially lethal complication.

CASE: A 76-year-old woman underwent elective mitral valve replacement for rheumatic mitral stenosis. At op-

ration, the mitral valve annulus was severely calcified, especially posteriorly, requiring the excision of both leaflets. The annulus was carefully decalcified, and a 27-mm pericardial bioprosthetic mitral valve was implanted. **RESULTS:** After protamine administration, excessive bleeding from the posterior wall of the left ventricle was found near the atrioventricular groove. Extensive hematoma was noted in this area. One strut of bioprosthetic valve was seen in the region of the tear. Cardiopulmonary bypass was reestablished. After the prosthesis was explanted, a 3-cm-long tear involving the endocardium and muscle of the posterior wall was identified just below the posterior mitral annulus in the area of the atrioventricular groove. Seven mattress stitches buttressed with strips of Teflon felt were put from the intact endocardium of the left ventricle through the deep layer of the muscle and pulled through the mitral annulus. A pericardial patch was then sewn over this area extending from the ventricular side of the tear out to the left atrium endocardium above posterior annulus with running sutures of 3-0 Prolene (Figure 1). The mitral valve was re-implanted. The patient had an uncomplicated postoperative course. At recent routine follow-up, 3 months after discharge, echocardiography revealed good left ventricular function, well functioning bioprosthesis, and no signs of thrombus or pseudoaneurysm. **CONCLUSIONS:** If such a catastrophic complication is encountered, early diagnosis and urgent surgical treatment may improve the patient's chances for survival. Early return to bypass would seem to be an important step in attempting repair.

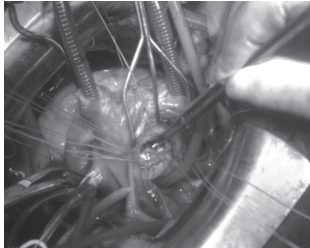


Figure 1

PP-076 COMPLICATED BRUCELLA ENDOCARDITIS OF THE AORTIC VALVE

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OBJECTIVE: Endocarditis is a rare and the most fatal complication of brucellosis and can cause severe cardiac injuries. Generally aortic valve invasion is seen.
METHODS: Our case was a 46-year-old male. He was an employee in animal husbandry. His chief complaints were fatigue and dyspnea for 2 months. After his admission to our institution he was diagnosed as brucella endocarditis and severe aortic regurgitation. Transthoracic echocardiography revealed severe aortic regurgitation with left ventricular hypertrophy (63/44 mm). Moreover, at supravalvular level of the aortic valve, a vegetative mass of 1.5x0.6 cm was detected. Another mobile and calcified vegetative mass of 0.5x0.8 cm was located on the left coronary cusp.
RESULTS: With these findings, we brought our patient into the operating room. Following aortotomy we explored; a normal left coronary cusp. On the other hand; there were vegetation, lysis of the leaflet and commissural destruction with excessive inflammation identified next to the commissure between right and non-coronary cusps. A similar situation was also detectable between non-coronary and right coronary cusps. In addition, in the midportion of the right coronary cusp close to the annulus, a perforation of 1x1 cm was present. A different vegetation of 0.6x0.6 cm was detected on the ventricular face of the non-coronary cusp. The native valve was resected and a 21 mm St. Jude mechanical bileaflet valve was replaced using pledgeted horizontal mattress sutures. No additional problem was seen postoperatively and he was discharged on 8th postoperative day with surgical cure.
CONCLUSION: Echocardiography is very important for diagnosis(1). Since the valve injury is severe, surgical therapy must be combined with optimal antibiotherapy for a successful radical therapy and long-term life quality(2). Surgical approach increases the quality of life for a long period in this type endocarditis(3).
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PP-077 MANUAL AORTIC VALVE DECALCIFICATION AND DEBRIDEMENT FOR MODERATE AORTIC STENOSIS IN A PATIENT UNDERGOING CORONARY ARTERY BYPASS GRAFTING

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INTRODUCTION: Manual decalcification of the aortic valve was performed in a patient with asymptomatic moderate aortic stenosis (AS) undergoing coronary artery bypass grafting (CABG)
CASE: Coronary artery bypass grafting and concomitant aortic valve replacement was planned for a 66-year-old woman, but aortic valve calcification was not severe. The calcified deposits were removed by careful dissection. Manual valve debridement with restoration of cusp mobility was attempted. The patient underwent myocardial revascularization; 3 bypass grafts were performed. After weaning from cardiopulmonary bypass transesophageal echocardiography (TEE) was performed.
RESULT: The patient showed increase in the mobility of the valve cusps, decrease in the amount of calcium in the postoperative TEE study. Moreover, after 3 months of follow up decrease of preoperative aortic max / mean valve gradient (from 61 / 39 to 22 / 3 mmHg) and increase of the aortic valve area (from 1,2 to 2,5 cm²) were observed.
CONCLUSION: Surgical debridement and manual decalcification of the aortic valve may be effective in surgical candidates with small calcified valve and annulus.

PP-078 VALVE-SPARING RECONSTRUCTION OF A CONGENITAL BICUSPID AORTIC VALVE WITH SEVERE CALCIFIED AORTIC STENOSIS

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OBJECTIVE: Bicuspid aortic valve is now known to be the most common congenital lesion affecting the human heart. Bicuspid aortic valve is well known to cause calcified aortic stenosis. Valve-sparing reconstruction in cases of bicuspid valves, represents a promising alternative to prosthetic valve replacement. Reconstruction of the bicuspid valve is feasible with good results by the technique of valve repair.
MATERIAL AND METHOD: Our case was a 10-year-old boy. After his birth he was suffering from intermittent

cyanosis of the extremities and the lips. Transthoracic echocardiography revealed a bicuspid aortic valve with severe stenosis where the peak pressure gradient was measured as 60 mm Hg. Left ventricular end-diastolic and end-systolic diameters were measured as 44 and 23 mm, respectively. No aortic regurgitation was identified. Ejection fraction was measured as 83%. Cardiac catheterization revealed no additional pathology. **RESULTS:** Our patient was taken to the operating room with these findings. Standard aortotomy was made. Aortic valve was bicuspid, thickened and calcific in structure. Additionally, the commissures were adhered. Then, decalcification and commissurotomy were performed. As the final step, a Hegar dilator of 15 mm was easily passed through annulus. Postoperative echocardiographic data confirmed complete removal of the aortic valve.
CONCLUSION: The person with bicuspid aortic valve requires continuous surveillance to treat associated lesions and prevent complications (1). Timely intervention for bicuspid-related aortic valve disease can preserve both duration of life and quality of life in affected individuals (2).
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PP-079 A LATE DIAGNOSED TRAUMATIC AORTIC LEAFLET PERFORATION

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A 61-year-old previously healthy man presented with gradually increasing dyspnea. Physical examination revealed a blood pressure of 130/50 mmHg and heart rate of 94 bpm. Upon cardiac auscultation a grade 4/6 diastolic murmur was audible in the aortic area. Transthoracic echocardiography (TTE) revealed flail aortic valve with severe aortic regurgitation. Left ventricular dimensions were increased (end-diastolic diameter 72 mm) and systolic functions were mildly reduced (ejection fraction 50%). There was moderate mitral regurgitation probably due to mitral annular dilatation. Estimated peak systolic pulmonary artery pressure was 62 mmHg. We performed transesophageal echocardiography (TEE) for better visualization of the aortic valve and ascending aorta. On TEE, right coronary cusp was perforated (Figure 1). The patient had no signs of an infection, but from his history it was learnt that he had had a traffic accident with blunt chest trauma three years before. He had multiple rib fractures after the accident. The perforation of right coronary cusp was concluded to be related with the blunt chest trauma. The patient was started on heart failure therapy and aortic valve surgery was recommended.
Traumatic rupture of cardiac valves after blunt injury is a rare clinical condition. The most commonly affected valve is the aortic valve, followed by mitral and tricuspid valves. The mechanism of injury is sudden increase in intrathoracic pressure leading to a concomitant increase in intraaortic pressure. The most vulnerable period of injury is early diastole. Damage to cardiac valves leads to progressive acute ventricular failure, which often requires urgent surgical management. However when the initial tear is small, the patient can be asymptomatic for years until the valve cusp separates from the annular attachment. The diagnosis of traumatic aortic regurgitation can be difficult in a patient with multiple injuries. In a patient with sternum or rib fracture, presence of a wide pulse-pressure, diastolic murmur and hemodynamic compromise should bring aortic valve injury in mind. TTE and TEE should be performed immediately. These patients should also be followed-up for several years for late-onset presentations.

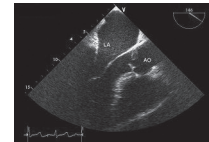


Figure 1

PP-080 LESS INVASIVE AORTIC VALVE REPLACEMENT VIA MINI-STERNOTOMY APPROACH

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Compared to long skin incision and standard complete sternotomy, usage of small skin incision and superior partial sternotomy technique could have some advantages during open heart surgery. The preoperative work-up of 27 year old male patient with bicuspid aortic valve, aortic stenosis and severe aortic insufficiency revealed a transvalvular aortic gradient of maximum of 59 mmHg / mean of 33 mmHg and aortic root diameter of 24 mm, and an aortic valve replacement through mini-sternotomy was planned. Following a 6.5 cm skin incision starting 2 cm below the Lewis angle and extensive dissection over the pectoral fascia, a superior mini-sternotomy between the sternal notch and 5th left intercostal space was performed. After a standard right atrial-aortic cannulation and commencement of cardiopulmonary bypass and cardioplegic arrest, a 25#ATS mechanical prosthesis was implanted with pledgeted sutures. CO2 insufflation was used during the procedure in order to prevent air embolism. Procedure was completed without complication and postoperative period was uneventful. He was kept in the intensive care unit for 3 days and discharged to home at 7th postoperative day. Compared to standard technique, postoperative recovery was faster and incisional pain was less prominent. At postoperative sixth month his incision was barely visible. In conclusion, in addition to safety of the possibility of bail out procedure of complete sternotomy, advantages like a smaller skin incision, protection of chest wall integrity, better postoperative recovery and cosmetic results could make mini sternotomy approach an attractive alternative to standard complete sternotomy.
KEY WORDS: mini- sternotomy, aortic valve replacement, cardiopulmonary bypass

PP-081 SURGICAL REPAIR OF TRICUSPID VALVE WITH UTILIZING KALANGOS BIODEGRADABLE TRICUSPID RING IN VERY RARE TRICUSPID VALVE PATHOLOGIES

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OBJECTIVE: The Kalangos Biodegradable Tricuspid Ring (Kalangos Biodegradable Tricuspid Ring, Bioring SA, Lonay, Switzerland) is a novel prosthesis for the treatment of tricuspid insufficiency(1). Moderate-to-severe functional tricuspid regurgitation (TR) should be corrected in patients undergoing surgery for left-sided valvular diseases, to improve long-term outcomes(2).
METHODS: Our first case was a 21 - year- old female and she was admitted to our hospital with exertional dyspnea. Echocardiographic evaluation revealed Ebstein's anomaly with a severe tricuspid regurgitation, right atrial dilatation, a mild mitral regurgitation. The localization of the tricuspid valve was identified as 38 mm superior to the mitral valve.
Our second case was a 51 - year- old female and she was admitted to our hospital with exertional dyspnea. Transthoracic echocardiography revealed severe mitral regurgitation(MR) and moderate tricuspid regurgitation(TR). Her past medical history was significant for Behçet's disease that was followed up for 10 years with medical

therapy.

Our third case was a 34-year-old female and her past medical history possessed a mitral valve replacement (with 27 mm Carbomedics mechanical valve) and left auriculopexy with tricuspid valve open commissurotomy at another clinic 9 years ago. Her transthoracic echocardiographic examination revealed severe tricuspid valve regurgitation, mild aortic valve regurgitation, normal functional mechanical valve in mitral position and right atrial (58 mm) and right ventricular (45 mm) dilatation. Right cardiac catheterization measured an increased right atrial pressure of 14 mm Hg.

RESULTS: For our first case a tricuspid valvular structure consistent with the Ebstein anomaly and an atrialized ventricular segment was explored. Atrialized segment was suspended with pledgeted U sutures. Patent foramen ovale, which was revealed perioperatively, was closed primarily. After tricuspid valve repair, a 34 mm Kalangos Biodegradable Tricuspid Ring was inserted for annuloplasty.

For our second case, we performed bilateral segmental annuloplasty and mitral ring annuloplasty. Valve competence and closure were excellent. After this step for tricuspid valve repair, a 32 mm Kalangos Biodegradable Tricuspid Ring was inserted for annuloplasty. This is the first case of cardio-Behçet's disease surgically treated for both tricuspid and mitral valves with a successful repair.

For our third severe tricuspid regurgitation was evident. Posterior and anterior commissures were repaired primarily by 5/0 polypropylene suture material. After this tricuspid valve re-repair, a 30 mm Kalangos Biodegradable Tricuspid Ring was inserted for annuloplasty.

CONCLUSION: Kalangos Biodegradable Ring is a promising prosthesis in patients with functional tricuspid insufficiency, with encouraging initial results(1). Multiple clinical studies have shown the superiority of prosthetic remodeling annuloplasty over the other surgical approaches. Despite this, suture-based annuloplasty remains the most commonly used technique for tricuspid valve repair(2).

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PP-082 COMPARISON OF THE PRE-AND POSTOPERATIVE EJECTION FRACTION VALUES ACCORDING TO THE ANNULOPLASTY TECHNIQUE USED IN TRICUSPID REGURGITATION ACCOMPANYING LEFT HEART VALVULAR PATHOLOGIES

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OBJECTIVE: Functional tricuspid insufficiency is a pathology derived due to left heart pathologies that may affect morbidity and mortality rates. All the surgical procedures and materials used have pros and cons. The studies investigating this aspect still continue.

METHODS: Sixteen cases that underwent tricuspid valve surgery at our institution between years 2001 and 2008 were evaluated retro- and prospectively. Tricuspid valve suture annuloplasty was performed to 8 patients with severe tricuspid insufficiency accompanying other cardiac pathologies, whereas remaining 8 patients underwent tricuspid ring annuloplasty. All the patients possessed functional tricuspid insufficiency. All the patients were evaluated with echocardiography preoperatively and in 6th postoperative month.

RESULTS: Ejection fraction (EF) slightly increased in both groups postoperatively. But there weren't any significant intergroup differences statistically regarding increase in EF(p>0.005).

CONCLUSION: It is remarkable that morbidity and mortality rates are higher and their quality of life decreases in long-term follow-up period of patients with tricuspid insufficiency developed due to left cardiac pathologies that were not corrected surgically. Our opinion is that it is a safe and effective alternative method to perform concomitant tricuspid annuloplasty to patients with moderate-to-severe tricuspid insufficiency undergoing left valvular intervention.

PP-083 PARACHUTE MITRAL VALVE IN A YOUNG ADULT: A CASE REPORT

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The finding of a parachute mitral valve in an adult patient is extremely rare. Most patients are diagnosed in childhood with the pathologic complex known as Shone's anomaly, which includes a parachute mitral valve, supra-aortic mitral ring, subaortic valvular stenosis and coarctation of the aorta. In this case, we have presented an adult female patient with dyspnea and minimal cyanosis who has got a parachute mitral valve.

CASE: A 21-year-old female patient referred to our hospital for evaluation of progressive dyspnea and minimal cyanosis with effort. Minimal cyanosis had been diagnosed when she was approximately 2 years old but his family did not seek medical attention because of the social reasons. Minimal cyanosis and 2/6 apical pansystolic murmur were seen at her examination. The electrocardiogram revealed sinus tachycardia, right ventricular hypertrophy, with marked right axis deviation. A chest x-ray showed dextrocardia, mild cardiomegaly with increased pulmonary vascularity. At the transthoracic echocardiography images, atrial septal defect, the right atrium, which normal is in the right side of the heart is in the left side of the heart, and the left atrium is in the right side of the heart, concordant atrioventricular connection, supramitral membrane, insertion of all the mitral valve's chordae tendinaeae into a single papillary muscle, moderate tricuspid valve deficiency, rudimentary inlet type muscular left ventricle, double outlet muscular right ventricle and mild pulmonary stenosis is present (figure-1). The aorta is in front of the pulmonary artery. At the abdominal ultrasonography images, the stomach and spleen are in the right upper abdomen and the liver is in the left upper abdomen are present (situs inversus totalis). We have suggested cardiac catheterization for this situation. But the patient did not accept it. We only gave an angiotensin converting enzyme inhibitor for decelerating negative remodeling.

DISCUSSION: In patients with parachute mitral valve are diagnosed mostly in childhood and the findings in an adult patient is extremely rare. Most patients are diagnosed in childhood with the pathologic complex known as Shone's anomaly, which includes a parachute mitral valve, supra-aortic mitral ring, subaortic valvular stenosis and coarctation of the aorta. This condition is characterized by insertion of all the chordae tendinaeae into a single papillary muscle group. The chordae are generally shortened and thickened, and the anatomy of the papillary muscles is highly variable. The anterolateral or rarely both papillary muscles may be completely absent, or two identifiable but partially fused papillary muscles may be present. The prognosis for patients with Shone's anomaly is very different because of the anomalies seriousness. Our case is interesting; because of our patient's age and no significant symptoms she has got without medication. We observe this patient with medical therapy at present.

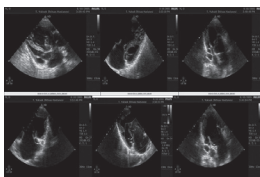


Figure-1 At the transthoracic echocardiography images, concordant atrioventricular connection, supramitral

membrane, insertion of all the mitral valve

PP-084 THROMBUS OF THE TRICUSPID VALVE LEADING TO PULMONER EMBOLISM AFTER A PERMANENT PACEMAKER IMPLANTATION

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OBJECTIVE: Tricuspid valve thrombus is a rare finding, particularly in the normal heart and may mimic cardiac tumors. We, herein, reported a 36 year old man with a thrombus of the tricuspid valve one year after a permanent pacemaker implantation.

MATERIAL AND METHODS: A 36 year old male was with exertional dyspnea was diagnosed bilateral massive pulmonary embolism at an outside hospital and he was referred to our clinic for further evaluation after initiation of the first line therapy with heparin. He had previous history of ventricular septal defect (VSD) repair and a DDDR pacemaker implantation related to postoperative complete AV block one year ago. Electrocardiography (ECG) revealed sinus rhythm with nonspecific ST/T changes. Chest X-ray, venous doppler ultrasound, and echocardiography were performed to the patient.

RESULTS: Chest X-ray was unrevealing. Both upper and lower venous system were found clear in terms of thrombus. Transthoracic echocardiography (TTE) showed a mobile mass at the close vicinity of the pacemaker. Transesophageal echocardiography (TEE) revealed an 15 mm mobile thrombus with irregular shape attached to the anterior leaflet of the tricuspid valve (Figure 1). The patient refused surgical intervention so his medical therapy including warfarin was continued without any clinical event.

CONCLUSION: TEE should be the method of choice for suspected intracardiac masses due to better resolution and detailed visualization of the cardiac chambers. The main strategy of management must be tailored according to the size and location of the thrombus and symptoms.

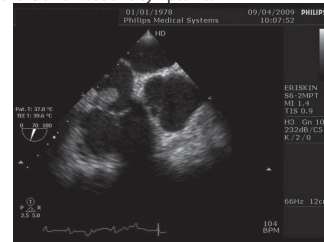


figure 1

PP-085 SURGICAL REMOVAL OF PACE-MAKER LEAD- INDUCED INFECTIVE ENDOCARDITIS IN FOUR PATIENTS

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Infective endocarditis is one of the serious complications of permanent pace maker implantation which may arise in 0.4-1.1% of the patients(1,2). The treatment of choice of permanent pace maker - induced infective endocarditis is surgical removal of the lead and long term antibiotic therapy. Herein we present 4 cases referred to our clinic due to permanent pace maker - induced infective endocarditis. All of them were males. They had undergone permanent pace maker implantation about one year before they referred to our clinic. Echocardiographic imaging was performed to these patients and revealed vegetations on the lead situated near the tricuspid valve. The infected lead was removed surgically on cardiopulmonary bypass. Postoperative period of all 4 patients was uneventful and they were discharged from the hospital without signs of infective endocarditis.

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CORONARY ARTERY DISEASE : FROM DIAGNOSIS TO INTERVENTION AND SURGERY

PP-086 GUIDEWIRE INDUCED CORONARY ARTERY PERFORATION IN A PATIENT UNDERGOING PERCUTANEOUS CORONARY INTERVENTION

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BACKGROUND: Coronary perforation is a rare but serious complication that occurs during percutaneous coronary intervention (PCI). Treatment of coronary perforation depends on the size of the perforation, extent of contrast extravasation, and the hemodynamic status of the patient. We report a male patient suffered a coronary artery perforation in the circumflex artery secondary to a guidewire.

CASE: A 32-year-old male patient complained angina of CCS (Canadian Cardiovascular Society classification) class II for the past 2 months. He suffered myocardial infarction 1 year ago and a coronary stent was implanted to the left anterior descending artery (LAD). At admission, physical and laboratory examination revealed no abnormal finding. ECG was normal and the cardiac markers were all negative. As myocardial perfusion scintigraphy demonstrated ischemia in the inferior wall, coronary angiography was performed. The stent in LAD was patent, however there were 80% stenosis in the proximal part of the right coronary artery (RCA) and 70% stenosis in the mid portion of the circumflex (Cx) artery (Figure 1). A TAXUS Liberté stent (2.75x28 mm) was implanted at the proximal lesion of RCA. Then the lesion in the Cx artery was predilated with a compliant balloon (2.5x20 mm) followed by implantation of a TAXUS Liberté stent (3.0x28 mm). After the procedure, extravasation of the contrast medium was detected from a side branch of distal Cx artery (Figure 2). Guidewire was implicated in coronary artery perforation. Detection of residual extravasation was evaluated by repeated injections of contrast medium at several minute intervals (Figure 3). The patient was stable and control echocardiography revealed no pericardial fluid. As there was epicardial staining without a jet of contrast extravasation and the extent of extravasation was small, it was decided to observe the patient conservatively and no other interventions was performed to the lesion, which was believed to occur from a small, self limited side branch perforation. The

patient did not have any further problems and was discharged with complete recovery.

CONCLUSION: Distal coronary artery perforation with a coronary guidewire is a relatively rare, but potentially fatal complication during PCI. Severe cases should be managed with reversal of anticoagulation, pericardiocentesis, or balloon catheter inflation. However, side branch perforations with small amount of contrast extravasation and epicardial staining without a jet of contrast extravasation are generally self limiting and may be observed conservatively.

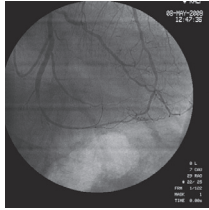


Figure 1: Coronary angiography revealed 70% stenosis in the mid portion of the circumflex artery

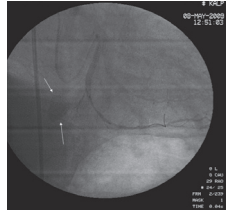


Figure 2: Extravasation of the contrast medium was detected from a side branch of distal circumflex artery

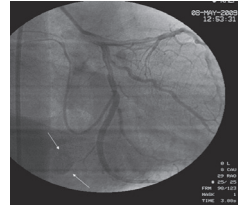


Figure 3: Residual extravasation was evaluated by repeated injection of contrast medium.

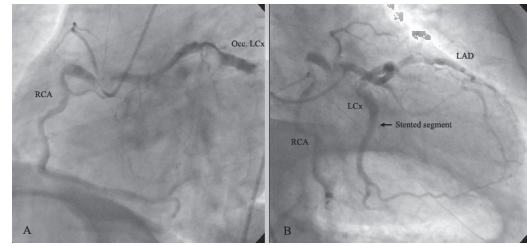


Figure A, B

PP-087 THREE VESSEL DISEASE WITH PSEUDO HIGH CK-MB LEVELS: A CASE REPORT

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A fifty years old man administered to the emergency department with the complaints of chest pain. He had no previous health problems and he didn't drink alcohol neither smoked. His mother had undergone coronary artery bypass surgery 15 years ago. At the time of admission, his physical examination revealed right arm blood pressure of 130/80 mmHg. Pulse rate was 80 beats/minute, regular. On cardiac auscultation there was 1/6 systolic murmur heard at the 4th and 5th intercostal spaces. His 12 lead electrocardiogram showed a regular sinus rhythm and ST-T wave changes in leads V1-V6 (figure-1). Laboratory results were typical of myocardial necrosis. Biochemical markers of myocardial necrosis were high (Troponin-I, Creatinin Kinase and Creatinin Kinase MB). Doppler ecocardiographic examination showed regional wall motion abnormalities (Apical hypochinesia) of the left ventricle and low ejection fraction (%41) by simpson's method (figure -2). The patient was initiated nitroglycerine (intravenous infusion, titrated up to 40 mcg/min.), enoxaparine (0,4 mg/day subcutaneous), acetylsalicylic acid (300 mg/day po) metoprolol (50 mg po). Meanwhile he underwent coroner angiography. Coroner angiography showed 95% of left anterior descending coroner artery lesion and 85% of mid LAD and 99% of distal LAD (figure-3). High coroner arter had 80% lesion (figure-4), posterolateral brunch of right coroner artery had 70% lesion (figure-5), circumflex coroner artery had 70%lesion (figure-6). Based on these results, a diagnostic of three vessel disease was considered for CABG after 2 weeks. Patient had persisting high levels of CK-MB (707 IU/l) after 7 weeks. We further analyzed CK electrophoresis. CK-MB mass was found to be at normal levels and he underwent coronary artery bypass surgery. In conclusion, mass measurement of Creatinin Kinase electrophoresis is necessary to differentiate pseudo high CK-MB levels.

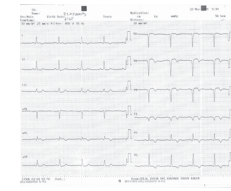


Figure-1: ECG presentation

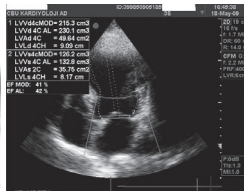


Figure-2: Echocardiographic Ejection fraction by Simpson Method

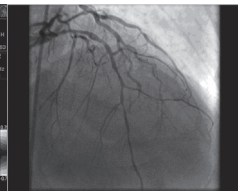


Figure-3: Coronary Angiography

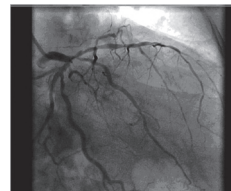


Figure-4: Coronary Angiography



Figure-5: Coronary Angiography

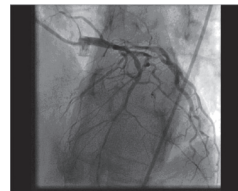


Figure-6: Coronary Angiography

PP-088 PERCUTENOUS CORONARY INTERVENTION IN A PATIENT WITH CORONARY ARTERY ANOMALY

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A 56-year-old male was admitted to our emergency unit with chest pain lasting for an hour. Electrocardiogram of patient demonstrated infero-postero-lateral wall myocardial infarction with sinus rhythm. After appropriate initial medical therapy, he was referred to catheterization laboratory for primary percutaneous coronary intervention. The left coronary system could not visualized by use of the left Judkins catheter on its normal location in the left coronary sinus. Afterward the right Judkins catheter was tried to engage the right coronary artery. During this manipulation, both the right and the left coronary systems in the right coronary sinus were visualized simultaneously. The right coronary and the left anterior descending coronary arteries were patent however; the left circumflex coronary artery was occluded at the level of second obtus marginalis. The standard right guiding catheter was tried to engage the ostium of anomalous left coronary artery. However, full-engagement could not be achieved. For complete engagement and back-up force, a multipurpose 2 catheter was chosen. Occluded segment was crossed with a 0.014-inch floppy guide wire. A 2.0 x 20 mm balloon was used for predilatation. Then a 3.5 x 18 mm balloon expandable bare metal stent was deployed to diseased segment. However distal flow was slow. The balloon of the stent was inflated at the site distal to the stent. The final angiographic result was perfect (Figure A and B). Chest pain and the elevated ST-segments of the patient were resolved. Acute coronary syndromes might occur in patients with coronary anomalies. Standard catheters might not engage the ostium of the anomalous coronaries. Therefore, various catheters such as multipurpose as in our case should be used for full-engagement and back-up force.

PP-089 VACUUM-ASSISTED CLOSURE IN THE TREATMENT OF STERNAL WOUND INFECTION AFTER OPEN HEART SURGERY: A CASE REPORT

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AIM: Sternal wound infection following cardiac procedures occurs in 1 to 5 % of cases and represents a serious problem involving prolonged hospitalization, increased hospital costs, increased morbidity and mortality.1 We report one patient with sternal wound infection after open heart surgery and its treatment with Vacuum-assisted closure (VAC).

CASE REPORT: A 42 year-old man presented with deep sternal wound infection postoperative 45th day, after supra annular Dacron graft interposition with aortic valve sparing surgery under total circulatory arrest due to Type I aortic dissection. The patient underwent sternal revision operation for his sternal dehiscence at 15th day of postoperative period. He had no other symptoms about previous operation except chronic fistula. VAC system was used for his deep sternal infection which could not have been treated by previous failure of the secondary wound healing and conventional treatment strategy at the postoperative 3rd months. The patient's wound healed 10 days later after administration of VAC system successfully. The patient was discharged uneventfully and not readmitted to the department after this treatment.

DISCUSSION: Since the first use of VAC therapy in 1989, this treatment modality has rapidly evolved into a widely accepted treatment for chronic and acute wounds, contaminated wounds, burns, and wound complications from unsuccessful operations. VAC system combines the benefits of both closed and open wound treatment.2 Application of VAC system has been known to accelerate wound healing by eliminating edema, promoting granulation tissue formation and increasing local blood flow.3

CONCLUSION: VAC system may be used safely in deep sternal infections after open heart surgery with excellent survival and low failure rate.

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PP-090 INADVERTENT GRAFTING OF THE POSTERIOR CARDIAC VEIN DURING CORONARY ARTERY BYPASS GRAFT SURGERY

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A 74 year old male patient who had a coronary artery bypass graft (CABG) surgery 14 years ago underwent coronary angiography for preoperative evaluation for non-cardiac surgery. He was reported to have a left internal thoracic artery (LITA) graft to the left anterior descending coronary artery and a saphenous vein graft sequentially to the first and second obtuse marginal arteries. The coronary angiogram revealed a patent LITA graft. As the saphenous vein graft is engaged the injection revealed simultaneous opacification of the obtuse marginal artery and the coronary sinus which indicates inadvertent grafting of the posterior cardiac vein instead of the first obtuse marginal artery (Panel A, white arrow). The vein graft was then anastomosed sequentially to the second obtuse marginal. The left anterior oblique projection revealed retrograde opacification of the middle cardiac vein (Panel B, black arrow). As the patient was asymptomatic and no objective signs of ischemia were found by non-invasive testing we didn't attempt any further intervention.

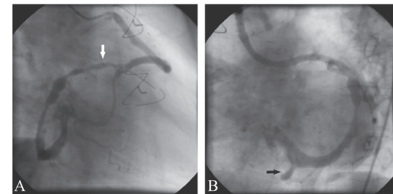


Figure: The saphenous vein graft was erroneously anastomosed to the posterior cardiac vein instead of the first obtuse marginal artery.

PP-091 CANNABIS-INDUCED MYOCARDIAL INFARCTION WITH NORMAL CORONARY ARTERIES

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A 48-years old man was admitted to our emergency service with a complain retrosternal and epigastric pain lasting about 120 minutes. He smoked one cannabis cigar one hour ago before chest pain started. His past medical history revealed no coronary artery risk factors. His first ECG was showed that ST elevation between V2 and V5 (fig 1) tissue plasminogen activator was started 100 mg via systemic route. Coronary angiogram showed normal coronary arterial system, there is no obstructive lesion or thrombus (fig 2). Troponin-t and creatine kinase isoenzyme MB proteine was elevated. Echocardiography showed left ventricular apical and anterior region hypokinesia. Four days later, his ECG revealed anterior ST-T change (fig 3). The patient was discharged five days later initial admitted our service. The patient follow-up was asymptomatic after six months from discharged.

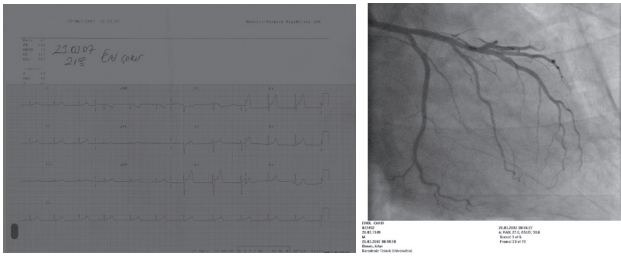


FIG 1

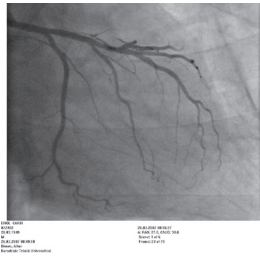


FIG 2



FIG 3

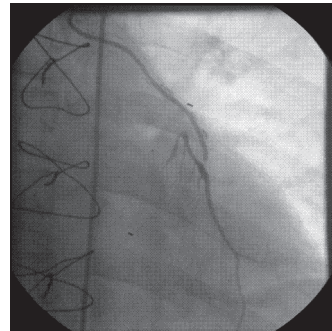


Figure 3. Stenosis at LAD-LIMA by-pass graft anastomosis.

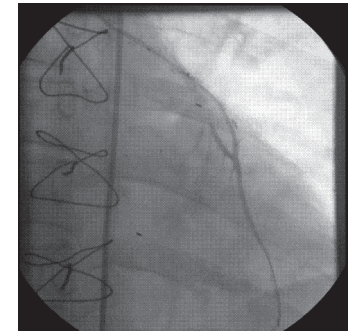


Figure 4. Stent implantation to the LAD-LIMA graft anastomosis.

PP-092 SCLERODERMA AND CORONARY ARTERY BYPASS GRAFTING

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Introduction: Scleroderma is a fibrotic condition characterized by immunological abnormalities, vascular injury and increased accumulation of extracellular matrix proteins. The heart is one of the major organs involved in scleroderma, the involvement of which can be manifested by myocardial disease, conduction system abnormalities, arrhythmias, or pericardial disease. Additionally, scleroderma renal crisis and pulmonary hypertension lead to significant cardiac dysfunction secondary to damage in the kidney and lung. Scleroderma is also associated with vasculopathy and endothelial cell injury, which could potentially increase the risk of coronary atherosclerosis. Here we present the case with the combination of scleroderma and ischemic heart disease.

CASE: A 60 years old woman was referred to our institution for assessment of unstable angina pectoris. She has history of scleroderma with dermatological manifestations included sclerodactyly, sclerosis of the perioral region, digital ulcers, and raynauds phenomenon accompanied by symptoms of polymyositis. Her ECG suggested sinus rhythm and old inferior wall myocardial infarction. Coronary angiography revealed significant coronary artery disease. She underwent 2 vessels coronary artery bypass surgery (CABG). Postoperative early period was complicated with atrial fibrillation and ventricular tachycardia treated with amiodarone. Wound-healing complications occurred on the sternotomy and saphenous vein skin incisions. After aggressive skin debridement closure maintained nearly two weeks postoperatively and patient discharged at the 18th postoperative day.

RESULT: CABG can be done in scleroderma patients safely with the aggressive treatment of expected complications. Arrhythmia and wound complications may be encountered as some uneasy problems in this patient population.

KEY WORDS: Scleroderma, Coronary artery bypass, Atrial fibrillation, Wound-healing

PP-093 INTERMITTANT OCCLUSION AND RECANALISATION OF LEFT ANTERIOR DESCENDING ARTERY (LAD) STENT

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42 years old man admitted to our hospital with typical chest pain radiating to the left arm for 2 hours. He also had fatigue and dyspnea. His physical examination revealed no specific finding. An electrocardiogram was taken which showed sinus rhythm, new developed RBBB and LPPB (compared with old electrocardiograms in his file). Cardiac biomarkers (Troponin T and CK-MB) were elevated. He was diagnosed as non-ST elevated MI and hospitalized. Past history includes stent implantation to the LAD after an STEMI 4 years ago. Also 10 months ago he admitted with NSTEMI again and coronary angiography revealed LAD instant thrombus (Figure 1), after t-PA infusion there was no reduction in thrombus, so coronary artery by-pass surgery (LAD-LIMA) by beating heart was performed. During his follow-up, 3 months ago a MDCT coronary angiography was performed and it was revealed occluded LAD-LIMA graft, patent LAD stent and no hemodynamically significant stenosis in other vessels. Due to these finding conventional coronary angiography was performed and showed patent proximal LAD stent, LAD-Cx-RCA have non-critical plaques, occluded LIMA graft (Figure 2). Also there was premature coronary artery disease history in his family. After hospitalization of the patient, he was anticoagulated with unfractionated heparin and tirofiban infusion. Clopidogrel, aspirin, ACE inhibitor, beta blocker and statin therapy was also given. Coronary angiography was performed him 36 hours later showed occluded LAD stent, 90% stenosis at LAD-LIMA graft anastomosis (Figure 3), so after predilatation with PTCA 2,5X14 mm zotarolimus-eluting stent was implanted to the lesion (Figure 4). There was no residual stenosis and complication after procedure. At 6 months follow-up, MDCT coronary angiography revealed patent LAD-LIMA graft and patent stent at distal portion of the graft, long segment occlusion at proximal LAD.

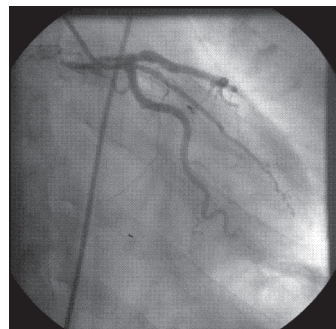


Figure 1. In-stent thrombosis in left anterior descending artery stent

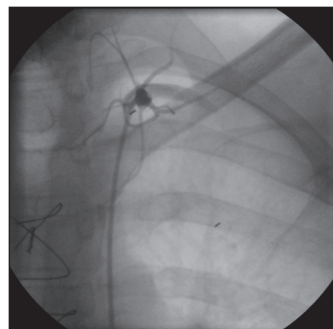


Figure 2. Occluded LAD-LIMA by-pass graft

PP-094 RECURRENT POSTINFARCTION VENTRICULAR SEPTAL DEFECT REPAIR VIA ANTERIOR THORACOTOMY BY ON PUMP BEATING HEART SURGERY

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INTRODUCTION: Ventricular septal rupture is one of the serious and life-threatening complications of myocardial infarction. Medical treatment is generally accepted to be inadequate. However mortality for surgical repair varies from 21% to 60% in different studies. VSD recurrences are not infrequent in literature (40% in a recent series). We reported a patient with recurrent VSD, repaired via anterior thoracotomy by femoral cannulation to perform an on pump beating heart surgery.

CASE: Our patient was a 65 years old hypertensive male who was diagnosed before as tuberculosis and renal failure due to recurrent pyelonephritis and nephrolithiasis. He first admitted to us with the complaints of chest pain at rest. In his physical examination, mesocardiac pansystolic murmur (3/6) was the most significant finding, also signs of old inferior and subacute anterolateral MI were remarkable. His coronary lesions were determined in angiography as %20 stenosis in LMCA, %100 in LAD, %90 in CxOM and %100 in RCA after its conal branch. Echocardiography showed us the inferoapical VSD with a peak gradient 76,4 mmHg. On pump beating heart technique was preferred and LAD-LIMA, CxOM1-2, RCA coronary aortic bypass grafting with saphenous vein and transventricular VSD closure with pledget sutures were established. Closed endarterectomy to RCA and LV aneurysmectomy were also accomplished successfully. His ICU stay was 4 days and discharged at the 14th postoperative day without any complications. 2 months after his discharge, he admitted to our emergency service suffering from dispnea and loss of effort capacity. Bilateral crepitant rales and pretibial edema were found on examination. In his echocardiographic study, we suspected presence of a recurrent VSD at the mid part of the interventricular septum. Afterwards ventriculography showed us the recurrent VSD exactly.

DISCUSSION: Postinfarction VSD is a rare but deadly complication after myocardial infarction Reoperation for recurrent VSD makes surgical treatment difficult for cardiovascular surgeons, especially because of presence of patent bypass grafts. We successfully treated the patient with recurrent postinfarction VSD via anterior thoracotomy by on pump beating heart surgical technique.

PP-095 AN EVALUATION OF THE INTRAOPERATIVE TRANSIT TIME FLOW MEASUREMENT RESULTS ON THE CORONARY ARTERY BYPASS GRAFTING (ON-OFF PUMP)

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 Atatürk University¹

OBJECTIVE: The purpose of this study is to evaluate the effect of detection of graft dysfunction by intraoperative transit time flow measurement (TTFM) on the surgical results of on-pump and off-pump coronary artery bypass grafting (CABG).

METHODS: From February 3 2006 to June 17 2009, six hundred thirty patients undergoing on-pump and off-pump CABG via median sternotomy performed by the same surgical team were included into the study. All grafts (1590) were tested with TTFM. One hundred consecutive patients before this date formed the control group (Group 1), and 530 consecutive patients after this date formed the study group (Group 2). Interpretation of the values obtained using the TTFM in Group 2 patients has allowed us to reach a decision whether or not to revise a graft. Per-operative and postoperative variables of the two groups were compared.

RESULTS: The clinical features of control and study groups were comparable. We assessed patency of 1590 grafts using TTFM. Revision was required for sixteen in sixteen patients based on unsatisfactory TTFM findings. After revision all flow values and flow patterns improved. Incidences of overall mortality (p < 0.01), peri- or postoperative myocardial infarction (p < 0.01) and intraaortic balloon pump insertion (p<0.01) were significantly lower in Group 2 than Group 1.

CONCLUSIONS: TTFM is a valuable tool in detecting graft related problems per-operatively. Our results suggest that detection of graft dysfunction per-operatively by TTFM can be corrected immediately thus reducing mortality and morbidity.

PP-096 DO PATIENTS DEMAND IMMEDIATE DISMISSAL FROM THE CARDIOLOGY ICU?

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 GATA HYO MD.LÜĞÜ¹

BACKGROUND: Generally patients are admitted to a cardiology intensive care unit (ICU) for reasons such as myocardial infarction (MI) or other life threatening cardiac conditions. Besides leaving a safe environment, sometimes patients do not desire to be transferred from the ICU to a clinic or home for several reasons. Moreover, even transfer anxiety has been noted in the literature.

AIM: The research was conducted to determine the perceptions of the patients' hospitalized in the cardiology ICU on the transfer issue.

METHODS: A qualitative and phenomenological design was used. The research was conducted with 13 volunteer patients hospitalized in the cardiology ICU in a research and training hospital between the dates 1st-31st of February 2009. Semi-structured interview form was used and interviews were audio taped. The duration of interviews ranged from 20 to 25 minutes. We reviewed all interview reports multiple times to analyze the data with the Colaizzi method of analysis. We organized the formulated meanings into categories and clusters of themes as described by Colaizzi. When differences existed among the investigators regarding the appropriate categories and themes, they were settled through debate until the consensus was reached.

RESULTS: Mean age of the patients was 64 (ranging 43-82) years, three patients were admitted to the ICU for MI, five were heart failure, and five were valvular diseases. On the consequence of the patients' expressions,

two categories and five themes were identified. First category: Patients desire to stay in ICU instead of clinic or home because of for self medical safety. Themes: a) Physicians and nurses are always around and accessible b) Application of medical treatments such as monitor follow-on, oxygen etc... c) All the patients' needs are organized. Second category: Patients demand immediate dismissal from the ICU. Themes: a) Life saving applications performed to the patients in the same room that relates to stress. b) Home environment more comfortable. **CONCLUSION:** It was determined that although patients hospitalized in the cardiology ICU believe that they need to stay in the ICU because their medical treatment could be efficiently maintained, they somehow prefer to be immediately dismissed upon necessary treatment from the ICU environment because of such reasons as stressful applications to other patients in the same environment, home being more comfortable and violation of intimacy.

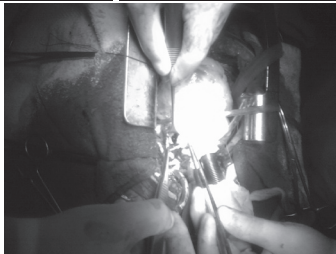
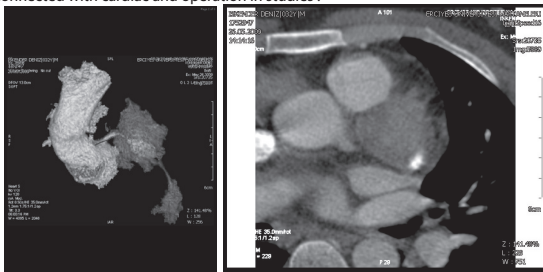
PP-097 STENOSIS AND ANEURYSM OF CORONARY ARTERIES IN A PATIENT WITH BEHCET'S DISEASE

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ABSTRACT: Behçet disease is a multisystemic disorder of unknown etiology. In 1937, Hulusi Behçet, a Turkish dermatologist from Istanbul, described a clinical triad of relapsing oral ulcers (aphthous), genital ulcers and iridocyclitis (uveitis). One of the most important aspects of the BEHCET diseases is aneurysmal arteriopathy. Coronary artery disease is extremely rare in patients with Behçet's disease.

Here we report the significant coronary artery aneurysms detected in a 32 year old man with Behçet disease. We report the case of a patient with a history of Behçet's disease who was admitted in our hospital with unstable angina pectoris coronary angiography revealed aneurysm of the proximal LAD with a stenosis.

CASE REPORT: 32 years old male applied to an other cardiology clinic with angina pectoris. In his history, he has Behçet's disease for 4 years and his following and treatment was still going on. Although medical therapy for myocardial ischemia, because of the resistable angina the patient was sent to our clinic. In first ECG of acceptance, there was ST elevation in AVR and ST depression in D2, D3, AVRv4, V5, V6 and then he was diagnosed to subacute anterolateral MI. Performed first ECHO revealed EF %45, moderated dysfunction of LV, minimal pericardial fluid, and minimal Tricuspid regurgitation. In coronary angiography, there were %100 occlusion on proximal LAD and an aneurysm at the same level. CT-angiography was performed to visualise aorta and the major branches. After the preoperative period, the patient was operated in 27,05,09. In his past, he was using colchicine for Behçet's disease for 4 years. He had been operated because of CVI in 1994. (bilateral SFJ high ligation, transfection and division, bilateral VSM totally stripping, pache exition. He had CVI pigmentations in his both lower extremities, skar tissue depend on preceding operation, uveit in his eyes with decreased visual capacity (dominant in left eye) oral and scartzidgenital ulcer in his examination. In operation, we performed aneurysmoraphy and aneur.content was get out and then LITA to LAD anastomosis was performed. The patient followed 2 days in intensive care unit. In progres, the patient who had no problem and taken drainage tube was transported to servis. The patient followed 3 days in servis and had consulted by dermatology and eye department. Their suggestion was performed and the patient was externed. After the externation, there was no problem connected with cardiac and operation in studies.



PP-098 MISSING FOR EIGHT YEARS: A BULLDOG CLAMP FORGOTTEN DURING A CABG OPERATION EIGHT YEARS AGO.

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INTRODUCTION: Although the foreign objects are infrequently forgotten in pericardial space after cardiac surgery, it is a problem encountered sometimes. Gauze pad, surgical materials and their parts, catheter-pieces are among the most frequently encountered objects. A Bulldog Clamp which was forgotten during a CABG operation eight years ago was detected by chance and removed.

MATERIALS AND METHODS: A patient who has undergone a coronary bypass (LIMA-LAD, Ao-RCA) surgery eight years ago, referred to cardiology polyclinic of our hospital due to chest pain. Since coronary ischemia was detected after the pre-tests performed patient underwent a coronary angiography. After angiography it was observed that both grafts were occluded and in addition, a Bulldog Clamp forgotten in pericardial space during operation was detected(Fig 1). Patient reoperated. At the posterior-face of the heart just above the coronary sinus a Bulldog Clamp attached to myocardium was removed(Fig2). LIMA-LAD, AO-RCA dual coronary bypass was applied to beating heart.

CONCLUSION: Although the foreign objects are not frequently forgotten in pericardial space during open heart surgery, it is a problem encountered sometimes. Either surgeon or assistant personnel carry a great responsibility in this regard. To make accurate gauze pad count and to utilize surgical materials carefully is highly important. It should be absolutely removed if it is detected at early term. We believe that the Bulldog Clamp which can be detected easily on the telecardiography at the early post-operation period should be removed by retransferring patient to the operation room before patient wakes up.

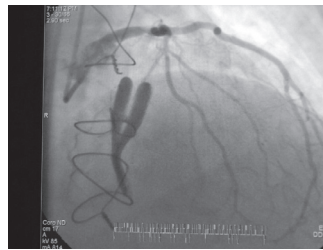


Figure 1

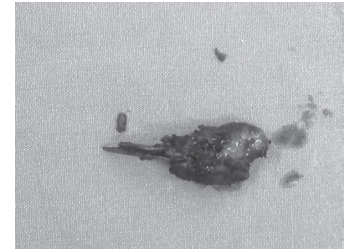


Figure 2

PP-099 AN UNUSUAL CASE: SYMPTOMATIC MULTIPLE CORONARY ARTERY ANEURYSMS IN A PATIENT WITH AN OPERATED RUPTURED ABDOMINAL AORT ANEURYSM

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Coronary artery aneurysm (CAA) is an uncommon pathology with a frequency of %0,3-4,9. Even though the nearly %20 percent of all Abdominal Aort Aneurysm (AAA) patients have surgically treatable Coronary Artery Disease (CAD), the combination of symptomatic CAA and ruptured AAA is very unusual.

In this report, we present a patient who underwent emergency surgery in our clinic for a ruptured AAA 3 months prior to his CABG for treatment of symptomatic CAD with multiple CAAs. The optimal treatment of CAA remains to be elucidated at this point and may differ from patient to patient; we used a combined technique; which involved internal ligation of the aneurysm and thrombectomy followed by a distal bypass, to manage a successful revascularization.

PP-100 A CASE OF RUPTURED PSEUDOANEURYSM OF LEFT VENTRICLE, WITH ATYPICAL LOCULATIONS

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INTRODUCTION: Left ventricle pseudoaneurysms (LVPA) usually develop after myocardial infarction, trauma, infection and after valve or ventricle surgery. They are usually present in apex, inferior or posterior wall. LVPAs generally present with heart failure, progressive dyspnea, repeating tachyarrhythmia episodes, thromboembolism, non-specific chest pain or some other mild symptoms can be seen.

CASE: We would like to present a patient with LVPA. The patient was referred with stomachache and echocardiography was performed. In the echocardiography a suspicious lesion on the posterior wall of the heart was seen and a ventriculography was performed. A pseudoaneurysm with multiple loculations at the posterior basal segment and in the coronary angiography LAD (left anterior descending), Circumflex artery lesions were seen (Figure 1: Rupture related multiple primary, secondary and tertiary aneurysms, Figure 2: Pseudoaneurysm of the posterior-basal segment with compression of the stomach). The pseudoaneurysm was repaired with the method of endoaneurysmography with patch (Goretex) and teflon felts, and Coronary artery bypass grafting was done to LAD (Ao-LAD). On the tenth post operative day the patient was discharged. 6 months and 1 year after the surgery echocardiography and contrast Computerized Tomography were done and no aneurysm was discovered.

CONCLUSION: This case was atypical in the way that the patient presented. The localization of the aneurysm was also unusual (10% of all LV aneurysms present in posterior basal segment). We think that LV aneurysms can present in various different forms and LV aneurysm must be considered as one of the diagnosis in cardiac patients.

KEY WORDS: Pseudoaneurysm, Revascularization, Myocardial infarction

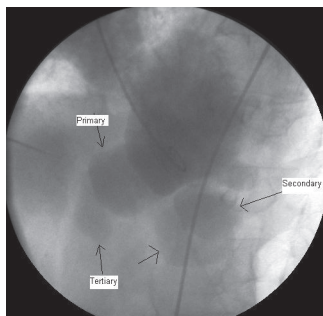


Figure 1: Rupture related multiple primary, secondary and tertiary aneurysms

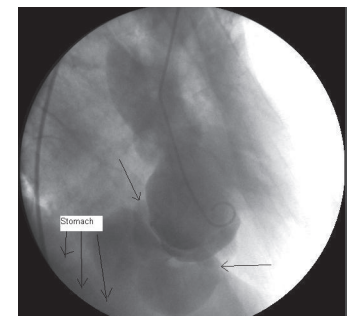


Figure 2: Pseudoaneurysm of the posterior-basal segment with compression of the stomach



Operative View

PP-101 ENDARTERECTOMY FOR DIFFUSE RIGHT CORONARY ARTERY DISEASE

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OBJECTIVE: Coronary endarterectomy has become a safe procedure. Coronary endarterectomy has been shown to be an effective adjunctive technique of revascularization for diffuse coronary artery disease(1).

MATERIAL AND METHOD: Our case was a 59-year-old male. He was suffering from chest pain. His coronary angiography revealed subsequent and showed 2 vessels disease. Coronary angiography showing significant stenoses of left anterior descending(LAD) and right coronary artery.

RESULTS: He underwent coronary revascularization with these findings. Following median sternotomy, left internal thoracic artery and saphenous vein of the right leg were harvested. Distal anastomosis to the right coronary artery was carried out with autologous saphenous graft. In this step we endarterectomize this diffusely diseased artery. The left internal thoracic artery was anastomosed to the LAD. He didn't have additional problem and he was discharged home with surgical success and without any cardiac complications at 8th day. He was recommended to admit our outpatient clinic for follow-up.

CONCLUSION: Due to reported high morbidity and mortality, surgeons tend not to endarterectomize the diffusely diseased right coronary artery(2). Abrahamov et al. conclude that the use of coronary endarterectomy to achieve complete revascularization in patients with diffuse distal coronary artery disease is a reasonable option, associated with a minimal addition in complication rates(3).

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PP-102 CORONARY VASOSPASM DUE TO EXOGENOUS HYPERTHYROIDISM

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A 53-year-old Caucasian man presented to emergency service with squeezing chest pain which started 20 minutes ago. The pain radiated from the chest to the back. The electrocardiogram revealed ST segment elevation in leads V1-V4 and ST depression in leads DII,III,aVF (Figure 1). He had no diabetes mellitus, hypertension or hyperlipidemia. In year 2006, he was diagnosed as having Hashimoto thyroiditis and was on daily 100 mcg L-thyroxine therapy. However two months ago, when his TSH levels were found 61 uIU/ml (N:0.34-5.6), the daily dose of L-thyroxine was elevated to 300 mcg. At his presentation free T3 was 4.5 pg/ml (N:2.5-3.9), free T4 was 2.5 ng/dl (N:0.61-1.48) and TSH was 0.03 uIU/ml. The blood chemistry was normal except low HDL (23 mg/dl). The patient was admitted to coronary care unit (CCU) and intravenous nitroglycerine was started. After initiation of nitroglycerine the ECG returned to normal (Figure 2). Therefore thrombolytic therapy or primary percutaneous coronary intervention were not considered. During his follow-up in CCU, the ST segments elevated whenever the patient was tried to wean off from nitroglycerine. Cardiac enzymes and troponin levels stayed normal during follow-up. Transthoracic echocardiogram revealed no segmentary wall motion abnormality. Coronary angiogram demonstrated normal epicardial coronary arteries (Figure 3). Angina pectoris and ST segment elevation was attributed to coronary vasospasm induced by exogenous hyperthyroidism. L-thyroxine treatment was withheld until thyroid function test (TFT) returned to normal. In this time period diltiazem was given with a daily dose of 120 mg. After normalization of TFT, low-dose L-thyroxin was restarted and diltiazem was ceased.

The cardiovascular effects of hyperthyroidism are hyperadrenergic state and an agonist effect of calcium in the myocardium. Hyperthyroidism can be associated with angina and vasospasm in patients with normal coronary arteries. Therefore a careful history of medications should be taken and TFT should be made in patients with suspected coronary vasospasm. The only management strategy is to control the thyroid activity in the setting of normal coronaries.



Figure 1 Figure 2

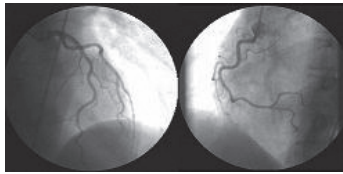


Figure 3

PP-103 THE EFFECTS OF DIFFERENT PRIMING SOLUTIONS IN PEROPERATIVE AND EARLY POSTOPERATIVE PERIODS OF THE PATIENTS WHO UNDERGOING CABG : COMPARING OF HES 130/0,4 (VOLUVEN) AND FRESH-FROZEN PLASMA (FFP)

Ömer Naci Emiroğulları¹, Cemal Kahraman¹, Kutay Taşdemir¹, Hakan Ceyran¹, İnanç Ünlü¹, Aydın Tunçay¹, Vural Polat¹, Mustafa Bildirer¹, Okan Şenocak¹
Erciyes University Cardiovascular Surgery¹

PURPOSE: To compare the effects (to hemostasis, hemodynamic measurements and endorgan functions) of FFP and HES 130/0,4 in perioperative and early postoperative periods of the patients who undergoing CABG.

MATERIAL- METHODS: 40 patients with coronary artery disease (CAD) who are decided to elective primary CABG in cardiology-cardiovascular surgery council were included to study groups between may 2008-december 2008. During the study, patients were appointed to any group randomly. In first group, 20 patients underwent CABG with priming solution that contained 500cc HES 130/0,4. Other group underwent CABG with priming solution that contained 300cc FFP. All patients in both groups were followed and demographic data (age, BSA, preop EF%, no. of bypass graft, CPB and XCL duration, ACT heparin before/after, postop ventilator time, number of intensive care unit day), postop bleeding (ml/kg), number of transfused erythrocyte and thrombocyte susp., intraop and postop diuresis (ml/kg/h), hemodynamic measurements (body temperature, pulse, blood pressure S/D, PAP, PCWP, CVP, cardiac index (lt/dk/m²), arterial blood gas parameters and postop laboratory values were recorded. All data were analyzed via t-test and mann-whitney-U test.

FINDINGS: At the end of analyze, there was not statistically significant difference in demographic data postop bleeding, number of transfused erythrocyte and thrombocyte susp., intraop and postop diuresis (ml/kg/h), hemodynamic measurements and laboratory values between two groups. (P:0,051-0,986).

RESULT: As a component of priming solution, FFP and HES 130/0,4 have similar effects in patient who undergoing CABG.

PP-104 THE RELATION BETWEEN TISSUE FACTOR AND SOLUBLE P-SELECTIN IN ACUTE MYOCARDIAL

INFARCTION

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BACKGROUND: P-selectin mediate adhesion among leukocytes, platelets and endothelium. P-selectin has been also demonstrated to accelerate the rate of fibrin formation and deposition. Acute coronary syndromes have come to be appreciated as a combination of component involving inflammation and thrombosis. Plaque rupture leads to elaboration of cytokines that are important in the induction of cell adhesion molecules and tissue factor, which in turn acts as one of the major initiators of extrinsic coagulation. We hypothesized an association between these factors in patients with acute myocardial infarction.

METHODS: This study reports on the follow-up of 29 patients with confirmed acute myocardial infarction (21 male, 8 female) undergoing coronary care unit. Control group consisted of 22 healthy volunteers (15 male, 7 female). In all patients, tissue factor (TF) and soluble P-selectin (s-Psel) levels were evaluated 24h from the onset of symptoms. Serial plasma concentrations of TF and s-Psel were measured using enzyme-linked immunosorbent assays. Cardiac enzymes were measured immediately by standard laboratory techniques.

RESULTS: Both TF and s-Psel levels were elevated in the AMI group compared to the control group. Furthermore TF levels were positively and significantly correlated with plasma s-Psel levels (r=528, p<0.05).

CONCLUSIONS: AMI is associated with markers of platelet activation and thrombosis. The changes observed demonstrate the role of coagulation markers in AMI progression and highlight the importance of tendency to thrombosis in disease evolution. The increased concentration of TF and s-Psel at infarction onset is evidence of thrombosis and platelet activation.

KEY WORDS: AMI, s-P-selectin, Tissue factor

PP-105 PATIENT RISKS IN LATE GRAFT THROMBOSIS

İbrahim Erdinç¹

Kalp Ve Damar Cerrahisi Klinigi, S.B. İzmir Eğitim Hastanesi, İzmir¹

OBJECTIVE: Late graft thrombosis in peripheral by-pass applications with prosthetic grafts or safen vein occurs due reasons, such as the structure of the graft material, neointimal hyperplasia, etc. The outcome may be life threatening due to metabolic and renal problems. In this study, we analysed the patient histories in order to determine the patient-related factors.

METHODS: Thrombectomy was applied to 20 patients (19 male (95%), 1 female (5%)) between October 2001 and January 2004. The average age was 58±9,7 years (43-72 years). Safen vein was used in one patient (5%), PTFE graft in 18 patients (90%), and Dacron graft in one patient (5%). The safen vein was in the right femoropopliteal (FP) position, and the PTFE grafts were in the left FP in 15 patients, in the right FP in 1 patient, and in the axillofemoral position in 2 patients. Dacron graft, on the other hand, was in the aortobifemoral position. Thrombectomy was carried out under emergency conditions with local anaesthesia using Fogarty catheter and/or graft thrombectomy catheter. Primary patency was achieved in all grafts, postoperatively.

RESULTS: The average time between the original intervention and thrombectomy was 5 years (2-8 years). Time of disruption of antiaggregating and antithrombotic therapy was between 1 and 3 months. Non-compliance to medical therapy was found in 12 patients, while the graft was traumatized in 3 patients. In the patient with axillofemoral position, the patient described sleeping in the flank position, thereafter his complaints began after 1.5 months. With regard to trauma, the patients usually described sitting with bent feet, crossing their legs, and putting heavy objects on their legs during travel.

CONCLUSION: Our findings suggest that the best way to reduce the operation-related risks in this patient population is to explain the importance of proper compliance to the medical therapy, and to protect their grafts against any kind of trauma. This way, I believe it may be possible to discharge this patient population with a lower incidence of claudication and thromboemboli.

PP-106 ST ELEVATED MYOCARDIAL INFARCTION AFTER INTRAVENOUS INJECTION OF HYOSCINE-N-BUTYLBROMIDE

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INTRODUCTION: Coronary vasospasm is one of the reasons for the acute coronary syndroms. Environmental factors such as smoking, increased sympathetic activity can cause vasospasm. Hyoscine-N-Butylbromide (Buscopan®, Boehringer Ingelheim, Turkey) is an antispasmodic agent, widely used for painful spasms of the smooth muscles in gastrointestinal and genitourinary tracts. Commonly reported adverse effects are: blurred vision, tachycardia, red and painful eye, dry mouth, constipation, urinary retention, reduced ability to sweat. Our case is the first case of acute myocardial infarction (AMI) probably related with Hyoscine-N-Butylbromide in the literature.

CASE: A 49 years old man, hospitalised in urology clinic because of bilateral nephrolithiasis and underwent a right percutaneous nephrolithotomy (PCNL), was consulted to cardiology department in the early hours of the morning because of chest pain. There is no known risk factors for coronary artery disease (CAD). On physical examination; his blood pressure was 120/75 mmHg and heart rate was 67 bpm, rhythmic. Cardiac auscultation and other systemic examination was normal. 12-lead electrocardiogram (ECG) revealed an ST elevation in the inferior leads and reciprocal ST depression in the lateral leads (Figure 1). The patient was diagnosed as acute inferior MI. He was transferred to catheterization laboratory for coronary angiography (CAG) in the first hour of the chest pain. CAG demonstrated normal coronary arteries (Figure 2-3). Blood chemistry tests revealed elevation of cardiac enzymes (CPK 696 IU/l [2-200], CK-MB 41 IU/l [0-25], and Troponin-I 3.4 ng/ml [0-0.06]). Echocardiography showed normal ejection fraction of the left ventricle and there were no wall motion abnormalities. The ECG was normalised, two hours after the chest pain (Figure 4). We learned that 'Hyoscine-N-Butylbromide' was administered intravenously before the patient's anginal symptoms. The patient was diagnosed as acute myocardial infarction type II and discharged on calcium channel blocker and ASA.

CONCLUSION: Some antispasmodic agents such as Hyoscine-N-Butylbromide which are frequently used in routine daily practice, may cause AMI by provoking tachycardia and the coronary vasospasm. Therefore in the emergency departments medication history should be evaluated very carefully, especially for patients without coronary risk factors.

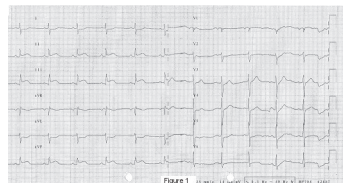


Figure 1

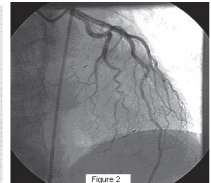


Figure 2

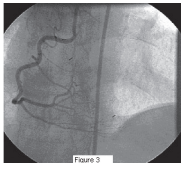


Figure 3

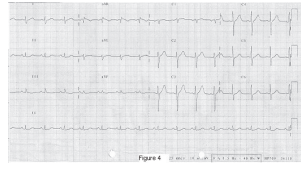


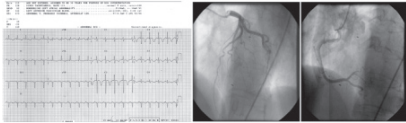
Figure 4

PP-107 AN UNUSUAL CAUSE OF CHEST PAIN; ACUTE CORONARY SYNDROME FOLLOWING ADMINISTRATION OF ERGOTAMINE TARTRATE

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Ergotamine is a widely used drug in the management of acute migraine. In most patients, ergotamine is well tolerated but it has been reported that ergot alkaloids can provoke coronary artery spasm in patients with variant angina. We report a case with migraine who had acute coronary syndrome following therapy with low dose ergotamine. A 62-years-old woman was admitted to emergency department (ED) due to chest pain described as a squeezing retrosternal pain radiating to the left arm. She had history of severe migraine attacks and started to use ergotamine tartrate 0.75 mg daily the day before. She had no history of Raynaud's phenomenon. On admission physical examination was normal. Electrocardiography (ECG) disclosed sinus tachycardia with left anterior hemiblock and T wave inversion in 123 precordial leads (Figure 1). Complete blood count and serum biochemistry were normal. Cardiac biomarkers were elevated. Transthoracic echocardiography revealed hypokinesia at the interventricular septum. Her chest pain was thought to be related with coronary vasospasm associated with ergotamine tartrate and ergotamine was discontinued. Treatment consisting of acetylsalicylic acid, enoxaparin, diltiazem and isosorbide mononitrate was started. One day later her symptoms gradually disappeared. In order to exclude coronary artery disease, she underwent coronary angiography which revealed normal coronary arteries. Her further course was uneventful; she was advised to avoid medications containing ergotamine in the future.



CONGENITAL ANOMALIES OF THE HEART AND VESSELS : DIAGNOSTIC AND THERAPEUTIC CHALLENGES

PP-108 RIGHT CORONARY OSTIUM AGENESIS: A CASE REPORT

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Special Hospital for Cardiosurgery "Filip Vtori"¹

Right coronary ostium agenesis is a very rare development anomaly of the coronary arteries. We present a case of a 42-year-old patient with a dilatative cardiomyopathy, moderate mitral regurgitation, EF 33%. The patient underwent laboratory examination, radiographic chest examination and 64 MSCT coronary angiography. Laboratory findings were normal except mildly elevated fibrinogen that suggested suspected myocarditis. Radiographic chest examination showed enlarged cardiac silhouette. 64 MSCT coronary angiography showed right coronary ostium agenesis with anomalous origin of the right coronary artery from an ectatic circumflex artery. Left circumflex artery was with strong caliber, giving the posterior descending artery and terminating like a right coronary artery. Left main artery, left anterior descending artery and ramus intermedius were normal. We can conclude that 64 MSCT coronary angiography can be a method of choice in easy detection of coronary anomalies such as right coronary ostium agenesis.

KEYWORDS: Right coronary ostium agenesis, 64 MSCT coronary angiography.

PP-109 OUR CASES WITH LARGE ATRIAL SEPTAL DEFECT COMPLICATED BY DIFFERENT SEPTATION ANOMALIES

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OBJECTIVE: Atrial septal defect is a common congenital heart defect. Understanding the cardiac anatomy in the malformation of atrioventricular septal defect is an absolute prerequisite for successful surgery, and should be facilitated by recognizing the fundamental nature of the morphology(1). Abnormal apoptosis and retarded developmental growth are proposed as pathogenic mechanisms(2).

MATERIAL AND METHODS: Our first case was a 8-years-old woman. The transthoracic echocardiography (TTE) showed a dropout image in interatrial septum compatible with large ASD and dilatation of right-sided structures of the heart. Cardiac catheterization showed atrial septal defect. Qp/Qs was calculated 1.57. Pulmonary/systemic vascular resistance was 0.4.

Our second case was a 28 - year - old male was admitted to our hospital with nonspecific angina pectoris and exertional dyspnea. Transthoracic echocardiogram demonstrated two middle-sized defects in secundum septum with a left-to-right shunt. Cardiac catheterization showed persistent left superior vena cava (PLSVC) and atrial septal defect.

RESULTS: Our first case was operated under endotracheal general anesthesia and in supine position. Standart right atriotomy was made. ASD was evaluated regarding its localization, size, other related cardiac structures and possible associated abnormalities. We explored a muscular limbic band localized at middle of this large atrial septal defect. We resected this band primarily. After this step ASD was made an uniform defect with excision of this band. We performed an e-PTFE patch closure of atrial septal defect. The post-operative course was uneventful with successful anatomical correction.

For our second case following a median sternotomy, pericardium was opened longitudinally. After heparinization, extra-corporeal circulation was established between the venae cavae and the ascending aorta. The PLSVC was temporarily occluded with a snare. Standard right atriotomy was made. Cribriform multiple secundum atrial septal defects (ASD) were evaluated regarding their localization. This muscular band was resected. After this step cribriform ASD was made an uniform defect with excision of the septal defect portions. We performed an e-PTFE patch closure of atrial septal defect as to drain blood from left SVC to right atrium. Postoperative echocardiographic data confirmed complete correction of the lesions.

CONCLUSION: The morphologically and topographically knowledge of atrial septal defect is useful to interpret the imaging studies of this cardiopathy and is basic for the surgeon and the interventionist cardiologist(2). Surgical closure of ASD has a low perioperative mortality and morbidity(3).

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PP-110 PERSISTENT LEFT SUPERIOR VENA CAVA WITH ABSENT RIGHT SUPERIOR VENA CAVA AND CORONARY SINUS DILATION

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INTRODUCTION: Persistent Left Superior Vena Cava (PLSVC) occurs in 0.3-0.5% of the healthy population. But persistent left superior vena cava with absent right superior vena cava is very rare condition and occurs in only 0.09% to 0.13 of congenital heart defects.

MATERIAL AND METHODS: 27 years old man was admitted for mitral valve repair. Preoperative transthoracic and transesophageal echocardiographic examination revealed grade 3-4 mitral valve regurgitation, PLSVC and a large coronary sinus(Fig1). After anesthetic induction central venous cannulation of right internal jugular vein was attempted using Seldinger's technique. Through a median sternotomy pericardiotomy was performed. During anatomic examination absent right SVC was seen additionally PLSVC (Fig2). Inferior vena cava and PLSVC cannulated separately with "L" type metal tip venous cannula. After cross-clamping of the ascending aorta, mitral valve repair was performed.

CONCLUSION: Combination of agenesis of right SVC and isolated PLSVC in adult patients is very rare anomaly. PLSVC is generally associated with right SVC and very rarely with absent right SVC.

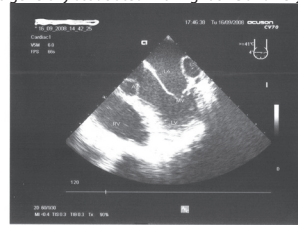


Fig 1



Fig 2

PP-111 ENTRAPPED EMBOLUS THROUGH A PATENT FORAMEN OVALE COMPLICATED BY PULMONARY EMBOLISM: SUCCESSFUL TREATMENT WITH THROMBOLYTIC APPLICATION.

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Entrapped thrombus of the heart is a very rare condition and can be life-threatening. The patient must be treated immediately to prevent any embolic complications as paradoxical or pulmonary embolism.

A 63 years old male patient with complaints of dyspnea for 3 months was diagnosed as diffuse proliferative pulmonary disease (Figure 1). At echocardiography, right heart dilatation (right ventricle: 51 mm, right atrium: 52 mm), pulmonary hypertension (pulmonary arterial pressure: 95 mmHg), tricuspid failure, an entrapped thrombus which passed from patent foramen ovale to left atrium, and a moving thrombus were seen. Ejection fraction was 64%. Moving thrombus was lie down from right atrium to left atrium (50mmx10mm in left atrium, 25mm x10 mm in right atrium) and as the time of diastole left atrial part of this thrombus came into left ventricle (Figure 2). There were thromboses at right and left pulmonary arterial in pulmonary angiography. Besides, atelectasis at inferior lobe of right lung, fibronodular appearance at postero-basale of left lung and paracardiac area, edema, pleural effusion at right were seen in computed tomography. Acute-chronic thrombus at left superficial femoral vein and acute phase thrombus at left popliteal vein were seen in lower extremity venous Doppler ultrasonography. Vena cava filter was inserted and patient was evaluated for urgent operation. Because of parenchyma lung disease, patient was evaluated as high risky for operation. Thrombolytic treatment (t-PA) was done. After t-PA treatment, transthoracic and transesophageal echocardiography were made. There was no thrombus in patent foramen ovale and cardiac chambers(Figure 3). There was 1°-2° tricuspid failure and pulmonary arterial pressure was 40 mmHg. Low molecule weight heparin therapy was started and patient was transferred to pulmonary disease clinic in order to consider the diffuse paranchymal lung disease.

Medical interventions or surgery can be applied for entrapped and pulmonary embolism, but there is no consensus on an ideal treatment. The patients with entrapped thrombi that are complicated with pulmonary embolism may benefit from initial treatment with thrombolytic, especially when surgery is risky or inconvenient. Because surgical embolectomy presents potential complications, we believe that thrombolytic treatment was the best option in our patient.



Figure 1

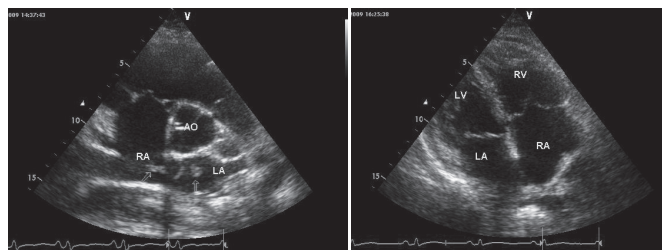


Figure 2

Figure 3

PP-112 PERSISTENT LEFT SUPERIOR VENA CAVA: AN UNUSUAL ROUTE FOR PACEMAKER IMPLANTATION

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INTRODUCTION: Postoperative third-degree atrioventricular (AV) block that persists at least seven days is a class I indication for pacing. Persistent left superior vena cava (LPSVC) is a structural anomaly which usually accompany to the congenital heart defects. This anomaly may be a compelling factor for pacemaker implantation. Here, we describe the case of 5-year old patient, in whom pacemaker implanted successfully via the LPSVC.

CASE REPORT: Five year old girl with Down syndrome was referred to our pediatric cardiology unit due to complete AV blok that endure fourteen days after surgical closure of ventricular septal defect. At physical examination, the child was asymptomatic, her blood pressure was 100/60 mmHg, pulse 42 beats/min and heart sounds were normal without murmurs. The electrocardiography (ECG) revealed sinus bradycardia with total AV block. Laboratory test and transthoracic echocardiography were completely normal. Since the AV block persists up to seven days following surgery it was decided to treat the patient with a ventricle demand inhibited pacemaker (VVRI). Right subclavian vein was cannulated employing Seldinger technique. The active fixation lead did not go forward through the right SVC and created a sharp angulation descending on the left side equivalent to the right sided vena cava. We assumed that the unusual position of the guide wire passing down the left mediastinal border due to a persistent left superior vena cava (LPSVC). Then, the fixation lead advanced to the right atrium and right ventricle through the coronary sinus. Since active fixation lead inserted to the endocardium of right ventricle, VVI pacemaker, programmed to deliver 70 beats per minute, was implanted in the left infraclavicular area (Figure 1). After 6 months of follow-up, the children keep on to have proper sensing and pacing threshold.

DISCUSSION: Persistent left superior vena cava is most common congenital anomaly of thoracic veins. Isolated LPSVC is estimated to be present in 0.3-0.5 % of the normal population. Among patients with congenital heart disease, the prevalence of LPSVC is much higher that show a frequency of 5-10%. Up to our knowledge, successful implantation of pacemaker in children through LPSVC is so scarce. In conclusion, positioning a pacemaker lead in the course of LPSVC and coronary sinus in the right ventricle may be difficult. However, we should keep in mind that LPSVC is sometimes the only way to reach the right ventricle as in our case.

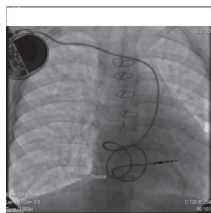


Figure 1 Demonstration of fluoroscopic image of pacemaker

PP-113 PARTIAL ABNORMAL PULMONARY VENOUS RETURN ASSOCIATED WITH OSTIUM SECUNDUM ATRIAL SEPTAL DEFECT

Özgül Uçar¹, Hülya Çiçekçioğlu¹, Lale Paşaoğlu¹, Ferit Çiçekçioğlu², Aşlı Talu¹, Sinan Aydoğdu¹

Ankara Numune Education and Research Hospital¹, Ankara Türkiye Yüksek İhtisas Hospital²

A 44-year-old Caucasian man presented with dyspnea and palpitations. He had no previous cardiac history. His electrocardiogram revealed right bundle branch block and premature supraventricular complexes. On cardiac auscultation a 2/6 systolic murmur was heard on the left sternal border. Transthoracic echocardiogram (TTE) revealed moderately dilated right heart chambers with a peak systolic pulmonary artery pressure of 45 mmHg. There was a 12 mm ostium secundum atrial septal defect (ASD) on the interatrial septum. The operator thought that the dilatation of right heart chambers was excessive in proportion to ASD diameter. Therefore clues for another left-to-right shunt were sought. On apical 4-chamber view, right lower pulmonary vein was suspected to enter the right atrium. This finding was further confirmed by transesophageal echocardiogram (TEE) and multislice computed tomography (MSCT) (Figure 1). The patient went on successful corrective surgery.

Abnormal partial pulmonary venous return typically accompanies sinus venosus type ASDs and 9% of ostium secundum type defects. Whenever excessive right heart dilatation in proportionate with the ASD size is detected, a workout for abnormal pulmonary venous return should be initiated. TTE, TEE or MSCT can all be used for the diagnosis.

KEY WORDS: Atrial septal defect, abnormal partial pulmonary venous return, echocardiography

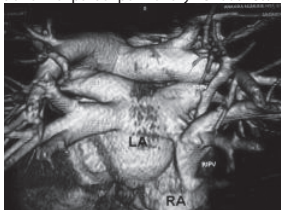


Figure 1

PP-114 PROMINENT EUSTACHIAN VALVE MISTAKEN AS INFERIOR ATRIAL RIM

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Ankara Numune Education and Research Hospital¹, Ankara Kavaklıdere Umum Hospital²

A 34-year-old male patient with nonspecific cardiac complaints underwent transthoracic echocardiography (TTE) and ostium secundum atrial septal defect (ASD) was suspected. A subsequent transesophageal echocardiography (TEE) confirmed the diagnosis of ostium secundum ASD with a diameter of 12 mm. The patient was referred to our hospital for percutaneous ASD closure procedure. We repeated TEE in order to evaluate the appropriateness of the defect for the procedure. On TEE, fossa ovalis region of the interatrial septum (IAS) was thin. Four-chamber views gave equivocal images. Longitudinal bicaval plane revealed a thick, prominent Eustachian valve (EV) which directed inferior vena cava flow towards IAS (Figure 1). Contrast echocardiography was performed with agitated saline. No negative contrast occurred in right atrium near the IAS. We concluded that IAS was intact and the echocardiogram of the patient was actually normal. Therefore the intervention was cancelled. The prominent EV was mistaken for inferior atrial rim of an ostium secundum ASD and inferior vena cava flow was mistaken for a left-to-right atrial shunt in the previous hospital (Figure 2).

A persisting EV is usually diagnosed incidentally during echocardiographic examinations and in the absence of accompanying heart diseases it is considered a benign condition. However, as in our case, a prominent EV can lead to mistakes in the diagnosis of ASD. In addition inadvertent surgical closure of a long EV which is thought to be an atrial rim, can cause inferior vena caval obstruction. Percutaneous ASD closure procedures are being performed at increasing numbers day by day. We believe that being aware of the condition that EV can be mistaken for an atrial rim can avoid misdiagnoses and complications in the periprocedural period.

KEY WORDS: Eustachian valve, atrial septal defect, transesophageal echocardiography

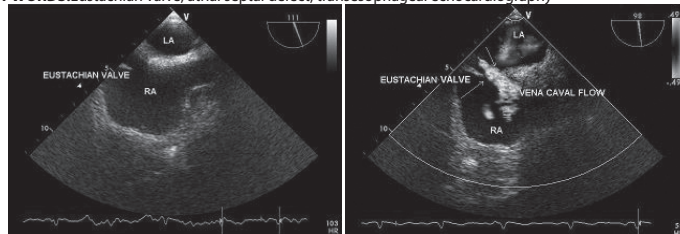


Figure 1

Figure 2

PP-115 QUADRICUSPID AORTIC VALVE IN AN ADOLESCENT WITH AORTIC REGURGITATION

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INTRODUCTION: Quadricuspid aortic valve (QAV) is rare anomaly. We report 15-year old boy whose aortic regurgitation was identified about 3 years ago at another clinic.

CASE REPORT: 15 year old boy was referred for evaluation of a cardiac murmur detected on routine physical examination. Three years ago, he had diagnosis of aortic regurgitation at another hospital, but he had not proceed routine follow-up. The adolescent did not have any cardiac symptoms. Physical examination was not special except grade 2 early diastolic murmur along at left sternal border. Two dimensional echocardiography revealed a quadricuspid valve with four almost equal sized cusps presenting the classical X shaped diastolic short axis commissural pattern with moderate left ventricular dilatation (Figure 1). Color doppler examination demonstrated that grade 1 to grade 2 aortic regurgitation. Angiotensin-Converting enzyme inhibitor was started with usual dose.

DISCUSSION: Congenital QAV is rare cardiac anomaly with a reported incidence of 0.008–0.033%. Seven types of quadricuspid aortic valve is described according to the relative size of the 4 cusps. The most common pattern appears to be that of three cusps of normal size accompanied by a single smaller leaflet. QAVs with approximately equal cusps may often function normally. This was the type A of QAV displayed in our case. In children, valvular dysfunction such as aortic regurgitation and stenosis is generally absent or minimal. However, in our patient, aortic regurgitation had earlier onset. In the past, QAVs were diagnosed at autopsy or during aortic valve surgery. In current era, echocardiography, especially transesophageal, improved our facility to diagnose this anomaly. In conclusion, QAV is rare anomaly is a rare congenital anomaly that may be associated aortic regurgitation and stenosis. It can be diagnosed by comprehensive transthoracic echocardiography.

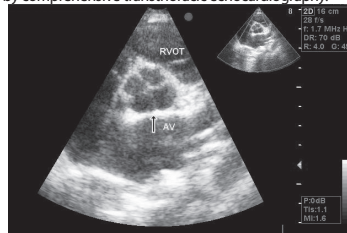


Figure 1 2-D echocardiography demonstrated classical X shape of quadricuspid aortic valve

PP-116 A CASE OF AORTIC COARCTATION MIMICKING INTERRUPTED AORTA WITH ASCENDING AORTA ANEURYSM

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A 43 age male patient was admitted with dyspnea available for 1.5 years. He has smoking hypertension and hypercholesterolemia in his history. Physical examination findings were as follows: Heart rate 97/minute and regular, upper extremity blood pressure 160/90 mmHg and lower extremity blood pressure 120 mmHg. There was 2-3/6 diastolic murmur in mesocardiac area. All pulses were palpable, but pulses of lower extremities were weak than pulses of upper extremities. Other physical findings were normal. LDL cholesterol (138 mg/dl) was only pathologic laboratory finding. Transthoracic echocardiography showed that left ventricular dimensions were normal Segmentary wall motion disorder was observed. Left ventricle wall was thick and hypertrophic. Aortic valve leaflets were calcific. 1-2° aortic insufficiency and 25 mmHg peak gradient was detected Transesophageal echocardiography showed bicuspid aortic valve and 2-3° aortic insufficiency. Ascending aorta diameter was 54 mm. Cardiac catheterization revealed 2-3° aortic insufficiency with normal left ventricular function and normal coronary anatomy. Descending aorta was occluded totally. CT demonstrated that the ascending aorta was dilated to approximately 55 mm, with the dilatation extending up to the proximal aortic arch. The descending aorta was totally occluded in proximal region (Fig. 1-2). Internal mammary artery was observed as

wide and tortuous. Two operations were planned. In the first, a Dacron graft (14 mm X 8 Cm) was implanted to proximal region of descending aorta. In the second operation Bentall procedure was performed by using a composite prosthesis (Fig. 3-4). The postoperative course was uneventful and the patient was discharged without any complication.

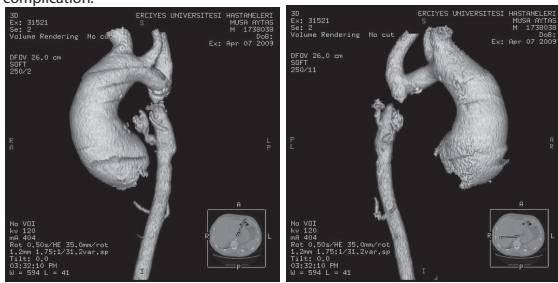


Fig. 1

Fig. 2



Fig. 3

Fig. 4

PP-117 A CASE OF ARTERIAL TORTUOSITY SYNDROME: A RARE ENTITY

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Arterial tortuosity syndrome (ATS) is a rare autosomal recessive connective tissue disorder. It is characterized by facial, skin, and joint abnormalities. Generalized elongation and tortuosity of the major elastic arteries are the hallmarks of the syndrome. Connective tissue features include hyperextensible skin, hypermobility of joints and characteristic facial features. The gene locus of the ATS has recently been localised on chromosome 20q13. Here we report a case of ATS without facial and skin manifestations of the syndrome.

Case: We present here a 5-year-old boy who was admitted to our clinic for evaluation of his cardiac murmur. On admission he had no other complaint. He had history of bilateral inguinal herniae and right orchiectomy operations. Clinical examination revealed normal facies and skin texture, a pulse rate 92/min and oxygen saturation on room air of 96%. Blood pressure was normal. Cardiac examination and the remaining of the physical examination revealed normal findings. Complete blood count and biochemical parameters were normal. The 12 lead ECG showed a sinus rhythm and normal findings. The chest X-ray was normal. The cross-sectional echocardiography confirmed the diagnosis of aortic arch anomaly, generalised tortuosity and elongation of all major aortic branches. Doppler examination revealed normal segmental subset. In view of these findings, cardiac catheterisation was performed to confirm the hemodynamic data and to delineate the aortic arch anatomy. Angiography revealed tortuous aortic arch branches . There was no arterial duct but the bilateral subclavian arteries, left common carotid artery and right innominate artery also showed a tortuous course (Figure 1a,1b). No suitable therapeutic option could be offered and the patient was discharged on medical follow-up.

Discussion: Arterial tortuosity syndrome is a rare connective tissue disorder of unknown etiology. The list of signs and symptoms mentioned in various sources for arterial tortuosity syndrome includes the symptoms listed: inguinal hernia, lax joints, hyperextensible skin, cutis laxa, joint contractures, small jaw, elongated face, high palate, telangiectasia, beaked nose. Our patient did not present lax joints, hyperextensible skin and cutis laxa but he had bilateral inguinal hernias. In view of the generalized aortic arch branches involvement, therapeutic options were limited in our patient as has been reported for the majority of patients in the literature.

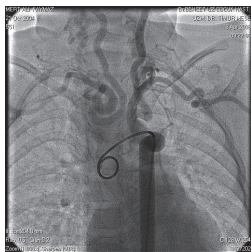


Figure 1: Angiographic image of aortic arch and its branches

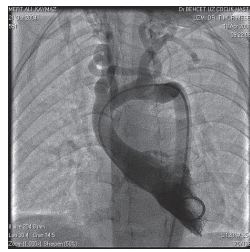


Figure 2: Left ventricule injection showing tortuous course of bilateral subclavian arteries, left common carotid artery and right innominate artery

PP-118 EARLY TROMBUS FORMATION AFTER TRANSCATHETER CLOSURE OF ATRIAL SEPTAL DEFECT WITH AMPLAZER® SEPTAL OCCLUDER

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A 33 years old woman was admitted to our hospital with exertional dyspnea and early fatigue with exertion for 1 year. She has no past medical history and any medical treatment. She has not any thrombophilia like past history of deep vein thrombosis, recurrent abortion. There was also no significant history of thrombophilia and coagulation disorder in her family. The complete blood count, electrolytes, renal function tests, liver function tests were normal. The ECG was sinus rhythm, also telecardiography was in normal limits. The suspicion of an ASD (due to enlargement of right heart chambers, pulmonary hypertension) by transthoracic echocardiography (TTE) was confirmed by transesophageal echocardiography (TEE). TEE revealed that there was an ASD with 17 mm diameter in bicaval position, was relevant for transcatheter closure. There was no any pathologic finding during TEE. The patient was taken for transcatheter closure of ASD. The procedure was performed under TEE control with general anesthesia. A 18 mm Amplatzer Septal Occluder device was deployed under TEE imaging and fluoroscopy. Early thrombus formation was detected with TEE control just after implantation of device (Image 1). Also atrial

fillration was developed at the same time with thrombus formation. The patient was anticoagulated with unfractionated heparin (UFH) immediately after procedure. Also propafenon infusion was started for atrial fibrillation. But there was no response to propafenon, so amiodarone infusion was started and early response was taken with amiodarone. Normal sinus rhythm was seen 8 hours after procedure. Continuous UFH infusion was given for 24 hours. During this period there was no clinical signs of pulmonary or cerebral and/or peripheral embolism. TEE control after UFH infusion was revealed that there was no thrombi or mass around interatrial device. Also TEE demonstrated no residual shunt, no arm fractures, the device was positioned flat against the septum and appeared to be in complete contact with the septum in all imaging planes. The hypercoagulable parameters which evaluated after procedure were normal. Thoracic computerized tomography was performed in order to rule out pulmonary thromboembolism although there was no clinical symptom. Acetylsalicylic acid was given as an antiplatelet agent during discharge period. The patient was asymptomatic for 4 weeks after procedure. At 4th week visit the patient evaluated with transthoracic echocardiography and TEE. TEE was demonstrated no residual shunt, appropriate positioning of device, flat against septum, no thrombus, no arm fracture. The patient remained on acetylsalicylic acid treatment and had no symptom at last follow up 6 months postprocedure.

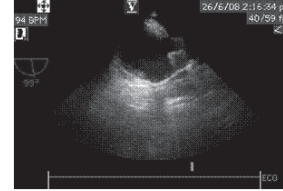


Image 1. Early thrombus formation detected with TEE control just after implantation of device.

PP-119 ATRIAL SEPTAL DEFECT REPAIR USING LIMITED ANTEROLATERAL THORACOTOMY AND TWO STAGE SINGLE VENOUS CANNULA

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PURPOSE: Surgical closure of the atrial septal defect (ASD) is a safe and effective procedure with low morbidity and mortality. The standard approach to ASD defect is via median sternotomy. However the postoperative cosmetic results are not better. Herein, we report our experience with a female patient who have undergone closure ASD and tricuspid valve repair through a right anterior limited thoracotomy and a right groin incision for femoral cannulation.

CASE: A 22-year-old female patient was referred to our clinic with a diagnosis of atrial septal defect and tricuspid valve insufficiency. A transthoracic echocardiography was performed and demonstrated atrial septal defect and severe tricuspid valve insufficiency. Upon these findings a decision has been made to operate on the patient.

The patient is positioned for a right anterolateral thoracotomy of approximately 5-6 cm through the fourth intercostal space (Figure 1). The fourth rib is disarticulated anteriorly. A double lumen endotracheal tube is used to decompress the right lung. Right femoral arterial and two stage single venous cannulation was accomplished (Figure 2). Minimal dissection of the heart was performed. A small part of the ascending aorta and the right atrium were dissected to allow the insertion of antegrade cardioplegia cannula and a two-stage single venous cannula. No other segment of the heart was dissected. Normothermic cardiopulmonary bypass was initiated and the aorta was cross-clamped. ASD was closed primarily by running suture and tricuspid valve repair was performed using standard surgical techniques (Figure 3). The patient's postoperative course was uneventful, and she was discharged from the hospital on the 5th postoperative day.

CONCLUSION: ASD closure with the right anterior limited thoracotomy using two stage single venous cannula is a safe and effective alternative approach to a median sternotomy and provides superior cosmetic results.

PP-120 PENTALOGY OF FALLOT AND DOWN'S SYNDROME WITH RIGHT AORTIC ARCH ANOMALY

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OBJECTIVE: Down syndrome is a disease caused by trisomy of chromosome 21. Tetralogy of Fallot is often associated with chromosomal aberration. Anomalies of the aortic root vessels may present in adults and are common incidental findings during standard vascular imaging.

MATERIAL AND METHOD: Our case was a 11-month-old male with Down's syndrome. His transthoracic echocardiography revealed pentalogy of Fallot and right sided aortic arch when he was 7 months old. A perimembranous no-restrictive VSD of 10 mm and a secundum type ASD of 5.6 mm were detected. Moreover, main pulmonary artery was narrow with restriction of the pulmonary valve leaflets' motion. Furthermore, aorta was 45% dextroposed. Subsequent cardiac catheterization confirmed right sided aortic arch and secundum type ASD accompanying tetralogy of Fallot. McGoon ratio was calculated as 2.3/1. Aortic arch was bending on itself and descending along the right side of the vertebral column, possessing normal branches.

RESULTS: Our patient was taken into the operating room, planning a total correction. VSD of 2x2 cm was closed with cross-annular patch plasty. RVOT was resected and reconstructed by using a Dacron patch, considering a lower probability of hemorrhagic leakage. ASD was repaired.

CONCLUSION: For the patients with Down's syndrome is important a complete clinical evaluation with an eye toward establishing an opportune surgical treatment (1). Down syndrome patients should be screened by echocardiography early. The mortality in DS is highest among those with congenital anomalies, and therefore, early intervention is crucial (2).

1. Calderón-Colmenero J, Flores A, Ramírez S, Patiño-Bahena E, Zabal C, García-Montes JA, Rizo S, Buendía A, Attie F. Surgical treatment results of congenital heart defects in children with Down's syndrome. Arch Cardiol Mex 2004;74(1):39-44.
2. Abbag FI. Congenital heart diseases and other major anomalies in patients with Down syndrome. Saudi Med J 2006;27(2):219-22.

PP-121 ATYPICAL COARCTATION OF AORTA IN ADULT - CASE REPORT

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INTRODUCTION: Supravalvular aortic stenosis (also known as a type of atypical coarctation) is an uncommon anomaly that is defined by the presence of a narrowing situated at the level of sinotubular junction.

CASE REPORT: A 45-year old male patient with a symptom of dyspnea had admitted to the hospital. Physical examination revealed 3-4/6 systolic murmur at 2nd right intercostal area. Echocardiographic examination revealed supravalvular aortic stenosis with a gradient of 62/30 mmHg. Computed tomographic angiography revealed a hour-glass appearance at sinotubular junction. Operation had started with general anesthesia and after median sternotomy aorto-caval cannulation had performed. After starting cardiopulmonary bypass aortic cross clamp had applied. Aortotomy had performed superior to the thickened segment of aorta and sinotubular junction was severely narrowed. Left sinus of Valsalva was hypoplastic, aortic leaflets were thickened and there was small nodular calcifications on leaflets (Figure 1). Aortic leaflet coaptation was normal. Thickened and

narrowed segment of aorta had excised. A longitudinal incision was made in the center of left sinus of Valsalva to widen the sinus. Non-coronary sinus of Valsalva had also excised. 30 mm Dacron graft was interposed to the excised segment with two extensions to the left and non-coronary sinuses (Figure 2). After removing cross-clamp the patient had weaned from cardiopulmonary bypass and operation had completed.

DISCUSSION: Atypical coarctation of aorta is a rare condition, affecting 0.5% to 2% of individuals with coarctation. In coarctation of aorta, stenosis is characteristically located at the junction of the distal aortic arch and the descending aorta, immediately beyond the origin of the left subclavian artery near the insertion of the ligamentum arteriosum. In rare circumstances, coarctation is located far from the aortic isthmus and is called atypical coarctation. Atypical coarctation is characterized by a localized or extended narrowing of the ascending aorta, of the descending aorta at the level of diaphragm or of the abdominal aorta. Coarctation of the descending aorta or of the abdominal aorta is also called middle aortic syndrome or mid-aortic dysplastic syndrome. Major arterial branches and visceral arteries (renal, superior mesenteric or hepatic arteries) may be involved.

Surgery comprises reconstruction of the aorta with resection of the stenotic segment, interposition of grafts or aorto-aortic bypasses or enlargement with patches.

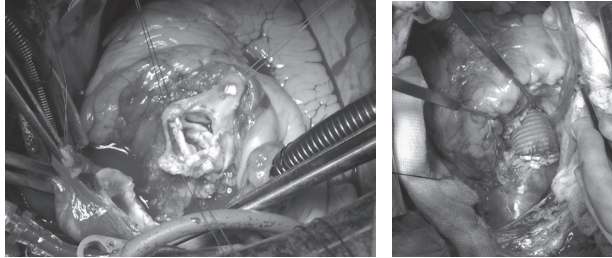


Figure 1

Figure 2

PP-122 PARADOX EMBOLY TRAPPED BY PATENT FORAMEN OVALE

Yusuf Ata¹, Mihriban Yalçın¹, Tamer Türk¹, Şenol Yavuz¹, Ahmet Özyazıcıoğlu¹
Bursa Yüksek İhtisas E.A.H¹

INTRODUCTION: Pulmonary thromboembolism is a serious complication of underlying venous thrombosis. If there are intracardiac defects such as patent foramen ovale or atrial septal defect systemic paradoxical embolism may occur.

CASE REPORT: A 73 year old man with symptoms of deep vein thrombosis was admitted to our clinic. In addition to his leg pain, he also complained of palpitation. In physical examination there was also systolic murmur on mitral focus. An echocardiography was done. It showed long-thin thrombus located through the PFO crossing the mitral valve. The patient underwent surgery with cardiopulmonary bypass. The thrombus was extracted with right atriotomy. After an uneventful postoperative period the patient was discharged on day 7 after operation.

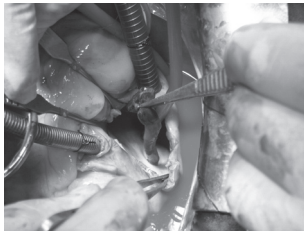


figure 1

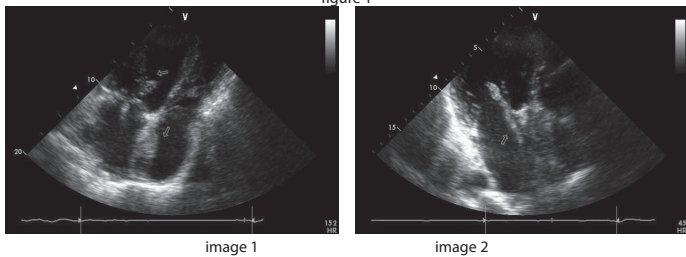


image 1

image 2

PP-123 SURGICAL TREATMENT OF ARTERIOVENOUS FISTULAS BETWEEN CORONARY AND PULMONARY ARTERIES

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Special Defne Hospital, Departments of Cardiology, Antakya, TURKEY²

INTRODUCTION: Coronary-to-pulmonary artery fistulas (CPAF) are rare anomalies and generally have asymptomatic. CPAF may originate from both coronary arteries and connect into the pulmonary trunk. We presented three cases who underwent surgical repair with cardiopulmonary bypass.

MATERIAL AND METHODS: Two symptomatic, one asymptomatic patients was operated for CPAF. In one patient coronary angiography showed originating from the level of the first diagonal branch of the left anterior descending coronary artery and in two patients showed originating from the circumflex coronary artery to pulmonary artery fistulas (Fig.1). All operations were done with cardiopulmonary bypass. Coronary arteries were prepared, the fistulas identified and ligated (Fig.2). The postoperative course was uneventful.

CONCLUSION: In summary, coronary arteriovenous fistulas are rare congenital anomalies. Most patients are asymptomatic, but surgical treatment is advised to avoid later complications.

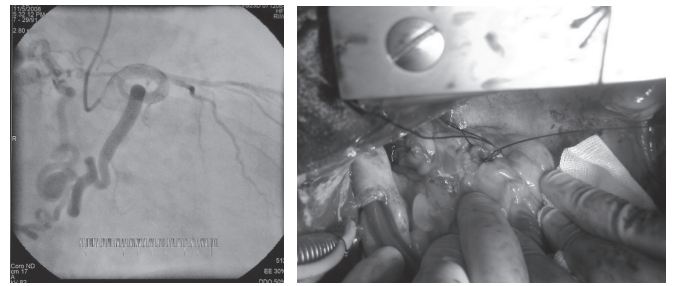


Fig 1

Fig 2

PP-124 SURGICAL REPAIR OF COMBINATION OF ADDISON'S DISEASE AND SECUNDUM TYPE ATRIAL SEPTAL DEFECT AND OUR POSTOPERATIVE FOLLOW-UP PRINCIPLES

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OBJECTIVE: Secundum atrial septal defect (ASD) is a common congenital heart disease. It has been reported rarely with autoimmune endocrine syndrome.

METHODS: Our case was a 23-year-old female. She was suffering from dizziness, palpitation and easy fatigability for 8 months. Investigations for this purpose revealed secundum type atrial septal defect and she was then referred to our clinic. Transthoracic echocardiography showed a 15 mm defect in the interatrial septum with a left-to-right shunt. Superior rim of ASD was measured as 8mm whereas its aortic rim was measured as 3 mm. Therefore, it was found unsuitable to occlude this ASD via percutaneous transcatheter technique and surgical repair was recommended.

Moreover, our case possessed Addison's disease consistent with adrenal insufficiency diagnosed two months ago. For this purpose, he was taking 5 mg of oral prednisolone per day. She was consulted by Department of Endocrinology and perioperative recommendations and precautions were obtained.

RESULTS: She was operated under endotracheal general anesthesia and in supine position. We performed a primary closure of atrial septal defect. The post-operative course was uneventful with successful anatomical correction. The doses of corticosteroid treatment as recommended by Department of Endocrinology were given. Postoperatively an echocardiographic investigation was revealed no residual shunt for the repaired ASD.

CONCLUSION: Congenital heart defects are the most common birth defects and represent an increasing proportion of adolescent. Surgical closure of ASD has a low perioperative mortality and morbidity. The treatment of adrenal insufficiency includes substitutive doses of mineralo and/or glucocorticoids and, as often as possible, etiologic therapy.

PP-125 SUCCESSFUL REPAIR OF SYMPTOMATIC AORTIC COARCTATION WITH THE TECHNIQUE OF RESECTION AND END-TO-END ANASTOMOSIS

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OBJECTIVE: The prevalence of aortic coarctation varies from 5% to 8% of all congenital heart defects. Aortic coarctation is recommended to be relieved by surgery during the ages of 2 and 5 years. Results of surgery are generally good.

METHODS: Our case was a 9-year-old child who was admitted to a health facility with a possible diagnosis of upper respiratory tract infection. During physical examination, a cardiac murmur was detected and she was referred to the Department of Pediatric Cardiology. Echocardiographic examination revealed that ascending aorta and aortic arch were dilated and a postledge image distal to the left subclavian artery was visible. Cardiac catheterization showed that no passage of blood was available within aorta distal to the left subclavian artery. Severe narrowing of aortic segment and well-developed collateral circulation were the other findings. No additional cardiac pathology was detected.

RESULTS: Our patient was operated under general anesthesia. There was a juxtaductal coarctation. The coarcted segment of 2 cm was resected from aorta. Histologic examination of coarcted segment revealed total occlusion of aorta. After this resection, end-to-end anastomosis of distal to proximal segments of aorta were successfully performed. The post-operative course was uneventful with successful correction.

CONCLUSION: End-to-end anastomosis had shorter aortic crossclamp time. It appears to be advantageous.

PP-126 FISTULOUS CONNECTIONS BETWEEN CORONARY ARTERIES AND PULMONARY ARTERY

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BACKGROUND: Congenital coronary arterio-venous fistula (CAF) is a rare anomaly. A CAF is an abnormal communication between a coronary artery and any of the cardiac chambers. Over 90% of these fistulas drain into the systemic venous side of the circulation. The mechanism is related to the diastolic pressure gradient and runoff from the coronary vasculature to a low-pressure receiving cavity. If the fistula is large, the intracoronary diastolic perfusion pressure progressively diminishes. The coronary vessel attempts to compensate by progressive enlargement of the ostia and feeding artery. Eventually, myocardium beyond the site of the fistula's origin is at risk for ischemia, which is most frequently evident in association with increased myocardial oxygen demand during exercise or activity.

CASE: A 35-year-old man with a history a family history positive for ischemic heart disease, had sudden retrosternal chest pain. He was complaining with easy fatigability on exercise. His examination was unremarkable except for a loud S2 sound in the pulmonary area upon auscultation. Electrocardiographic findings were consistent with ischemic myocardial disease. Transthoracic and Doppler echocardiography confirmed the presence of the fistulous tract and its opening into the pulmonary artery, together with aneurysmal dilatation at the end of the fistula. Myocardial perfusion scintigraphy showed reversible inferoapical ischemia. Subsequent coronary angiography showed a left anterior descending artery-to-pulmonary artery and right coronary artery-to-pulmonary artery fistula with aneurysmal dilatation at the proximal and the distal end of the fistula. Attempt for closing fistulae by catheter emboli with coils was unsuccessful. Surgery was undertaken. The aneurysm in the proximal and distal end of a tortuous fistula was immediately seen upon opening the pericardium (Figure 1). When we followed the fistula tract, we found that it originated in the proximal third of the left anterior des-

ending and right coronary artery. Surgical closure of coronary artery fistulae was done. Postoperative course was uneventful.

CONCLUSION: In infants and children, isolated coronary artery fistulae do not usually cause symptoms. Symptoms often begin at 20-25 years of age, and 21% of untreated fistulae will be complicated by congestive heart failure, myocardial infarction, rupture, endocarditis or death. Coronary angiography remains the gold standard for diagnosis. Surgical closure of CAF is technically safe, and indicated especially in the presence of additional cardiac pathology in adult period. If the percutaneous closure for CAF is unsuccessful; surgery is the reasonable safe and effective next option with excellent long-term results.

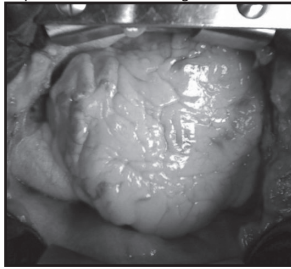


Figure 1

PP-127 AN EXTREMELY RARE CORONARY ANOMALY CAUSING SIGNIFICANT ISCHEMIA

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A 47-year-old male was admitted to our department with effort related angina. An exercise treadmill stress and Tc-99m MIBI exercise myocardial perfusion scintigraphy tests were performed. Positive test results were obtained. Specifically, reversible perfusion defect (ischemia) in posterobasal segment of the heart in myocardial perfusion scintigraphy was detected (Figure 1). The patient was referred to catheterization laboratory for a possible diagnosis of coronary atherosclerosis and an intervention if possible. However, no significant coronary stenosis was found in major epicardial coronaries. A prematurely ending left anterior descending coronary artery without a distal bifurcation formerly known as the "mustache," "pitchfork," or "whale's tail" was observed. In addition, a branch originating from the marginal branch of the left circumflex coronary artery formed this distal bifurcation (Figure 2 A and B). This anomaly is very extremely rare. The incidence of coronary artery anomaly was found to be approximately 1% in a population undergoing coronary angiography. Patients having coronary anomalies are generally asymptomatic although coronary anomalies have been implicated in chest pain, sudden death, cardiomyopathy, syncope, ventricular fibrillation, and myocardial infarction. Ischemia associated with coronary anomalies can be reproducible with stress testing. Therefore, a positive stress test might be the result of coronary anomaly.

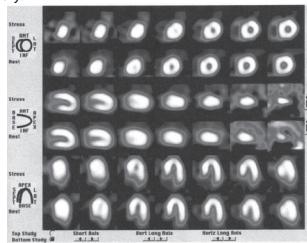


Figure 1

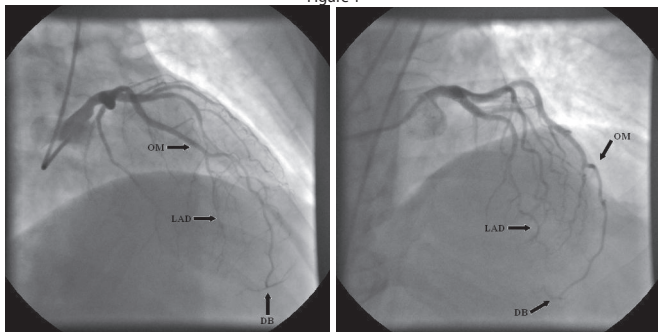


Figure 2a

Figure 2b

PP-128 ASSESSING THE SYMMETRICAL DOUBLE AORTIC ARCH CASE: IS MAGNETIC RESONANCE IMAGING BETTER?

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OBJECTIVE: Double aortic arch is one of the forms of vascular ring in which the trachea and esophagus are completely encircled by connected segments of the aortic arch and its branches. Both arches may be patent, or an atretic segment may exist at one of several locations in either arch. Contrast-enhanced Magnetic Resonance Imaging (MRI) is known to be one of the best diagnostic tool for evaluation of the thoracic aorta malformations.

Case: We present a 3-year old girl who has the symptoms of frequent episodes of upper respiratory tract infection admitted to the hospital for several times. In the last admission, she was intubated for the symptoms of cyanoses, dyspnea and lack of spontaneous breath. During physical examination, laryngeal respiratory stridor and dyspnea without cyanosis was found. Echocardiography suggested the presence of a double aortic arch. Then, she was referred to our clinic. The trachea and esophagus were surrounded and compression appeared in MRI angiography. Although double aortic arch is seen, the images of MRI could not lead us for the clear evaluation of the whole structure of thoracic aorta. 64 beam Multislice Computed Tomography (MSCT) clearly showed both aortic arches diameter to be similar in size (9mm). Each arch was found to rise individual ipsila-

teral carotid and subclavian arteries, distal of the aortic arch was clearly normal in diameter. Left posterolateral thoracotomy revealed the complete vascular ring. We divided the right aortic arch just distal to the origin of the right subclavian artery. Ligamentum arteriosum was also divided. The postoperative course was uneventful and brought relief from respiratory symptoms.

CONCLUSION: We report an extremely rare case of a double aortic arch. Outcomes are excellent after repair of double aortic arch, although it takes some time. Diagnostic tool for the assessment of double aortic arch may be MRI for most of the clinics, the results do not always meet the demands. The development of cross-sectional imaging techniques has facilitated the surgical treatment of vascular anomalies. MSCT presents a highly accurate preoperative evaluation of the vascular anatomy.

PP-129 RUPTURED SINUS OF VALSALVA ANEURYSM ASSOCIATED WITH LEFT VENTRICULAR NONCOMPACTION AND MITRAL VALVE PROLAPSE

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Ankara Numune Education and Research Hospital¹

A 27-year-old Caucasian patient presented with the complaints of dyspnea and abdominal pain which began one month ago. On physical examination his vital signs were stable with a pulse rate of 110 bpm and blood pressure of 120/65 mmHg. He had no marfanoid feature. A loud, harsh, continuous grade 4/6 murmur was audible near the right sternal border. Electrocardiogram revealed sinus tachycardia and right axis deviation. On transthoracic echocardiography (TTE), parasternal short axis view demonstrated a ruptured noncoronary sinus of Valsalva aneurysm (SVA) with a typical "windsack" appearance (Figure 1). There was continuous flow from the aorta into the right atrium via the ruptured aneurysm. Right heart chambers were enlarged with an estimated peak systolic pulmonary artery pressure of 65 mmHg. Left ventricular dimensions were normal with a mildly depressed ejection fraction of 50%. Left ventricular myocardium had prominent trabeculations and deep recesses which suggested "noncompaction cardiomyopathy" (Figure 2). The patient also had mild mitral regurgitation. We further continued diagnostic workup with transesophageal echocardiography (TEE). TEE confirmed the diagnosis and further showed prolapse of A2 scallop of the mitral valve (Figure 3). The patient went on urgent cardiac surgery. The thin walled aneurysmal portion was resected and repaired with a Dacron patch. Postoperative recovery was uneventful.

SVA is a localized weakness of the wall of the sinus of Valsalva, which leads to focal bulging. It is usually congenital in origin and comprises less than 1% of congenital cardiac defects. SVA originates from the right sinus in 70%, noncoronary sinus in 30% and rarely from the left sinus. It is usually silent until compression of a nearby structure or rupture occurs. Ruptured SVA is rare but life threatening condition which demands prompt diagnosis and treatment. TTE, TEE or aortography can confirm the diagnosis. SVA is usually associated with other cardiac anomalies. Ventricular septal defect is present 30-50 % of patients, aortic valve abnormalities are present in 20%. Other associated anomalies are: Pulmonary stenosis, atrial septal defect, tetralogy of Fallot, patent ductus arteriosus, coarctation of aorta and subaortic stenosis. However its coexistence with left ventricular noncompaction is only reported in a case report by Ünlü et al. Noncompaction is thought to be due to arrest of the physiologic intrauterine compaction process of the ventricular myocardium. In addition to ruptured SVA and noncompaction, our patient also had mitral valve prolapse. Whether this coexistence is coincidental or due to a defect in a common developmental pathway requires further research.

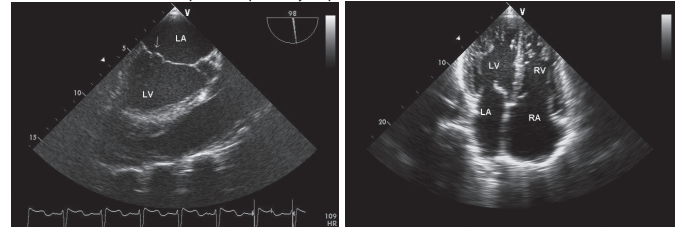


Figure 1

Figure 2

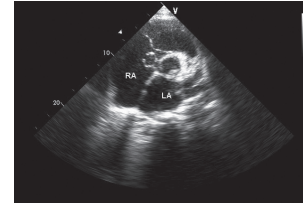


Figure 3

PP-130 POMPE'S DISEASE PRESENTING AS SUPRAVENTRICULAR TACHYCARDIA IN NEWBORN

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Infantile Pompe disease is an autosomal recessive glycogen storage disease presenting with hypotonia and muscle weakness. The deficiency of lysosomal acid alpha-glucosidase (acid maltase) leads to generalized myopathy, progressive cardiomyopathy and death in early infancy. Here, we present an infant who presented in the neonatal period with supraventricular tachycardia, secondary to hypertrophic cardiomyopathy.

The patient, a 2-month-old girl, was born after an uneventful pregnancy from a healthy, 25-years-old mother with birthweight of 3000 g. In the delivery room, the baby presented tachycardia. On physical examination, she was hypotonic. Her heart rate was 220/min. Electrocardiography demonstrated supraventricular tachycardia. Adenosine 0.1 mg/kg IV bid, was given and her tachycardia improved. Chest X-ray was normal. Echocardiography demonstrated hypertrophic cardiomyopathy. Holter-ECG showed ST elevations, short PR intervals (0.08 sec), narrow QRS and normal sinus rhythm. Laboratory investigations for the differential diagnosis of hypertrophic cardiomyopathy including complete blood count, liver and renal function tests, lactic acid, pyruvic acid, uric acid, ammonia, thyroid functions, TANDEM MS examination and abdominal ultrasonography were normal. On the follow-up, optic fundus examination showed bilateral optic atrophy. Cranial magnetic resonance imaging showed corpus callosum agenesis.

Infantile Pompe disease was suspected because of hypotonia, cardiomyopathy, respiratory and swallowing difficulties and short PR in ECG. Muscle biopsy revealed normal findings but acid maltase activity was found significantly reduced (%30). Enzyme replacement therapy (myozyme, 2 doses per month) was started. Propranolol PO was added because of supraventricular tachycardia. On follow-up, the patient did not present any arrhythmia.

In conclusion, infantile Pompe disease may have different presentations and the pathogenesis of arrhythmias is not clear. This case was presented because of the rare presentation of supraventricular tachycardia in the neonatal period of infantile Pompe disease. We thought that, the differential diagnosis of supraventricular tachycardia in the newborn period may include metabolic myocardopathies, especially infantile Pompe disease.

PP-131 EVALUATION OF CARDIAC AUTONOMIC DYSFUNCTION IN PATIENTS WITH DUCHENNE-TYPE MUSCULAR DYSTROPHY

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OBJECTIVE: The purpose of this study was to investigate the presence of autonomic dysfunction in patients with Duchenne Muscular Dystrophy (DMD) by using time-domain measurements of heart rate variability

METHOD: Time-domain analyses of heart rate variability during 24-hours Holter ECG monitoring were performed in 43 patients with DMD and 34 healthy male controls. We evaluated the variability of the heart rate and its circadian rhythm. The results of time-domain analyses were also compared between study and control group. However ventricular functions in all patients were evaluated by 2-dimensional echocardiography.

RESULTS: The mean age of study and control groups were 8.79±3.0 years (3-17 years), and 9.52±3.1 years (4-16 years). As a result of our study, all of the time-domain parameters (NN,SDNN, SDANN, SDNN-i, RMSSD, pNN50) were significantly lower in the study group compared with control group. However no significant difference was detected in left ventricular systolic function parameters(EF,FS,LVEDd) on echocardiographic evaluation between study and control groups

CONCLUSIONS: We determined the time-domain parameters decreased significantly in DMD patients. Our data show a marked impairment of cardiac autonomic function in patients with DMD, which appears to mainly involve the parasympathetic activity. We concluded that autonomic dysfunction has developed in the earlier period in DMD while cardiac mechanical dysfunction hasn't occur yet.

PP-132 ACUTE HEPATIC INSUFFICIENCY AND SIRSLIKE SYMPTOMS DEVELOPED IN CHILDREN LESS THEN 10KGS WHO UNDERWENT COMPLEX CONGENITAL CARDIAC SURGERY WITH CONVENTIONAL ULTRAFILTRATION.

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OBJECTIVES: The aim of the study was to evaluate the clinical and hemodynamic effects of intraoperative extracorporeal ultrafiltration (UF) on hepatic functions and its potential in reducing the risk of immune response syndrome following open heart surgery in children.

METHODS: Thirtyfive children who admitted to our clinic between January 2007 and May 2009 and less than 10kg in weight (mean: 7,6 kg) with complex congenital heart disease were retrospectively randomized into a control group (n = 10) and a group who underwent UF (n = 25). Serial plasma samples for measurements of C reactive protein (CRP),WBC, SGOT and SGPT were obtained before and up to 48 h after cardiopulmonary bypass (CPB). A conventional ultrafiltration (105cc/kg ± 15cc) was established. All of the patients were operated by the same surgeon.

RESULTS: Postoperative hemodynamics were similar in both groups. Plasma levels of SGOT and especially SGPT increased significantly perioperatively (P < 0,01) in five patients of UF group. WBC count and CRP levels were also high in five cases in the UF group and two of them also had peritoneal dialysis due to increased plasma levels of BUN and creatinine. Compared to the control group the duration of IU stay, ventilation time were unaffected by the ultrafiltration procedure.

CONCLUSIONS: In this study no hemodynamic effect was registered after UF. SGOT and SGPT were occasionally detected high in five patients in the ultrafiltrate group but we were unable to demonstrate the exact mechanism which caused the hepatic insufficiency and SIRSLike symptoms in two of five in the group subjected to ultrafiltration. Certainly UF plays a significant role in reducing water retention, balancing the hematocrit and postoperative lung injury in congenital surgery but must be administered carefully and should be adjusted to each individual patient.Ultrafiltration of the prime solution may be more efficient in reducing and cleaning the immune reactive bodies in neonates and low weight patients. Modified UF in delayed CPB may be a more safe and physiological method in comparison to conventional UF.

PP-133 MAIN PULMONARY ARTERY ANEURYSM

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OBJECTIVE:Pulmonary artery aneurysm is a rare lesion of the thoracic cavity(1). We present a case of a giant fusiform aneurysm of the main pulmonary artery which was associated with mitral and aortic valvular pathologies.

METHODS: Our patient was a 52-year-old woman. She was admitted to our Cardiology Outpatient Clinic for dyspnea and increasing weight loss. She was in New York Heart Association (NYHA) functional class III at presentation. Transthoracic echocardiography(TTE) showed severe aortic regurgitation and moderate mitral stenosis(mitral valve area:1.1cm2),and pressure gradient was mean 10mmHg at mitral valve. Pulmonary arterial diameter was 55mm. Her cardiac catheterization was confirmed severe aortic regurgitation and an aneurysm involving the main pulmonary artery.

RESULTS: She went under operation. Following a median sternotomy,pericard was opened longitudinally. Constricting layers of pericardium were separated if possible. We explored the giant main pulmonary artery aneurysm.Our standart radiofrequency ablation technique was performed. After this step we performed mitral and aortic valvuloplasty procedures.

CONCLUSION: Usually, surgical interventions are suggested, but the long-term outcomes are not well established(1). The treatment can therefore be conservative as no clear guidelines to support interventional management(2). However, the long-term follow-up is necessary.

1. Shih HH, Kang PL, Lin CY, Lin YH.Main pulmonary artery aneurysm. J Chin Med Assoc 2007;70(10):453-5. 2.Khalil MZ, Al-Nozha MM, Wani BA. Asymptomatic giant pulmonary artery aneurysm in an elderly male patient. Saudi Med J 2004 ;25(6):802-4.

PP-134 A CASE OF LEFT VENTRICULAR NONCOMPACTION WITH STROKE

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A 34-year-old male patient with previous stroke presented to neurology outpatient clinic for control examination. He had an embolic stroke seven years ago and was on warfarin therapy since then. On cranial magnetic resonance imaging there were chronic infarcts on left occipital and right temporal lobes. During this first admission no cardiac source of embolism was defined. He also had no increased risk of stroke due to coagulation abnormalities. On control examination, he was consulted to our department for an abnormal electrocardiogram(ECG). The patient suffered mild exertional dyspnea. On physical examination his vitals were normal. There was Wolff-Parkinson-White (WPW) pattern on ECG. A transthoracic echocardiogram (TTE) revealed a hypertrophic left ventricle with an ejection fraction of 55%. There were prominent trabeculations at the apex and mid-inferoposterolateral wall of the left ventricle. The intertrabecular recesses were deep and

the blood flow into these recesses was visualized by color Doppler. The ratio of noncompacted subendocardial layer to compacted epicardial layer was two at end-systole. The echocardiographic appearance of the left ventricle was characteristic of left ventricular noncompaction. There was no other coexisting pathology such as hypertension or aortic stenosis that may be responsible for the increased wall thickness. No thrombus was seen within cardiac chambers. We thought that the stroke was a consequence of thrombus formation in the noncompacted myocardium and decided to continue warfarin therapy. The patient had no palpitations and no intervention was intended for WPW.

Stroke is a frequent feature of left ventricular noncompaction. In a series, stroke was diagnosed in 16 (15%) among 104 noncompaction patients. Extensively trabeculated ventricle, depressed systolic function, and/or the development of atrial fibrillation are the potential causes for thrombus formation. Prevention of embolic complications is important and several authors have recommended long-term prophylactic anticoagulation for patients in noncompaction with atrial fibrillation and severe systolic dysfunction. As a result, noncompaction can cause stroke in the young age yielding to significant morbidity. During investigation for stroke in the young patients, noncompaction should be kept in mind.

PP-135 PERCUTANEOUS CLOSURE OF A CONIFORM MUSCULAR VENTRICULAR SEPTAL DEFECT VIA RETROGRADE APPROACH IN AN ADULT

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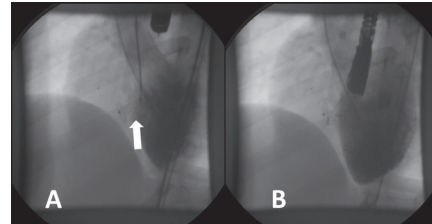
GATA Kardiyoloji AD Ankara¹

AIM: Muscular ventricular septal defects (VSDs) are increasingly closed via percutaneous devices. Antegrade technique which needs an arteriovenous (femorofemoral or femorojugular) loop of the guidewire has been used in the majority of the patients. Retrograde approach, on the other hand, has been used when antegrade approach fails. We, herein, report a case of a young male with a muscular VSD in whom retrograde approach was used without attempting the antegrade one in order to minimize both procedural and fluoroscopy time.

CASE: A 20-year-old male presented with an atypical chest pain and decrease in exercise capacity in the last 2 months. He had a systolic murmur of 2-3/6 in intensity along the left side of the sternum spreading to right. ECG showed left ventricular hypertrophy. Transthoracic echocardiography showed a VSD in the mid portion of the septum with Qp/Qs of 1.7. Cardiac catheterization confirmed the results of echocardiography and showed a coniform VSD in an aneurysmal segment. We decided to close the defect via percutaneous closure device and preferred retrograde approach. The procedure was performed under general anesthesia with continuous transesophageal echocardiography (TEE) guidance. Left ventricle (LV) side of the coniform defect (which was larger than the right ventricle (RV) opening) was measured with TEE at end diastole. A 9F sheath sheath was placed in the left femoral artery. A 6F AR2 catheter was chosen considering the coniform shape for better engagement and advanced into the LV. A 0,035" hydrophilic wire was delivered and passed into the RV across the VSD. The wire was advanced up to the pulmonary artery but we were unable to pass the AR2 catheter through the defect. Then AR2 catheter was replaced by a 6F JR4 catheter and it was successfully advanced into the right ventricle and the pulmonary artery. The hydrophilic wire was replaced by a 0,035" stiffer wire (260 cm), the JR4 catheter was taken out, and then 9F delivery sheath was advanced into the RV across the VSD. We, then, took out the stiff wire and a 16 mm closure device (Amplatzer muscular VSD occluder) was advanced into the right ventricle. After the deployment of RV disk under the guidance of both TEE and fluoroscopy the delivery sheath was pulled back and LV disk opened. Before releasing the device we checked out the position with both TEE and left ventriculography (Picture 1A). Both TEE and ventriculography showed complete closure of the defect after release (Picture 1B). Total fluoroscopy time was 19 minutes and the total procedural time was 54 minutes.

DISCUSSION: Making a femorofemoral loop in antegrade approach provides a stable wire over which the delivery system can be easily advanced. However, necessity of snaring the wire and making a loop is time consuming and causes increased cost and fluoroscopy time. Retrograde approach omits the need of wire loop formation. Decreased fluoroscopy and procedural time in retrograde approach compared to antegrade approach (33.8±20.9 and 41.9±6.2 for fluoroscopy and 91.1±22.1 and 41.9±6.2 for procedural time, respectively) were reported. In the present case 19 minutes fluoroscopy and 54 minutes procedural times were both lower than their findings. This method also reduces cost as we do not use snare and additional catheters.

Conclusion: Retrograde deployment of Amplatzer VSD Occluder is a safe method with its advantages in radiation exposure, time and cost.



Picture 1

PP-136 AUTOLOGOUS RIGHT PULMONARY ARTERY WALL FOR THE REPAIR OF ABSENT LEFT PROXIMAL PULMONARY ARTERY IN A PATIENT WITH TETRALOGY OF FALLOT AND ABSENT PULMONARY VALVE

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Marmara University School Of Medicine¹

OBJECTIVES: Tetralogy of Fallot (TOF) associated with absent pulmonary valve (APV) is an uncommon variant that occurs in up to 6% of patients with TOF. Absence or hypoplasia of the proximal portion of the left pulmonary artery (PA) with the distal part arising from the PDA has been reported to be exceptional in TOF/APV. We described a surgical technique to repair discontinuous left proximal PA in a patient with TOF/APV syndrome and absent proximal left PA.

METHODS AND FINDINGS: A three year old boy with the diagnosis of TOF/APV and discontinuous left PA was referred for total surgical correction. In cardiac catheterization revealed severely dilated main and right PAs. The distal part of the left PA was fed by the PDA (Figure 1). The anterior wall of the pulmonary trunk was resected and the triangular resection was extended to the anterior wall of the right PA beyond the hilum of the right lung to near the origin of upper and lower lobe arteries. The resected wall of the right PA was trimmed and rolled up on a linear probe (8 mm in diameter). A tubular graft (40 mm in length) was constructed by using multiple interrupted 7.0 polypropylene sutures (Figure 2). The graft was anastomosed to the distal left PA beyond the ductal attachment. Asfter pulmonary valve replacement, trans-annular patch enlargement of the RVOT was performed (Figure 3). Results: In patients with TOF/APV and absent proximal left PA, an autologous tubular vascular graft constructed from aneurysmal right PA is a feasible alternative for the repair of absent left PA. But further studies on the long term patency and the risk of redilatation are mandatory.

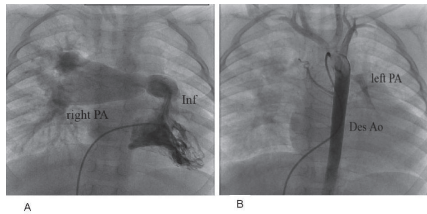


FIGURE 1

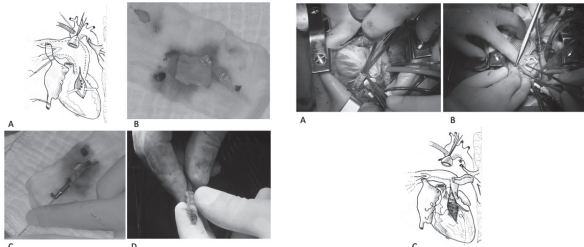


FIGURE 2

FIGURE 3

PP-137 A CASE OF LATE EMBOLIZATION OF ATRIAL SEPTAL OCCLUDER DEVICE WHICH RECOGNIZED WITH VENTRICULAR TACHYCARDIA

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Percutaneous transcatheter closure of atrial septal defects(ASD) has been gaining in popularity as a successful treatment modality in adult patients. Device embolization is a complication of this procedure and it usually occurs in the early hours after implantation. The device embolization frequently trends to right heart. A 47-year-old woman was admitted to our hospital for percutaneous closure of ASD. Percutaneous transcatheter closure was started with the guidance of transesophageal echocardiography (TEE) under general anesthesia. Access is gained via the right femoral vein. ASD dimensions were assessed by a sizing balloon and TEE. An ASD diameter of 13 mm was measured and decided to implant a 15 mm device. A stiff guidewire positioned in the left upper pulmonary vein after crossing the atrial septal defect. The delivery sheath was subsequently advanced over the stiff guidewire through the ASD and into the left atrium. Amplatzer septal occluder was then loaded into the delivery sheath and passed across the ASD. The distal disc was opened in the left atrium. After confirming the proper position of distal disc under the guidance of transesophageal echocardiography, the proximal disc was opened in the right atrium by withdrawing the delivery sheath slowly. Either residual shunt on TEE or problem with Minnesota maneuver was not detected, and the device was released subsequently. Almost 10 minutes later following device implantation, a run of non-sustained ventricular tachycardia originating from left ventricular outflow tract was detected and fluoroscopic control was performed. It was recognized that the device had dropped to left atrium and then embolized to the arcus aorta near the origin of left subclavian artery passing through the left ventricle, but blood flow towards the left subclavian artery had not been blocked. The device was caught from the screw by the gooseneck snare catheter and retracted after accessing via the left femoral artery. A 18 mm larger device was implanted. Either residual shunt on TEE or problem with Minnesota maneuver was not present and the procedure was finished. Fluoroscopic and transthoracic echocardiographic controls were performed prior to discharge of patient and did not show any abnormality. She was asked to come again 15 days later or without delay if she had a complaining. She was admitted to hospital complaining of palpitation on day 12 after implantation. It was detected that device was not in the implantation site, again embolized to the left heart and held up near the origin of left subclavian artery in arcus aorta previously retracted location (Figure 1). Once again, the device was caught from the screw by gooseneck snare catheter and retracted after accessing via the left femoral artery (Figure 2). Percutaneous transcatheter closure was not considered again and an operation was recommended to patient. The embolization of ASD occluder device is usually occurs towards to the right heart. Interestingly, device embolized to the left heart in our case and probably caused a non-sustained ventricular tachycardia when device was in left ventricle. The detection of ventricular tachycardia during the weaning period after general anesthesia and late period after implantation let us to consider the probability of device embo

pediatric cardiologist who had assessed the child because of failure to thrive and a systolic murmur. Cardiac ultrasound showed d-TGA with a minimal patent foramen ovale, a small patent ductus arteriosus and a small sub pulmonary ventricular septal defect. Because of a hypoxic 3 month old infant, with insufficient mixing, signs of heart failure and a LV considered to be deconditioned, the decision was made to perform surgical atrial septectomy and banding of the pulmonary artery, in order to prepare the LV for a delayed arterial switch operation. 6 weeks after banding, arterial switch was performed, along with closure of the atrial and ventricular septal defects and also of the patent ductus arteriosus. Results : after the palliative procedure, the postoperative evolution was difficult, with a prolonged adaptation of the LV to the pulmonary banding. The patient developed signs of congestive heart failure and inotropic support had to be maintained for 2 weeks, associated with vasodilator and diuretic therapy. The patient also presented a prolonged pneumonia, with favourable evolution under combined antibiotic therapy. After the arterial switch procedure, hemodynamic evolution was good, allowing rapid reducing of inotropic support and closure of the chest at 36 hours postoperatively. Postoperative evolution encountered infectious complications, respectively sepsis and toxic hepatitis. The complications had a favorable evolution under therapy. The patient was released 3 weeks postoperatively, in stable hemodynamic conditions, without significant residual cardiac lesions.

DISCUSSION: In d-TGA, the capacity of the LV to sustain systemic circulation decreases progressively after 2 weeks of age, depending upon the patency of the ductus arteriosus, dimension of the atrial septal defect, level of pulmonary resistances and the degree of obstruction of the left ventricular outflow tract. Surgical correction was challenging, due to pericardial adhesions invariably developing after the first operation, and whose excision prolongs the duration of the procedure and the risk for bleeding. A positive aspect, form a technical point of view, is the fact that the stenosing band causes, at the level of the pulmonary truncus, an anastomosing orifice approximately equal to the aorta, facilitating the anastomosis of the great vessels, between which there is usually a caliber mismatch in favor of the pulmonary artery. Rapid reconditioning is followed by a significant morbidity, as showed by the evolution of the patient. Sudden increase in the after load of the LV induces sub-endocardial ischemia, with consecutive severe ventricular dysfunction, till ventricular stunning. This is why a ventricular LV/RV pressure ratio of 65% is considered to reduce the rate of complications.

CONCLUSION : assessment of the capacity of the LV to sustain systemic circulation depends on echocardiographic, invasive and MRI assessments. LV is appreciated as deconditioned if : age more than 3 weeks, banana shape of the LV on echocardiography, along with LV mass less than 35g/m2. Arterial switch should be performed when LV mass reaches 50 mg/m2. The capacity of the LV to sustain systemic circulation is defined in conjunction with two factors: ratio of LV/RV pressures of more than 0,75 and MRI measured LV mass of more than 80 g/m2. In countries with a significant lack of pediatric cardiologists, like ours, late diagnosis of congenital heart diseases remains a major problem. Under these circumstances, development of alternative therapeutic management for the patient in whom proper timing is missed, offering the chance for a anatomical correction, remains a salvaging option.

**CARDIOVASCULAR MEDICINE :
CLINICAL OBSERVATION IN VARIOUS ASPECTS**

PP-139 EARLY EMBOLECTOMY IN PULMONARY EMBOLISM A CASE REPORT

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Pulmonary embolism (PE) is a relatively common cardiovascular emergency. Early diagnosis is fundamental, since immediate treatment is highly effective. We aimed to present a case in which we diagnosed in a short time period and treated with embolectomy in an early stage to show good results in experienced centers.

It was seen that left main pulmonary artery was obliterated with thrombus in magnetic resonance imaging of the case with clinical findings of pulmonary thromboemboli. Embolectomy was performed in open heart surgery circumstances before any worsening in the clinical findings.

There was no thrombus in left main pulmonary artery in control magnetic resonance imaging. Embolectomy has been performed in treatment of cases of pulmonary embolism with high risk. We think that surgical embolectomy performed in experienced centers in an early stage would decrease the mortality and morbidity.

KEY WORDS: Pulmonary embolism, deep vein thrombosis, embolectomy

PP-140 PLANNED NURSING CARE DECREASES MORBID COMPLICATION AND MAY INCREASES THE PATIENT SATISFACTION: A CASE STUDY

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INTRODUCTION: Mobilization is very important issue in patient with dilated cardiomyopathy. If these patients need to be hospitalized and intra-aortic balloon pump must be used, they have to stay in bed with limited mobility. In this circumstance; extra exercise, much more care and delicate hygienic protocol are necessary to increase peripheral circulation and tissue perfusion.

PURPOSE: Our presentation is about the efficiency of planned nursing care for patient who has large skin wound on upper part of the both feet and wet lesion within right foot fingers.

Materials: The patient had been hospitalized for four months in the cardiovascular department. An intensive nursing care including twice a day feet wash and passive exercises in bed was given. No other treatment or medication was suggested or implemented by physicians. Pulse, coloring, swelling, loss of sense, loss of motor function and status of infection has been checked twice a day. Pain and sensitivity of extremities was evaluated by visual analogue scale per each day.

RESULTS: This supportive care showed good results after ten day, and the lesions diminished on both feet. The patient perceived lower pain and sensitivity, but itching remained. Although to treat the low cardiac output is very important during these patients should be stay in intensive care unit with intraaortic balloon pump and limited mobilization, a planned and organized nursing care is also necessary to decrease morbid complication. We would like to discuss that a planned and organized nursing care is always necessary for these very delicate patients.

PP-141 A GIANT THYMIC CARCINOID TUMOR: A CASE REPORT.

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This is a presentation of a rarely observed giant anterior mediastinal mass with invasion to adjacent tissues and subsequent discussion on pathologic histochemical findings.

A 46 years old truck driver, male patient who presented to our clinic with difficulty in breathing for only two months. Physical exam revealed; orthopnea, tachypnea, tachycardia, bilateral decreased breath sounds, mild

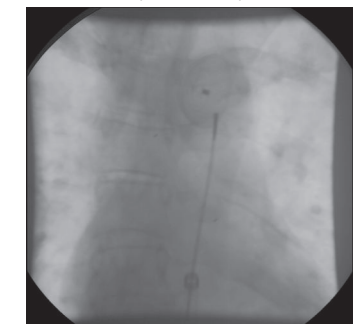


Figure 1: ASD device is shown in the arcus aorta near the origin of left atrium. ASD: Atrial septal defect

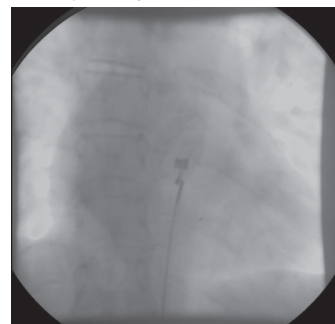


Figure 2: ASD device is caught from its screw by the gooseneck snare catheter. ASD: Atrial septal defect

PP-138 RAPID TWO STAGE ARTERIAL SWITCH OPERATION - CASE PRESENTATION

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Institute for Cardiovascular Diseases and Transplant Tg.Mures¹, Institute for Cardiovascular Diseases and Transplant Tg.Mures^{1,2}, Institute for Cardiovascular Diseases and Transplant Tg.Mures^{1,2,3}

SYNOPSIS: arterial switch operation for d-transposition of the great arteries performed at 2-3 weeks of life is the surgical gold standard. As some patients fall out of this timing, an alternative method of late arterial switching after conditioning the left ventricle is still giving the patient the chance for an anatomical correction. There is a group of patients who can't undergo operation in this period, considered safe: patients with post-natal complications (extra uterine life maladaptation, infections, premature-related) or the group, more often encountered in our particular situation that of patients not timely diagnosed.

METHOD : a three month old male infant was admitted to our department, emergently referred by the local

peribial edema. Computerized tomography of the chest demonstrated a large mass in the anterior mediastinum extending into the left hemithorax.(Figure 1). Electrocardiogram showed sinus rhythm with T wave inversion in V1 to V6. Echocardiographic exam revealed an ejection fraction of 65 %, pericardial effusion, no valve dysfunction. He had bilateral skeletal muscle weakness. The patient underwent resection of the tumour via median sternotomy Agents that may cause acetylcholine discharge are avoided because of consideration of a thymoma. During surgery blood pressure and heart rate were maintained with appropriate management and there were no signs of neuroendocrine secreting tumor. The mass was causing compression to the heart and pericardial effusion demonstrated a thick, fibrillar structure. After drainage of the effusion, anterior pericardium is resected. An enlarged tumor of 13x11x6 cm was resected and found to have invasion to the superior vena cava, pleura, left and right lung fields, and pericardium. (Figure 2) The anterior mediastinal part, some of left and lung fields of the mass was removed. The pathologic investigation revealed a thymic carcinoid tumor with two different histopathologic components including sarcomatous and neuroendocrine. It is important to differentiate thymic carcinoid tumor from thymoma as they have different prognosis. An aggressive surgical approach and adjuvant radiotherapy may achieve an extended survival.

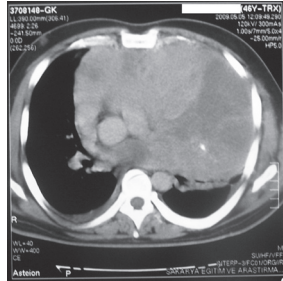


Figure 1. Computerized tomography of the chest. A large mass in the anterior mediastinum extending into the left hemithorax

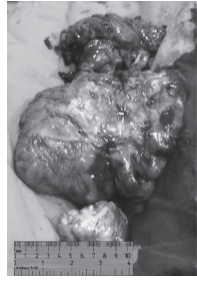


Figure 2. The largest thymic carcinoid tumor of 13x11x6cm.

PP-142 INTRACARDIAC THROMBUS IN A PATIENT WITH PROTEIN-C DEFICIENCY IN SINUS RHYTHM: A CASE REPORT

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AIM: Protein C deficiency is an inherited thrombophilia presented in adults with venous thrombosis at different sites. Symptomatic atrial thrombus presentation of protein C deficiency is a rare condition. This report investigates a woman with protein C deficiency who presented with left atrial thrombus in sinus rhythm.

CASE REPORT: A 40 year-old woman presented with a left atrial (LA) thrombus accompanying recurrent ischemic stroke that has been successfully treated by anticoagulant therapy. Conventional cardiac magnetic resonance (MR) and transesophageal echocardiographic examination showed that left atrial thrombus. Protein C activity was 32% (normal range: 70-140%) and protein S activity 50% (normal range: 55-160%). Transthoracic echocardiography showed that mitral valve area was 3.0 cm², and left atrium diameter was 30 mm. Enoxaparine 100 Anti-Xa IU/kg was given twice in a day and warfarin was added for its treatment. Surgical removal of thrombus has been validated but cannot be proposed to patient since it is a high-risk intervention in case of protein C and S deficiency due to the recurrent thromboembolic events. Control transesophageal echocardiographic examination showed that anticoagulant treatment completely removed the thrombus.

DISCUSSION: A hypercoagulable and secondarily enhanced fibrinolytic state exists in the cardiac chamber of patients with acute cardioembolic stroke or with intracardiac thrombus¹. Most of LA thrombus were complicated with mitral stenosis, LA thrombus without mitral disease is rare. A few authors reported the useful of computed tomography and transthoracic echocardiography.² Anticoagulant treatment suppresses thrombin activity in the cardiac chamber, allowing plasma fibrinolytic activity to predominate and reduce the size of the intracardiac thrombus.³

CONCLUSION: Protein C and S deficiencies is a risk factor for left atrial thrombus formation. Surgical therapy using cardiopulmonary bypass is to be considered carefully. Warfarin and low molecular weight heparin should be given together.

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PP-143 VENOUS DISSECTION DUE TO BRACHIOCEPHALIC FISTULA PUNCTURE

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BACKGROUND: Vascular accesses for hemodialysis are essential for the patients with end-stage renal disease. Native arteriovenous fistulas have many advantages over grafts as shown by lower incidence. It is more difficult to cannulate the native fistulas than the grafts, therefore puncture-related complications occur more in the native fistulas. We present a venous dissection due to hemodialysis intervention to the cephalic vein which was diagnosed by Doppler ultrasound evaluation.

CASE REPORT: A 48-year-old male patient with end-stage renal disease had had a right brachio-cephalic AVF operation for chronic hemodialysis 8 months before. The patient had been on chronic hemodialysis for 16 years due to glomerulonephritis. In his last venous puncture for hemodialysis, he suddenly complained of acute severe pain in the upper arm. He had a sudden swelling over the cephalic vein trace starting from the puncture site and extending to the infraclavicular region without erythematous changes of the overlying skin (Figure 1). Hemodialysis was not started and the needles were immediately removed. Clinical examination revealed thrill over the cephalic vein and continuous murmur was heard. Distal to the insertion site of the venous needle, the cephalic vein was seen hardened on palpation and the patient had pain on palpation. Gray-scale and color Doppler sonography was done to the patient and it revealed a concentric vein wall thickening (11.2 mm) extending along the arterialized cephalic vein up to its junction with the axillary vein (Figure 2). There was a good venous flow in the vein lumen but it was slightly narrowed. Cannulation of the vein was done from the proximal portion of the cephalic vein for subsequent hemodialysis owing to the fact that the fistula patency was preserved. The patient received low-dose heparin at dialysis and no heparin during the hemodialysis free intervals. The patient had an uneventful recovery and one-month follow-up revealed regression of the venous dilatation (Figure 3). Control USG revealed normal venous wall thickness (Figure 4).

DISCUSSION: Venous dissection is explained as a partial thickness tear with disruption of the intimal and medial layers of the vein wall, in which the adventitial layer remains intact. Minor venous dissections may be ignored or unrecognized, whereas major venous dissections may often be incorrectly categorized as venous ruptures. They can be managed using percutaneous techniques. Venous dissection appears to result from vein layer

disruption caused by misplacement of the bevel of the needle which leads to formation of a layer gap through which an anterograde dissecting column originates, driven by the pressure of the dialysis machine's blood pump. Besides the vein wall lesion may occur at the time of cannulation when the needle bevel is rotated. It is important to make the differential diagnosis from thrombosis which necessitates surgical revision. On the other hand medical therapy is mostly sufficient for the patency of the fistula. Furthermore as in our case, it may not be necessary to suspend hemodialysis if there is a good flow through the vein and if the length of the vein proximal to the dissection is enough for venous puncture. In conclusion, venous dissection is a very rarely seen complication in vascular access for hemodialysis. Along with it can be treated with supportive measures when it is diagnosed. We suggest routine dialysis from the proximal portion of the fistula if there is a good flow which may be indicated by good thrill.

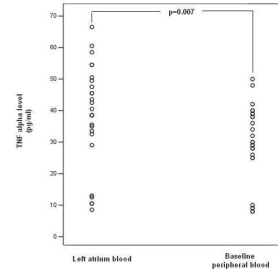


figure 1

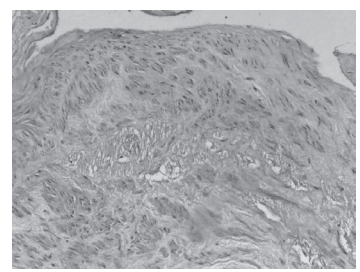


figure 2

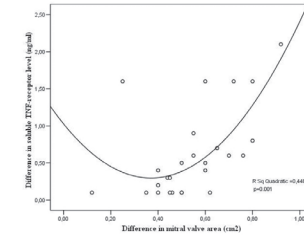


figure 3

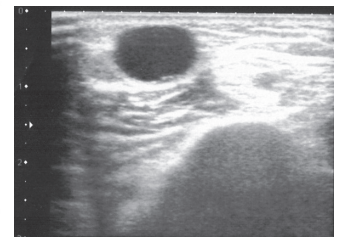


figure 4

PP-144 NURSING CARE IN NON INVASIVE MECHANICAL VENTILATION

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Non-invasive positive pressure mechanical ventilation (NIPPV) is a type of ventilatory support without the employment of an artificial airway. The quality of nursing care is one of the most important determinants for the success of this procedure. The patients' ability to talk and the lack of discomfort provided by the artificial airway are the keys for an efficient communication. The patient compliance might further be enhanced by application of informed consent and motivation before interventions. Patient's mouth should be closed while using nasal mask, and close observation is necessary for its success.

RESULT: NIPPV is an effective treatment modality in selected patients, performed with well educated nursing staff, and with appropriate instruments. Even though NIPPV seems less harmful to patient when compared with classical mechanical ventilation, it has risk of serious complications such as aspiration pneumonia, hypotension and pneumothorax, along with problems related to mask. The need for invasive mechanical ventilation might occur anytime during the employment of NIPPV

PP-145 DYNAMIC LEFT VENTRICULAR OUTFLOW TRACT OBSTRUCTION IN A PATIENT WITH SUBARACHNOID HEMORRHAGE, A CASE REPORT

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Dynamic left ventricular outflow tract obstruction (LVOTO) is the one of the rare cause of hypotension in the critical care units. Trauma, bleeding, diuretics-related volume depletion, or any condition that results in a reduction of left ventricular (LV) volume could be sufficient to reduce the left ventricular outflow area (LVOT). Dyspnea, chest discomfort, and dizziness are the most common presenting symptoms. Tachycardia is usually present due to the adrenergic excess. Hypotension and ST-T changes in the ECG may suggest acute coronary syndrome (ACS). The only finding that was consistently recognized was the systolic ejection murmur. The murmur is late peaking and maximally heard in the left 3rd intercostal space. Intravenous hydration, beta blockers or calcium channel blockers may be useful in the treatment.

A 43 year-old woman was evaluated for new onset systolic murmur and hypotension in the neurosurgery intensive care unit. She had undergone neurosurgical aneurysmal clipping for subarachnoid hemorrhage. Dopamine (10 µg/kg/min) was started for hypotension of 70/40 mm Hg. She had a 3/6 ejection systolic murmur at the left sternal border. Electrocardiogram (ECG) revealed anterior ST-T changes suggestive of ischemia and troponin T elevation to a peak of 0.3 ng/mL. Echocardiogram disclosed a small LV chamber, normal wall thickness and hyperdynamic LV contractility with ejection fraction of 75%. Bedside echocardiogram showed SAM of the AML with LVOTO and a peak gradient of 140 mm Hg (Figure 1). After discontinuation of dopamine, a saline intravenous bolus, and closely supervised administration of 15 mg metoprolol intravenously reduced the murmur to 1/6 intensity, gradient to 20 mmHg. Blood pressure was turned to normal. She was discharged two days later with metoprolol, and repeat echocardiogram in 2 weeks showed normal LV function and no LVOTO.

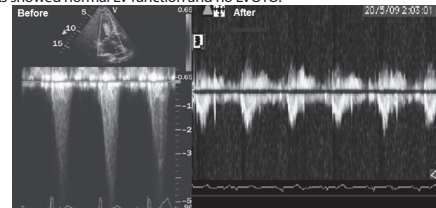


Figure 1. Echocardiography disclosed a peak gradient of 140 mmHg at LVOT. LVOT gradient reduced to 20 mmHg on control echocardiography.

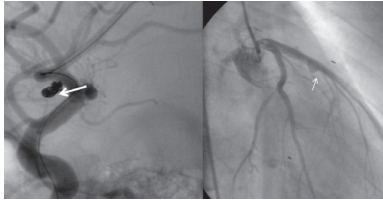
PP-146 CEREBRAL AND CORONARY ARTERY ANEURYSMS IN A PATIENT WITH BEHÇET'S DISEASE, A CASE REPORT

Sercan Okutucu¹, Umut Kalyoncu², Ali Akdogan², Ergun Baris Kaya¹, Hakan Aksoy¹, Farzin Jam¹, Lale Tokgozoglu¹, Giray Kabakci¹, Kudret Aytemir¹, Ali Oto¹
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Behçet's disease is a multisystem disorder and classified as vasculitic syndrome with a wide variety of clinical manifestations. Cardiac involvement is very rare but can occur with different presentations including: pericarditis, cardiomyopathy, endocarditis, endomyocardial fibrosis, intracavitary thrombosis, and coronary artery disease. Although 7-29% of patients suffering from Behçet's disease present with a vascular lesion, cerebral aneurysm and coronary artery aneurysm are rarely involved. We present a case with middle cerebral artery aneurysm and coronary artery aneurysm.

A 34-years-old man suffered from sudden severe headache followed by unilateral weakness at right extremities. Cerebral magnetic resonance imaging and magnetic resonance angiography demonstrated a small aneurysm on M1 segment of the left middle cerebral artery. Neurological examination revealed moderate paresis on right extremities. Cerebral angiograms disclosed a small aneurysm on left middle cerebral artery which was successfully embolized (Figure 1a). Detailed history revealed recurrent oral ulceration as well as angular ulceration and erythema nodosum in the lower extremities. Leucocytosis, elevated serum C reactive protein (CRP) levels, and positive HLA-B51 were also noted, and the patient was diagnosed with Behçet's syndrome.

During follow up in neurology service he was consulted to cardiology due to burning like chest pain or mild dyspnea on exertion. His cardiac enzymes were elevated [Myoglobin 116.1ng/ml (0-72ng/ml), CK/MB : 18.29 ng/ml (0.0-5.0 ng/ml), Troponin T 0.257 ng/ml (0-0.01ng/ml)]. Transthoracic echocardiography revealed mild septal hypokinesia with a left ventricular ejection fraction (LVEF) of 45% (calculated by modified Simpson's method) Coronary angiography revealed a small aneurysm originating from proximal left anterior descending artery and there was no atherosclerotic lesion (Figure 1b). After intravenous pulse steroid, interferon and cyclophosphamide treatment his symptoms diminished gradually and LVEF improved to 55% on control echocardiography that was performed 3 months later.



PP-147 EARLY POSTOPERATIVE DISTAL AORTIC RUPTURE AFTER REPAIR OF ACUTE TYPE A AORTIC DISSECTION

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BACKGROUND: Possible common causes of the early mortality after surgery for acute type A aortic dissection are multiorgan failure, severe neurologic complications and excessively sudden bleeding due to aortic rupture. We report a patient who died of early distal aortic rupture after combined surgical repair and stent-graft implantation for acute type A aortic dissection.

CASE REPORT: A 45-year-old male patient was admitted to our emergency clinic with an abruptly developing back pain. Echocardiography showed a dissection flap starting at 1 cm over right coronary artery and continuing to the descending aorta. The diameter of the ascending aorta was 7.4 cm. He operated on emergency.

RESULTS: On exploration, primary tear site was at 2 cm below the left subclavian artery. Dissection had included ascending, arcus and descending aorta. Surgical procedure included ascending aorta plus aortic arch replacement with 30 mm Dacron tube graft. Cardiopulmonary bypass (CPB) discontinued. Onto widespread bleeding at distal anastomosis region, CPB restarted. 30 mm endovascular stent graft inserted distal aorta and anastomosed proximal tube graft. The patient was uncomplicated early postoperative period. Hemodynamic parameters were stable at first 5 hours after surgery in cardiovascular intensive care unit. At that time, massive drainage occurred suddenly at the left thoracic tube. The patient was re-explored. Residual patent false lumen had ruptured at the distal aorta. His aorta was fully to be emptied. He was lost in spite of all efforts.

CONCLUSION: Careful postoperative follow-up is particularly important in patients with residual patent false lumen after surgery for acute type A aortic dissection.

PP-148 DEHISCENCE OF A COMPOSITE AORTIC GRAFT AND PSEUDOANEURYSM LATE AFTER A BENTALL OPERATION

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Cardiovascular Surgery, Medicana International Ankara¹, Anesthesiology, Medicana International Ankara², Anesthesiology, Medicana International Ankara³

BACKGROUND: Aortic root replacement in patients who had aortic aneurysm and aortic valve insufficiency presents a formidable technical challenge, which may lead to increased surgical mortality. Despite the good surgical results overall, it is still associated with considerable perioperative mortality and with dire complications in the long run. A postoperative pseudoaneurysm may develop and gradually expand in the mediastinal space even late following Bentall operation. We report an unusual case of a late postoperative aortic graft dehiscence, causing acute right heart failure.

CASE: The patient was a 32-year-old woman with previous Bentall operation due to severe aortic insufficiency and ascending aortic aneurysm. She admitted to the hospital with severe dyspnea and hypotension one year after from the surgery. On examination she presented with fatigue, dyspnea, and mild, dull chest pain. Two-dimensional echocardiography demonstrated a markedly dilated basal aorta and cardiac chambers. Thoracic computed tomography-scan highlighted a 14.5 cm diameter pseudoaneurysm compressing the superior vena cava and right atrium. The operation was performed under deep hypothermic cardiopulmonary bypass (arterial and venous line in right femoral artery and vein). After femorofemoral cannulation, sternotomy was performed. A large aortic pseudoaneurysm was demonstrated arising from dehiscence of the proximal graft anastomosis. The dehiscence, involving approximately 40% of the aortic circumference, was located on the right and posterior aspect of the graft anastomosis. A fistulous communication was noted between the left ventricle and the pseudoaneurysmal pouch resulting in a large shunt. The composite graft, didn't require replacing, and it was possible to simply re-suture the composite graft and directly close the tear. The postoperative course was uneventful with no further evidence of leak from the anastomotic sites.

CONCLUSIONS: Pseudoaneurysm of the ascending aorta is a rare but severe complication occurring after composite graft surgery for combined aortic valve and ascending aorta disease. The diagnosis of this condition can be difficult because anastomotic pseudoaneurysms show highly variable clinical features depending on the site of the aortic dehiscence and on the involvement of the surrounding structures. Close long-term follow-up after a Bentall procedure is required to minimize the risk of developing a large pseudoaneurysmal mass. The choice of proper treatment of this complication is difficult and should be based on continuous investigation of clinical symptoms and various technical examinations.

PP-149 DEEP VENOUS THROMBOSIS CAUSED BY PAROXYSMAL NOCTURNAL HEMOGLOBINURIA.

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Atatürk Üniversitesi Tıp Fakültesi Kalp ve Damar Cerrahisi ABD¹, Atatürk Üniversitesi Tıp Fakültesi Dahiliye ABD²

Paroxysmal nocturnal hemoglobinuria (PNH) is a hemolytic anemia based on erythrocyte membrane injury. In this disease the lower amount of erythrocyte membrane proteins CD 55 and CD 59 with the complement factor interference causes intravascular hemolysis. The disorder characterized by a chronic anemia, can cause an important complication of thrombosis of the abdominal veins. We want to present a case of patient with acute stage deep venous thrombosis with the diagnosis of PNH.

A 26 years old male patient with a history of pain and edema of the left leg since one and a half month. A venous doppler ultrasonography showed bilateral an acute thrombosis of the external iliac veins. Both the legs were edematous and painful. Ultrasound of the abdomen showed no abnormalities. Laboratory results were normal except for hemoglobin level (10.7 gr/dl). Brucella agglutination was negative. The CD 55 and CD 59 levels on the erythrocytes and granulocytes were decreased (CD 55 was 15% on the erythrocytes and 10% on the granulocytes and CD 59 levels of 99% on the erythrocytes and 70% on the granulocytes, respectively). With these findings, the patient was transferred to the hematology department for treatment of PNH. Paroxysmal nocturnal hemoglobinuria causes hepatic, splenic, mesenteries, renal and portal vein thrombosis, and also can be caused thrombosis of the deep vein as our case. The patient with deep vein thrombosis should be considered in terms of paroxysmal nocturnal hemoglobinuria.

PP-150 COMBİNEĐ ORTHOTOPIC HEART TRANSPLANTATION AND PROPHYLACTIC ASCENDING AORTA REPLACEMENT IN A MARFAN PATIENT

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Kartal Kosuyolu Yüksek İhtisas Education and Research Hospital¹

Progressive aortic dilatation associated with/without aortic valve incompetence represents the most common cardiovascular manifestation requiring surgical treatment in Marfan patients. Prophylactic replacement of the ascending aorta during orthotopic heart transplantation in a Marfan patient has not been reported previously. At our clinic, a 37-year-old patient with a borderline dilatation of the ascending aorta (4.5 cm) underwent successful heart transplantation and replacement of the ascending aorta to prevent late complications of the recipient's ascending aorta. Total cross-clamp time was 96 minutes, bypass time was 135 minutes, and both cold and total ischemic times of the donor heart were similar (145 minutes). Cyclosporine A, prednisone and azathioprine were given for immunosuppression.

In the future, more transplant centers will be asked to evaluate Marfan recipients with intrathoracic aortic pathology. We believe that prophylactic replacement of the ascending aorta with borderline dilatation during orthotopic heart transplantation is the best way to improve the long-term survival in Marfan patients due to preventing vascular complication.

PP-151 PAGET'S DISEASE OF BONE AND CARDIAC CALCIUM DEPOSITIONS

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Paget's disease of bone (also known as osteitis deformans) is a nonmalignant disease involving accelerated bone resorption followed by deposition of dense, chaotic, and ineffectively mineralized bone matrix. Cardiovascular disturbances are common in Paget's disease, especially in patients with extensive disease. Heart failure with high cardiac output is a rare but well-known complication of Paget's disease of bone. In this case, we presented a 65-year-old male patient who had Paget's disease of bone and cardiac calcium depositions.

CASE: A 65 year-old male patient presented with exertional dyspnea. He had a history of hypertension and Paget's disease of bone for 30 years. His vital signs such as blood pressure and radial pulses were stable. Physical examination revealed apical pansystolic murmur at grade of 1/6. His electrocardiogram showed no abnormal findings. He had obvious deformity at hands and feet. Serum alkaline phosphatase was 342 U/L (reference range 35-129 U/L), serum calcium was 8,8 mg/dL (reference range 8,5-10,5 mg/dL). Transthoracic echocardiography was performed. He had normal ejection fraction and grade I diastolic dysfunction. No calcifications of cardiac valves were noted. Dense calcium depositions were observed in right atrial wall, interatrial septum and inter-ventricular septum. An exercise stress test was performed and interpreted as normal. Computerized tomography (CT) scan of coronary arteries was performed due to possible coronary artery calcifications. Two calcified plaques causing non-significant stenosis were detected in the proximal LAD segment. The patient is currently on follow-up with medical treatment.

DISCUSSION: Cardiovascular manifestations of Paget's disease of bone have long been recognized, starting from the first case described by Sir James Paget. Left ventricular hypertrophy and increased ventricular volumes are commonly encountered; increased cardiac output may be present, but overt heart failure is rare. Calcification of cardiac valves, sometimes leading to significant stenosis or regurgitation, is often noted in patients with Paget's disease, particularly in those with severe disease. Calcification of cardiac valves, sometimes leading to significant stenosis or regurgitation, is often noted in patients with Paget's disease. In severe forms of Paget's disease there is a high prevalence of AS, heart block, and bundle branch block. In our case apart from these reported classical findings, we demonstrated cardiac calcification at various regions of the heart that could potentially affect the integrity of the conduction system. However no conduction disturbance was detected. Extensive cardiac calcifications including coronary arteries were the unusual issue in our case.

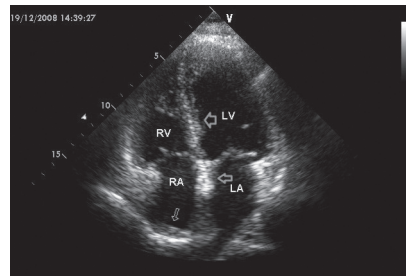


Figure-1 TTE, Apical four-chamber view demonstrating cardiac calcium depositions in right atrium, interatrial and interventricular septum

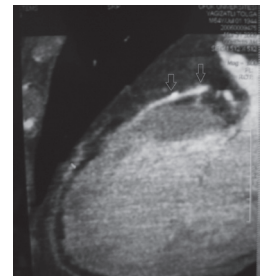


Figure-2, Computerized tomography scan of left anterior descending artery showing two calcified plaques in the proximal segment

PP-152 KEY-LOCK TYPE MINI-STERNOTOMY: AN ALTERNATIVE APPROACH FOR MINIMAL INVASIVE CARDIAC OPERATIONS

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Gulhane Military Academy of Medicine, Haydarpaşa Training and Educational Hospital¹

INTRODUCTION: During the last two decades, there is an increasing interest for minimally invasive techniques in all fields of cardiac surgery by either avoiding cardiopulmonary bypass or limiting the incision. Yet, different limited sternal approaches have been described, including partial upper or lower J, T, S, I or C-shaped sternotomies, for valve operations and repair of common congenital heart defects. Here in this report, we present our clinical experience of minimal invasive cardiac surgery with key-lock type mini-sternotomy.

TECHNIQUE: After a 5-cm median skin incision (Figure 1A-B), the subcutaneous tissue and the intercostal muscles around the level of the right 3rd to 5th intercostal spaces are carefully dissected. Care is taken to avoid damage to the right internal mammary artery. The sternotomy is started from the right border in the 3rd ICS. After a very short horizontal sternal cutting, the striker is directed superiorly toward the midline. At the level of the 2nd ICS and slightly on the left half of the sternum, the striker is directed inferiorly down to the level of the 4th or the 5th ICS. At that level, the striker is directed upward toward the right border of the sternum and the incision is completed. For ASD repair, the mini-sternotomy starting from the 3rd to the 4th intercostal spaces and for AVR from the 3rd to the 5th intercostal spaces is preferred.

From February 2008 to the present, we performed aortic valve replacement (n=6) (mechanical prosthesis in all) and ASD repair (n=10) (primary repair in 7, with a patch in 3) successfully with using a 5-cm skin incision and key-lock mini-sternotomy (Figure 1-2). The exposure was excellent in all cases and the conversion to median sternotomy was easy when necessary. Early postoperative transesophageal echocardiography revealed completely patent interatrial septum and normally functioning aortic prosthesis in all cases. This approach was associated with less postoperative pain levels and higher cosmetic outcomes. Cardiopulmonary bypass, cross clamping and operative times were comparable to those with a standard median sternotomy. None of the cases experienced sternal or femoral wound healing problem.

DISCUSSION: Apart from other minimal invasive sternal incisions, the most important unique feature of key-lock type mini-sternotomy is that, it only opens a window on the sternum rather than partial or complete sternal splitting. Therefore it disrupts the sternal integrity to a minimal degree. Moreover our approach limits the movement of the sternal surfaces in the lateral and craniocaudal directions which might account for better sternal stability, less friction of the sternal surfaces and thereby less postoperative pain.

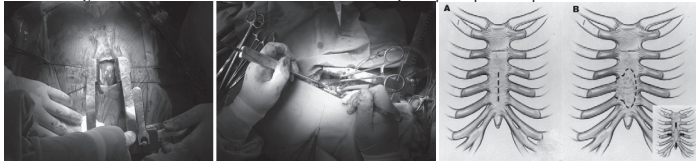


figure 1

figure 2

PP-153 RIGHT ATRIAL MYXOMA WITH HIGH ANGIOGRAPHIC VASCULARITY

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Ondokuz Mayıs Üniversitesi, Kardiyoloji Anabilim Dalı¹, Ondokuz Mayıs Üniversitesi, Kalp ve Damar Cerrahisi Anabilim Dalı²

A 57-year-old woman was admitted to the cardiology department due to palpitation and dyspnea. During initial physical examination, the pulse rate was 90/min (arrhythmic), blood pressure was 110/70 mmHg, body temperature was 36.9°C and respiration rate was 20/min. Cardiac auscultation revealed a grade 2/6 pansystolic murmur best heard at cardiac apex. Cardiothoracic ratio was within normal limits in teleradiography. Atrial fibrillation was present in electrocardiography. Routine laboratory tests were normal. Transthoracic echocardiography showed normal left ventricular dimensions and wall thicknesses with slightly depressed systolic function (ejection fraction of 45%). In addition, there was a moderate mitral regurgitation with biatrial enlargement. However, the most important finding was in the right atrium. There was a huge, mobile and solid right atrial mass with dimensions of 50 mm x 60 mm, attaching to interatrial septum (Figure 1). There was no significant coronary artery stenosis during coronary angiography, but interestingly this mass was taking a rich blood supply from circumflex coronary artery by a thick fistulous connection (Figure 2). The patient was evaluated together with cardiovascular surgeons and surgical removal of the mass was decided (Figure 3). No complications occurred in the postoperative period. Histopathological analysis of the tissue revealed the diagnosis of myxoma. Myxomas are the most commonly seen primary cardiac tumor. Most of them are in the left atrium, but not infrequently they also may occur in the right atrium. Concomitant coronary artery disease and unique vascular appearances of myxomas can be detected by coronary angiography. Familiarity with angiographic findings may help in the diagnosis.

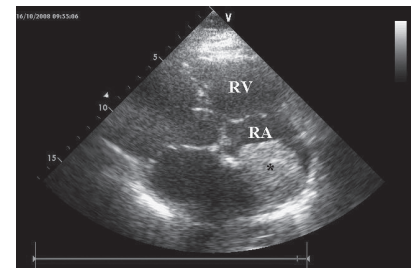


Figure 1: Modified 4-chamber view during transthoracic echocardiography (RA=right atrium, RV=right ventricle, asterisk showing myxoma).

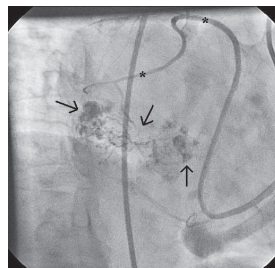


Figure 2: Coronary angiography frame showing myxoma by black arrows and fistulous connection by asterisks.

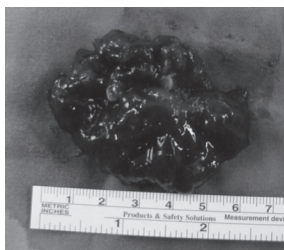


Figure 3: Gross pathological appearance of the myxoma after surgery.

PP-154 RIGHT ATRIAL PAPILLARY FIBROELASTOMA: A CASE REPORT

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A 72 year old woman admitted to our hospital with complaints of dizziness and malaise lasting for nearly ten days. Her medical history was unremarkable except hypertension and type 2 diabetes. The physical examination was completely normal except a 2/6 pansystolic apical murmur and mild pretibial edema. Biochemical and hematologic laboratory parameters were also normal. The electrocardiogram did not show any abnormality. Firstly she was evaluated by the neurology department because of dizziness attacks lasting for approximately an hour and not associated with daily activities. Probable transient ischaemic attack or vertebrobasillary insufficiency made cranial CT inevitable; however patient's in compliance with CT did not let the study to be performed. The carotid Doppler demonstrated stenosis of the left carotid artery that didn't require an intervention. Both neurology and cardiology departments decided to perform a transthoracic echocardiography because of apical systolic murmur and probable transient ischaemic attack. The echocardiography demonstrated a 11x 11 mm pediculated right atrial mass arising from the tricuspid valve (Fig. 1 and 2). The mass was mobile and the patient was hospitalized in the coronary care unit for the differential diagnosis and probable surgical operation.

The medication consisted of acetylsalicylic acid 1x 100mgr, low molecular weight heparin 2 x 0.6 cc (sc) and losartan 1x 50mgr for moderately high blood pressure values. The oral antidiabetics were ordered as used by the patient. A coronary angiography was performed because of coronary artery disease risk factors before a probable operation and the coronaries were found to be normal. As the mass was mobile and greater than 10 mm, excision was planned to prevent embolization and make the pathological diagnosis.

A 15x12 mm white colored pediculated mass, originating from the tricuspid valve was excised during the operation. The pathological examination showed the mass to be papillary fibroelastoma. The transthoracic echocardiography performed after the operation showed that the mass was excised completely but a mild-moderate tricuspid insufficiency was demonstrated. A six-month duration of oral anticoagulation was planned after the operation and the patient was then discharged. During the follow-up, no embolic episode happened and the severity of tricuspid insufficiency did not increase.

DISCUSSION: Papillary fibroelastoma accounts for approximately 10% of all primary tumors. They are usually found in older patients and are from either the aortic or mitral valve. Papillary fibroelastomas are accounting for more than 85% of valve-associated tumors. The echocardiographic examination looks like vegetation and differential diagnosis is quite difficult. Mobility is common and usually embolic events have been attributed to them, both before and after the excision. This case was interesting as the tumor was arising from the tricuspid valve and diagnosed before an embolic cerebrovascular event. Furthermore no embolic episode was detected during a one year follow-up of the patient.

KEYWORDS: Papillary fibroelastoma, tricuspid valve, transient ischaemic attack

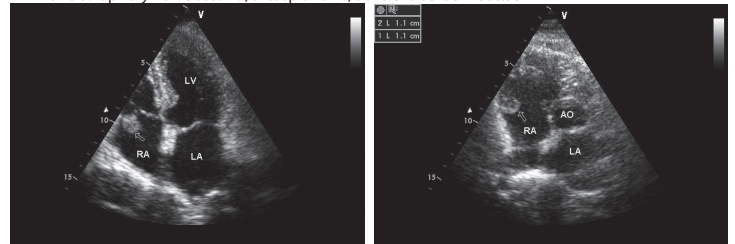


Fig. 1. Apical 4 chamber view

Fig. 2. Parasternal short-axis view

PP-155 IS THE NECK PILLOW EFFECTIVE AGAINST THE POSITIONAL NECK PAIN IN PATIENTS UNDERGOING OPEN HEART SURGERY?

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INTRODUCTION: Among patients undergoing open heart surgery, some experience neck pain and associated disturbances in sleep.

AIM: In this prospective study, the effect of U shaped pillow over patient comfort and sleep quality during post operative period in patients undergoing open heart surgery is assessed.

Materials and Methods: This was a randomized-controlled study, which was undertaken between October 2008 and March 2009 in a research and education hospital, department of cardiovascular surgery. Eighty five patients were assigned randomly to Control Group (CG, n: 43) and Experimental Group (EG, n: 42). During their postoperative Intensive Care Unit (ICU) stay, all patients were positioned in supine, semi-Fowler position (45°-head up). In CG patients, standard pillows were continued as head support whereas, in EG patients, a special U shaped pillow, which was designed exclusively for adult patients and which prevented patient's head from leaning on one side by supporting the patient's neck at ¼ of its circumference, was used. Those pillows were used for a total of 3 postoperative days in all patients, regardless of whether the patient stayed in ICU or transferred to ward. Groups were compared (5 or 4 point with Likert type Scale) at extubation, at 4th-8th-12th- 24th hours, and 2nd - 3rd days with regard to 'neck pain', 'comfort' and 'sleeping difficulties'. The data were analyzed using SPSS statistical software.

RESULTS: The patients in both groups were similar according to age, gender, educational level, type and duration of operation (p> 0.05). CG and EG group patients were compared with regard to neck pain and comfort. Most of EG group patients described neck pain, which was mild to moderate in intensity, and comfort level, from mild discomfort to comfortable. Most of CG patients described neck pain, which was severe in intensity, and comfort level, from moderate to severe discomfort (p<0.05). When both groups were compared according to sleeping difficulties, EG patients were found to have less difficulties in sleeping (p<0.05).

CONCLUSION: U shaped pillow was effective in post cardiac surgical patients in preventing neck pain, increasing neck comfort and reducing the incidence of sleep difficulties.

PP-156 EFFECT OF DAILY PROCEDURES ON PAIN PERCEPTION IN CARDIAC SURGERY INTENSIVE CARE UNIT PATIENTS

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AIM: The aim of the study was to determine the effect of daily nursing procedures on conscious patients' pain perceptions in cardiovascular surgery intensive care unit.

METHODS: A prospective and descriptive design was used. The study was performed in a training and research hospital cardiovascular surgery, intensive care unit (ICU) department time frame 1st January and 29th May 2009. The sample was chosen according to the sample criteria as follow: older than 18 years old, conscious and alert, voluntary, who had a median sternotomy and undergone open heart surgery. Patients were asked to rate their pain intensity experienced prior to and after routine nursing procedures using a visual analogue scale (VAS). The procedures observed were mobilization, endotracheal suctioning, deep coughing and bre-

athing exercises, chest drain removal, arterial line removal, urinary catheter removal, and manual chest drain suctioning. Haemodynamic measures (heart rate, systolic and diastolic blood pressure) also recorded pre and post procedures.

RESULTS: In the research 289 pain scores of daily procedures (80 deep coughing, 74 breathing exercises, 44 chest drain removal, 40 manual chest drain suctioning, 20 mobilization, 12 endotracheal suctioning, 11 arterial line removal, 8 urinary catheter removal) belonging to 89 patients were recorded. Results showed that certain routine procedures cause pain with significant differences observed between pre- and post procedure pain scores for chest drain removal ($t=-8.493$, $p=0.000$), deep breathing exercises ($t=-9.557$, $p=0.000$) coughing exercises ($t=-9.346$, $p=0.000$), endotracheal suctioning ($z=-1.732$, $p=0.002$), mobilization ($z=-3.078$, $p=0.002$) and manual chest drain suctioning ($t=-5.225$, $p=0.001$). In general, patients' haemodynamic measures were increased slightly post procedure, however some measures were increased or decreased statistically significantly after procedure ($p<0.05$).

CONCLUSIONS: Results from this study highlight that after cardiac surgery ICU patients undergoing routine procedures are experiencing pain. Improved pain management practices therefore must be adopted when undertaking routine procedures to minimize the impact of pain in these patients. In addition haemodynamic measures should be further studied in cardiac surgery patients after daily procedures.

PP-157 METABOLICAL PROTECTION OF THE HEART

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Cardiac surgery with cardiopulmonary bypass (CPB) stimulates endotoxemia and a whole-body inflammatory response, with the subsequent release of cytokines and other inflammatory mediators. While catastrophic organ system dysfunction was common with the inception of CPB, advances in anesthetic and surgical techniques now allow the majority of patients who undergo cardiac surgery without substantial morbidity. However, a significant incidence of both severe and subtle organ dysfunction remains, presenting itself most notably in the patient with CAD and decreased functional reserve or increased co morbidities.

Myocardial ischemia is characterised by the swing toward glucose metabolism and disturbances of the cardiac mitochondria metabolism, the most remarkable feature that characterized the cardiac muscle is the stability of the phosphorylation potential in the face of varying workloads, suggesting that several factors are involved in the control of oxidative phosphorylation. Therefore is possible to predict strategies for restoring cardiac mitochondria function under different physiological or pathological conditions.

During myocardial depression or hibernation, the heart will be able to adaptive response to severe chronic hypo perfusion.

In the fully aerobic heart over 90% ATP originates from mitochondria oxidative respiration.

Also important advances over the last two decades, CAD remain a major cause of morbidity and mortality in our society.

Improving of metabolites disorders in the ischemic heart pre and post operative periods, in patients with CAD and decreased functional reserve function, undergoing to CABG will improve recovering in post operative period.

Knowledge of the general characteristics of metabolism in the ischemic cells as well as knowledge of the factors, which alter the metabolism of these cells, is important relative to developing therapeutic measures designed to prevent or reduce cell death in patients with acute myocardial ischemic injury.

The goals of metabolic therapy in patients with CAD undergoing to CABG with CPB is: improving the mitochondrial oxidative metabolism we will rise cardio protective properties making an inotropics agents more effective, which will permit us to decrease the dose of the inotropics and decrease arrhythmias accidents, increase contractility, and fastening recovery period.

PP-158 ATYPICAL PULMONARY EMBOLISM WITH AN INTERNAL JUGULAR VENOUS CATHETER FRAGMENT

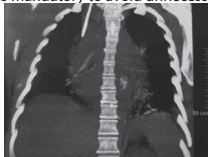
Nevrîye Salman¹, Hakan Ulubay², Yeşim Andıran Şenaylı¹, Cemi Karabay², Halil İbrahim Uçar², Cem Yorgancıoğlu¹

Anesthesiology, Ankara Medicana International¹, Radiology, Ankara Medicana International²
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BACKGROUND: Central venous access represents one of the most basic therapeutic procedures in modern medicine. Unfortunately, numerous advantages that result from maintaining a central venous line are accompanied by some complications among which the venous thrombosis is the most significant clinically. Embolization of venous catheter fragments to the pulmonary vasculature is a very rare form of pulmonary embolism which is only sporadically reported in the literature. The incidence and clinical picture of this complication are unknown.

CASE: A 60-year-old man was admitted to the hospital due to dyspnea and fatigue. Clinical examination was showed, grade 3/6 systolic ejection murmur at the left sternal edge. Further investigation was made for cardiac manifestations. His cross-sectional echocardiographic investigation showed mitral valve stenosis and regurgitation. Angiographic evaluation showed coronary artery disease. The patient underwent open-heart surgery. Aortic and bicaval venous cannulation was performed. A left atriotomy was done with cardiopulmonary bypass. Mechanical mitral valve was replaced and aortacoronary bypass was done. Postoperative course was uneventful. On third day a spontaneous central venous catheter fracture was occurred. Chest x-ray showed no signs of the catheter fragment. High resolution computed tomography (CT) was done to show the catheter fragment. CT showed a spontaneous fractured distal portion of a catheter that was indwelling in the right internal jugular vein and embolized to the inferior lobar artery of the right pulmonary artery. The catheter part was 8 cm long distal part into the main stem and right branch of the pulmonary artery. The catheter in the pulmonary trunk was successfully removed through the right inferior pulmonary artery incision.

CONCLUSION: Embolization of a fragmented catheter in the vasculature is a serious complication. Catheter fragments can be retrieved somewhat easily from the jugular vein; however, if the fragment migrates to the heart or pulmonary artery, imaging the fragment to locate and retrieve can be difficult. Migration of fractured catheter into the pulmonary artery is often asymptomatic, and malfunction of the catheter may be the first sign of this complication. Complications associated with catheter fragmentation include septicemia, endocarditis, lung abscesses, pulmonary embolism, dysrhythmias, cardiac perforation, pulmonary or caval thrombosis, and death. Mortality from arrhythmia-related cardiac arrest, septic and thrombo-embolic complications, and the risk of perforation of the heart argue for an immediate extraction of the broken catheter. Continuous medical training should reduce the incidence to a minimum and prevention is far more important than cure. Clinicians should watch carefully for the evidence of central venous line dysfunction that usually accompanies complications. Wide awareness of this problem is mandatory to avoid unnecessary morbidity.



Catheter Fragment

PP-159 A CHRONIC CONSTRICTIVE TUBERCULOUS PERICARDITIS CASE WITH LARGE CALCIFIC PERICARDIAL DEPOSITS

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OBJECTIVE: The frequency of tuberculous pericarditis has diminished in recent years. Large calcific pericardial deposits are specific signs for pericardial tuberculosis.

MATERIAL AND METHOD: A 44 years old man admitted to our Institute for dyspnea and chest pain. Patient was diagnosed as tuberculosis 18 months ago and he completed to use the triple therapy regularly. Chest radiography was very specific for chronic tuberculous pericarditis and it showed massive pericardial calcific deposits visible. Two-dimensional,color-flow Doppler echocardiography revealed massive pericardial calcification,decreases ejection fraction significantly(40%). Thorax CT showed massive and diffuse pericardial calcific deposits.

RESULTS: He went under operation.We approached via median sternotomy. Constricting layers of epicardium were removed if possible. There were multiple caseification necrosis areas. There was no evidence of phrenic nerve injury either perioperatively or postoperatively.We left large plaques that did not permit the development of a cleavage plane. We performed wedge incisions that reached the epicardium, which reduced the size of the plaques and relieved myocardial constriction. Postoperative improvements in hemodynamic results are optimal. During the 1st postoperative month, the functional capacity of our patient improved dramatically and he was in NYHA functional class I.

CONCLUSION: Today, pericardiectomy is a safe procedure with available techniques(1). Conventional open pericardiectomy via the median sternotomy, which enables a safer, wider, and more effective approach.

1. Yetkin U,Kestelli M,Yılık L,et al. Recent Surgical Experience in Chronic Constrictive Pericarditis. Tex Heart Inst J 2003; 30(1): 27-30.

PP-160 LEFT PLEURAL EFFUSION OCCURRING AFTER CABG

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BACKGROUND: Large pleural effusions may develop in a small proportion of patients after CABG. The cause of many of these effusions is unclear. Approximately 25% of patients undergoing CABG develop a left pleural effusion. There would be a higher incidence of pleural changes after CABG in patients who underwent IMA grafting because pleurotomy is usually performed. In the present study, almost all of the patients had unilateral left-sided pleural effusions. Most of the effusions were small and did not require treatment.

The lateral pericardium is generally divided down to 4-5 cm for positioning of left IMA. The LIMA is passed to pericardial cavity through this transverse pericardial and left perithymic incision from lateral wall of pericardium, so that this technique may be beneficial to decrease the risk of LIMA injury in reentry, to prevent high LIMA tension in chronic obstructive lung diseases and in small substernal space and short LIMA. In the present study, postoperative left pleural fluid incidences were compared between the group in whom pericardial transverse incisions were made and the control group.

MATERIAL AND METHODS: 485 patients underwent isolated CABG between 2007- 2009 were evaluated. The patients with low ejection fraction (below 25%) were excluded from the study. 334 patients with pericardial transverse incision (Group1) and 151 patients without pericardial transverse incision for LIMA positioning (Group2) were compared according to collection of left pleural fluid that requires drainage by thoracostomy or tube thoracotomy, or readmission to the hospital, for 6-weeks after surgery. All patients had a mediastinal and a left pleural tube, which were removed on the 2nd postoperative day. A symptomatic effusion was defined as one that required thoracostomy, tube thoracostomy, or readmission for treatment.

RESULTS: In Group 1;25 patients (7.4 percent)underwent CABG developed left pleural effusion require drainage by thoracostomy or tube thoracotomy, In Group 2; left pleural effusion require drainage by thoracostomy or tube thoracotomy was developed in only 3 patients (1.9 percent). There was a significant relationship between a pleural effusion and The LIMA positioning technique ($p < 0.05$).

CONCLUSION: From this study, we conclude that there is a high correlation of left pleural effusion and to make pericardial transverse incision for positioning of LIMA, postoperatively in patients undergoing CABG. Pericardial fluid may be drained to left pleural space through this transverse pericardial and left perithymic incision or pericardial injury may be caused to pleural effusion. The cause of many of these effusions is unclear.

PP-161 INTRACARDIAC ENTRAPPED AND PULMONARY EMBOLISM DEVELOPING DURING ORAL CONTRACEPTIVE THERAPY IN YOUNG WOMAN.

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We report the case of biatrial thrombus entrapped in a patent foramen ovale in a 39-year-old woman under oral contraceptive therapy who was admitted to our hospital with multiple pulmonary embolism with paradoxical embolism. We endorsed to present this case because of relatively unusual thromboembolic disease.

The case was admitted to emergency unit of our hospital with progressive dyspnea and palpitation for 20 days without cardiac disease before this condition. She smokes 10 cigarettes a day and takes the oral contraceptive pill (Siproteron Acetate + Etinilestradiol) for contraception. Her physical examination revealed a blood pressure of 110/70 mmHg, respiratory rate of 20/min, and a pulse rate of 120/min. There was class III dyspnea according to NYHA and sinus tachycardia of electrocardiography. Arterial oxygen pressure was 60 mmHg. Expect for a plasma D-dimer level of 8560 ng/ml (upper normal limit: 500 ng/ml), other laboratory examinations were normal. Transthoracic echocardiography showed acute cor pulmonale with a dilated right atrium and ventricle. It also revealed a 16 x 16 mm mobile thrombus in the right atrium traversing the interatrial septum through a patent foramen ovale and extending 20 x 4 mm into the left atrium and mild tricuspid valve insufficiency was seen (figure 1). Systolic pulmonary artery pressure was 72 mmHg. A spiral computed tomography scan showed multiple filling defects of bilateral lobar bifurcation of pulmonary artery and segmentary branches arteries. Lower extremity and abdominal venous Doppler ultrasound study was negative. We performed emergency surgery after confirmation of the diagnosis due to paradoxical embolic risk. Intraoperatively, we found a thrombus entrapped in the patent foramen ovale. Most of the thrombus was floating in the right atrium and a long end was found in the left atrium, in addition to the pulmonary emboli. We removed the thrombus (figure 2), closed the patent foramen ovale by direct suturing, and performed pulmonary embolectomy (figure 3). De Vega tricuspid annuloplasty was performed for tricuspid insufficiency. After surgery, anticoagulant therapy was instituted. Postoperative transthoracic echocardiography was normally. She was discharged asymptomatic on 9th postoperative day.

Contraceptive hormones, most commonly prescribed as oral contraceptives, are a widely utilized method to prevent ovulation, implantation, and, therefore, pregnancy. In women above 30 years with smokes, oral contraceptives generally seem to confer overall thrombotic morbidity, mortality, and disability. These women should reconsider and close monitoring for thrombotic events.

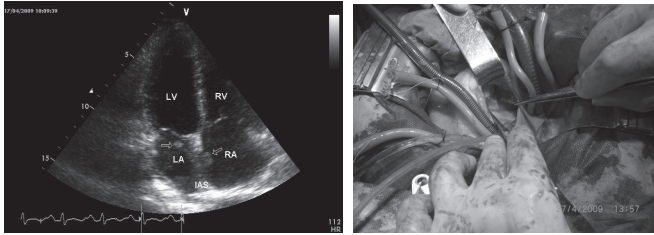


figure 1

figure 2



figure 3

PP-162 AN INTRACARDIAC MOBILE MASS: RUPTURED LEFT-VENTRICULAR FALSE TENDON WITH BIG VEGETATION DUE TO BRUCELLA ENDOCARDITIS.

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Atatürk Üniversitesi Tıp Fakültesi Kardiyoloji Anabilim Dalı¹

Endocarditis is responsible for the majority of deaths related to Brucellosis. Brucella endocarditis (BE) predominantly involves the aortic valve (about 80% of cases). But the involvement of left-ventricular false tendon (FT) has not been reported, yet.

Case report: A 42 year old man was admitted to our clinic with complaints of palpitation, intermittent fever, night sweats, lumbago and abdominal pain for last one month. He had a history of rheumatic heart disease in his childhood period. His blood chemistry on admission was within normal limits except for elevated CRP (4.5 mg/dl), leukocytes (12400/mm³) and erythrocyte sedimentation rate (90 mm/h). The patient was seropositive (Ig M and Ig G) with Brucella agglutination titers of up to 1/160. On the transthoracic echocardiography (TTE, a very mobile band-like echogenic structure was identified in the left ventricle (LV). There was observed this structure originating from the endocardium below the papillary muscle and extend to the LV out-flow tract (Fig. 1). This structure was resembling to FT. A hyperechogenic vegetation-like mass was attached to free end of this FT (Figs. 1, 2). An isoechoic vegetation-like mass was attached to atrial side of mitral leaflets. Also, the original mitral valve (MV) chordae tendinae were affected to endocarditis but intact. On the other hand, these data were confirmed by transoesophageal echocardiography (Fig. 3). The patient improved clinically following the treatment and this improvement was evident on clinical examination and supported by serology and haemogram. However, control TTE revealed, an increasing in size of the vegetation on the MV and no change in size of the vegetation on the FT. Urgent surgery was performed, due to embolic potential of the mobile vegetation on the ruptured FT, and increasing size of the vegetation on the MV. Excision of the ruptured FT and MV replacement was performed in operation. Pathologic examination of a MV and band-like specimen was confirmed to vegetations and FT.

Discussion: FT and intraventricular bands are usually course from the midportion of the septum to the free wall (antero-lateral) of the LV. Our case may be interesting as it demonstrates a big vegetation due to BE located on the free end of the ruptured FT and surgical therapy not delayed. In this patient, on TTE, the site of the FT in which attached septum was shown to be ruptured due to BE. The time of this condition could not be predicted by us (it might have happened in any time). The rupture of the FT due to endocarditis is very rare condition. Furthermore, life-threatening embolic event and ventricular arrhythmia may be developing in this condition. On the other hand, the treatment of mobile vegetation due to BE should be urgently. The timing of surgery is very important for the success of the treatment and for the prevention of the complications.

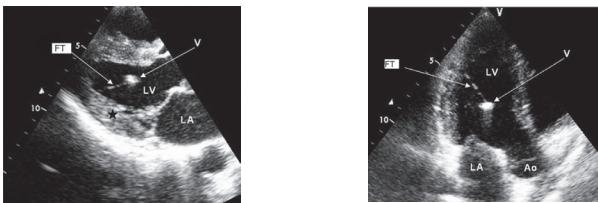


Figure 1: Parasternal long axis view showing vegetation and left-ventricular false tendon originating from below the papillary muscle (FT: left-ventric

Figure 2: Apical 3-chamber view showing left-ventricular false tendon and vegetation (FT: left-ventricular false tendon, V: vegetation, LV: left ventricle)

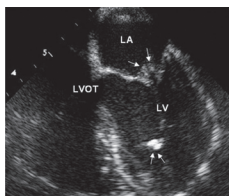


Figure 3: Transoesophageal 4-chamber view showing highly mobile structure ruptured left-ventricular false tendon and vegetation, in left ventricle (A)

PP-163 GIANT CORONARY ARTERY ANEURYSM IN AN ELDERLY PATIENT WITH APICAL HYPERTROPHIC CARDIOMYOPATHY

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Ankara Numune Education and Research Hospital¹, Kars State Hospital²

A 74-year-old female patient presented with chest pain. On her electrocardiogram the rhythm was sinus with high voltage and deep negative T waves on precordial derivations. The patient was admitted to hospital with

"acute coronary syndrome". She had no coronary risk factors other than hypertension and advanced age. During follow-up cardiac enzyme levels were not elevated. Coronary angiogram revealed a 20 mm x 19 mm giant saccular coronary artery aneurysm (CAA) and fistula on septal branch of left anterior descending artery (LAD) (Figure 1). There were no atherosclerotic lesions on epicardial coronary arteries. Right anterior oblique view of left ventriculography revealed "ace of spade" appearance. Transthoracic echocardiogram demonstrated hypertrophy confined to left ventricular apex. Multislice cardiac computed tomography detected that coronary fistula was between LAD and pulmonary artery (Figure 2). We offered surgical therapy for giant CAA and fistula, but the patient rejected surgery. We started acetylsalicylic acid and antihypertensive therapy was optimized. The association of CAA with apical hypertrophic cardiomyopathy is not reported before. CAA is defined as a localized dilatation exceeding the diameter of the adjacent normal segment by 50% and is encountered in 1.5-5% of patients undergoing coronary angiography. CAA with a diameter more than 2 cm is termed as "giant aneurysm". CAA is most frequently seen on right coronary artery; circumflex artery, LAD and left main coronary artery follow. In adults it is predominantly atherosclerotic in origin. Other causes include: Kawasaki disease, autoimmune diseases, trauma, congenital malformations and post angioplasty. In our patient there was no atherosclerosis, therefore we thought a congenital malformation. The patients with CAA may present with angina pectoris, myocardial infarction, sudden death, thrombus formation, embolisation, fistula formation, rupture, hemopericardium, compression of adjacent structures or congestive heart failure. Giant CAAs are usually associated with advanced age. Coronary angiography is golden standard in diagnosis. The preferred approach is excision of the aneurysm sac. However our patient declined surgery.

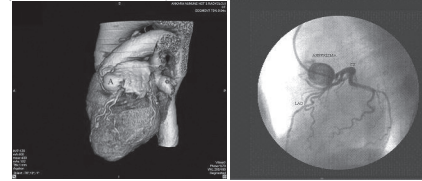


Figure 1

Figure 2

PP-164 IDIOPATHIC DEEP VEIN THROMBOSIS OF THE RIGHT UPPER EXTREMITY AND OUR MEDICAL STRATEGY

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OBJECTIVE: Upper extremity deep vein thrombosis is a rare thrombotic disorder. Ultrasonography is the primary imaging modality for the diagnosis of upper extremity thrombosis.

MATERIAL & METHOD: Our case was a 37-year-old female. She was admitted to our outpatient clinic with complaints of pain, edema, skin discoloration, tenderness and venous distension of her right upper extremity. Time between the onset of clinical signs and diagnosis was 5 days. Her arm was significantly swollen with increased skin temperature. Color Doppler ultrasonographic examination of our case showed that, although right internal jugular vein remained patent, there was acute thrombosis within right subclavian, axillary and proximal half of brachial vein.

RESULTS: Our patient was then hospitalized and we started to apply our medical treatment strategy. Continuous infusion of the unfractionated heparin was introduced to keep the activated clotting time (ACT) between 200 to 250 seconds. Moreover, her affected arm was elevated. She was administered oral warfarin sodium preparation. Complementary medical treatment included an oral preparation of "Diosmin 450 mg + Hesperidin 50 mg" (2 tablets each morning), enteric coated tablet of 300 mg acetylsalicylic acid per day, heparinoid (luitpold) 445 mg/100 g gel 2x1 US and a non-steroidal anti-inflammatory drug preparation orally. She has been hospitalized for 4 days. This episode of DVT was idiopathic in etiology. She was kept under warfarin sodium anticoagulation therapy for 6 months, targeting the INR levels of 2.2±0.2. Her outpatient follow-up continues event-free with only oral medication of 300 mg acetylsalicylate per day.

CONCLUSION: Color Doppler ultrasonography may be useful in the diagnosis of the UEDVT (1). Post-thrombotic syndrome is a chronic, potentially debilitating complication of deep vein thrombosis (DVT), yet little is known regarding risk factors and optimal management. Early detection and treatment of UEDVT decrease complications, morbidity, and mortality (2). Simple anticoagulation is suitable for the majority of patients (3). A minimum of 3 months of warfarin sodium anticoagulant therapy is important with venous decompression (2).

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PP-165 HUGE CARDIAC CYST HYDATID CAUSING ELECTROCARDIOGRAPHIC CHANGES AND CARDIAC SYMPTOMS

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A 15-year-old adolescent man was admitted to the cardiology department due to dyspnea and fatigue on exertion. There was no specific finding in his medical history. He was living in a rural area and had been in close contact with animals. Physical examination was normal. Routine laboratory tests revealed no abnormality. Sinus rhythm with negative T waves prominent in leads of V4 to V6 and of I and aVL was present in electrocardiography (Figure 1). Cardiothoracic ratio was within normal limits in teleradiography. Transthoracic echocardiography was performed in an attempt to explain the etiology of dyspnea and fatigue. There was no abnormality in the valvular structures. Right heart chambers and left atrium were normal. But interestingly, there was a huge, multi-septated, cystic mass with dimensions of 60 mm x 50 mm in the apical region of the left ventricle (Figure 2). With the suspicion of cardiac cyst hydatid, cardiac computed tomography (CT) was performed and showed a multi-septated, thick-walled, intramyocardial cyst hydatid in the left ventricular apical region (Figure 3). CT coronary angiography was normal. Serological tests also confirmed the diagnosis. Serum sample of the patient was positive for anti-Echinococcus granulosus antibody by enzyme-linked immunosorbent assay (ELISA) test. Surgical resection of the cyst was planned, but the patient did not accept operation. He was discharged from hospital under antihelminthic albendazole treatment.

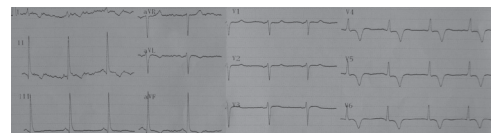


Figure 1: Electrocardiography of the patient.

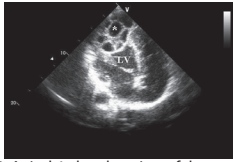


Figure 2: Apical 4-chamber view of the cardiac cyst hydatid during transthoracic echocardiography (LV=left ventricle, asterisk showing cyst hydatid).

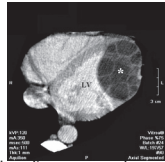


Figure 3: Axial cardiac computed tomography scene showing cardiac cyst hydatid with asterisk (LV=left ventricle).

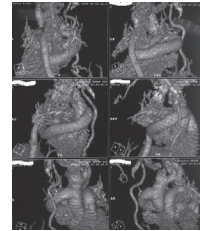


Fig:1 Postoperative CT Angiographic view

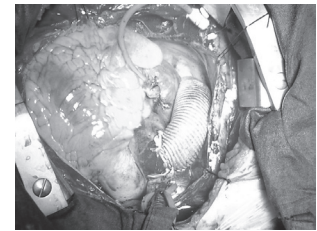


Fig:2 Intraoperative view

PP-166 PROTEIN C DEFICIENCY CASE WITH MOBILE THROMBUS ATTACHED TO THE NON-CORONARY SINUS VALSALVA OF A NORMAL AORTIC VALVE

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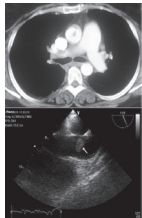
Spontaneous native aortic valve thrombosis is an uncommon event occurring after heart valve disease, during cardiac catheterization, bacterial endocarditis, or as a hypercoagulable state as in antiphospholipid antibody syndrome. We reported the case of a 43-year-old woman didn't find dystrophic, without functional abnormality, and the biological searches for circulating antibodies, tumoral markers were negative. In our patient, without endothelial lesion, a coagulation disorder (protein C deficiency) was inducing aortic valve thrombosis.

INTRODUCTION: Incidence of symptomatic protein C deficiency is approximately 1 in 16,000 to 1 in 32,000 persons. Frequency of protein C deficiency in patients with hypercoagulability and venous thrombosis is approximately 5% (1). On a native valve, it's also very rare to determine Protein C deficiency related thrombus without abnormal cardiac symptoms or complications. As certain knowledge, thrombosis on the native aortic valve is an uncommon event that usually follows local trauma or cardiac surgery or occurs as a complication of bacterial endocarditis. Thrombosis formation can also be an unusual complication of autoimmune diseases or coagulopathy(2).

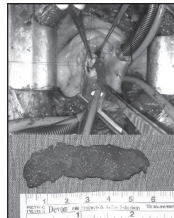
CASE REPORT: 43 years old, female patient with 10 years of COPD background applied to our emergency room suffering from dyspnea. First we diagnosed pulmonary her as embolism and we performed her thoracic CT with contrast injection (figure 1a). By this imaging, of native aortic valve, was lying through craniocaudal direction with 70-80 mm length. After two days, echocardiography revealed thrombus moved to the left ventricle and gave an image of a mobile mass. Just a few hours later transeosophageal echocardiography located the thrombus on the aortic valve again (figure 1b).

Under the circumstances of these data, we diagnosed the patient as a mobile thrombus and the patient underwent surgery promptly. Following median sternotomy incision we placed a cross clamp to the proximal of the arcus aorta under cardiopulmonary bypass. We cooled the patient to the 32 C hypothermia and arrested the heart with blood cardioplegia. After the transverse incision of ascending aorta thrombus was removed easily and native aortic valve was preserved without damage (figure 2). We performed left ventricular incision and checked out the inside of ventricle. After being sure about no thrombus left, we closed ventriculotomy, aortotomy and sternotomy incisions by regular technics. Patient stayed one day in the ICU and was discharged from the hospital at her seventh postoperative day. Postoperative laboratory results revealed the %35 of decrease at protein C antigen level and activity. Tumor markers and autogenous antibodies determined as normal. Transthoracic echocardiography also showed us normal aortic valve and ventricle functions. We started to give her Coumadin (warfarin) 5mg/day to stabilize INR levels between 2 and 4. She was told that she would have to take these medicine everyday for the rest of her life.

After pathological examination of the resection material, the results came as nonbacterial thrombus. The patient was called back for her follow-up at the second month of the operation. No signs of thrombus or embolism detected during the control echocardiography.



a) A 8 cm mass is present on the noncoronary cusp of the aortic valve



An organized thrombus which was easily removed from non-coronary cusp

PP-167 POSTERIOR PERICARDIAL ASCENDING TO DESCENDING AORTIC BYPASS FOR INTERRUPTED AORTIC ARCH IN AN ADULT

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INTRODUCTION: Interrupted aortic arch (IAA) is a very rare disease in the adult population. Surgical treatment in these group adult patients is very complex and have a high risk of postoperative mortality and morbidity. In this report we present a 49-year-old man who had Type B interrupted aortic arch with aortic valve stenosis, ascending to descending aortic bypass and aortic valve replacement was done together successfully.

MATERIAL AND METHODS: The patient underwent preoperative evaluation by routine chest radiography, 2-dimensional echocardiography and cardiac catheterization and angiography. Additionally Magnetic Resonance Angiography (MRA) was performed. Cardiac catheterization and MRA showed occlusion of the thoracic aorta distal to the left subclavian artery. Operation was performed through the median sternotomy and under cardiopulmonary bypass. Arterial cannulation is performed high in the aortic arch below the innominate artery. The posterior pericardial reflection is opened to the right of the inferior vena cava and the oblique sinus is developed. Dissection was carried around the inferior vena cava for graft tunnel. In order to allow distal flow side clamp was placed of the distal aorta. A 22 mm Dacron graft was then anastomosed end-to-side to the descending thoracic aorta with a running 4-0 polypropylene suture. The graft was then passed posterior to the inferior vena cava and right atrium but anterior to the right inferior pulmonary vein. Secondly aortic valve replacement performed. Finally, proximal tip of the graft was anastomosed to the lateral aspect of the ascending aorta by using a side-biting clamp (Fig:1,2).

CONCLUSION: In summary, IAA is rare in adults. Exposure of the descending aorta through the posterior pericardium in performing ascending aorta-to-descending aorta bypass grafting through a median sternotomy is a safe, flexible method.

PP-168 A RARE CARDIAC INJURY CAUSE: BLUNT TRAUMA

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OBJECTIVE: Until age 40, chest trauma constitutes 20-25% of the causes of deaths due to trauma (1). Blunt cardiac injuries are the leading causes of fatalities following motor-vehicle accidents. Myocardial injury caused by blunt chest trauma has been recognized with increased frequency over the past 2 decades(2).

METHODS: Our first case was a 27-year-old male who had experienced polytrauma due to a traffic accident happened two hours before the admittance to our hospital. Transthoracic echocardiography done at the other institution showed limited amount of pericardial fluid. Chest X-ray revealed cardiomegaly but there was no pleural effusion or bone fracture. Echocardiogram revealed cardiac tamponade and he was diagnosed as cardiac rupture due to non penetrating trauma. According to echocardiogram, it was pointing at the diagnosis of cardiac tamponade. Moreover, an image of fresh coagulum surrounding the heart was present.

Our second case was also a male who had experienced polytrauma due to a traffic accident. In his echocardiogram we viewed the detached and necrotized chorda of the posterior leaflet in our case.

RESULTS: Our first patient underwent operation urgently. Coagulum materials was cleaned for exploration and localization of the injury was determined. Tear of the atrium was seen superior to the vena cava inferior localization. Hemorrhage was controlled with digital compression. This simple myocardial injury was repaired primarily with teflon-felt and polypropylene sutures.

Our second case that underwent mitral valve replacement due to severe mitral insufficiency developed after blunt cardiac trauma due to vehicular accident. We explored also the tear at posterior pericardial localization accompanying the intracardiac posttraumatic lesion of our case. We performed the repair of the posterior pericardial tear with 8x10 cm polytetrafluoroethylene patch of our case.

CONCLUSION: Cardiac injury should be definitely suspected in a case with high velocity trauma. In blunt cardiac injuries, it is important to be able to perform echocardiography at the emergency service in detecting hemopericardium. Fast transportation, urgent diagnostic workup and immediate surgical intervention to these patients with well-trained teams are very important and this approach will improve their survival.

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PP-169 FEMORAL ARTERIO-VEIN FISTULA AS A LATE PRESENTATION AFTER TOTAL HIP REPLACEMENT

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BACKGROUND: Total hip arthroplasty or surgical replacement of the hip joint with an artificial prosthesis, is a reconstructive procedure that has improved the management of those diseases of the hip joint that have responded poorly to conventional medical therapy. This procedure is not free of arterial complications such as laceration, thrombosis, pseudoaneurysm, and arteriovenous fistula.

CASE REPORT: A 63-year-old man was admitted to our hospital with a diagnosis of deep venous thrombosis and congestive heart failure from the other hospital. On examination, there were edema, swelling and severe pain at the his right lower extremity. He had undergone the right total hip replacement 2 years ago. On Doppler US study, deep venous thrombosis was no established and venous system was patent. Peripheral angiogram showed an arteriovenous fistula at femoral region. The patient underwent the operation. On exploration of the femoral region, there was a connection between arteria profunda femoris and deep venous system. Fistula was ligated at part of arteria profunda femoris. Postoperative recovery was uncomplicated. At postoperative 3th day, the diameter difference between the left leg and right leg reduced from 17 cm to 1,5 cm.

CONCLUSION: The patients undergoing orthopic approaches require careful clinical follow-up in term of vascular lesions. They are treated with either traditional surgery or minimally invasive procedures.

PP-170 A RARE CASE OF LEFT VENTRICLE PSEUDOANEURYSM DEVELOPMENT AFTER ENDOANEURYSMORAPHY OPERATION

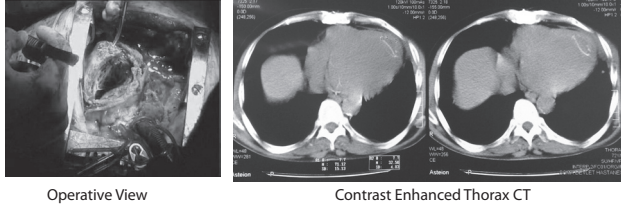
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INTRODUCTION: Left ventricle pseudoaneurysms (LVPA) usually develop after; acute myocardial infarction, trauma, valve and ventricle surgery. Generally these aneurysms tend to have small narrow neck like connections and do not enlarge because the pouch of the aneurysm is limited by the pericard. Because of their small structure these aneurysms usually progress asymptotically which makes it hard to diagnose. There are very rare cases of pseudoaneurysms that present with the symptom of pulsating mass of the chest wall as in our patient who was operated for coronary artery disease and left ventricle aneurysm previously.

CASE: A LV pseudoaneurysm with pulsating mass of the thorax wall was seen in this case. This 70 years old male patient was operated for LV true aneurysm in his first operation. Circumferential endoaneurysmorrhaphy was performed in the first operation. Coronary artery bypass grafting was done to RCA from Aorta but revascularization of LAD and Cx were not done because of diffuse distal disease. 8 months after the first surgery patient is referred to our clinic with a pulsating mass of the thorax wall. In Contrast Thorax Tomography a soft tissue mass reaching from the left ventricle wall to the external thoracic wall was seen. In the second operation teflon felt supported LV linear aneurysmectomy was performed under standard cardiopulmonary bypass. The patient was discharged in postoperative day12. In 1 month, 6 month and 1 year CT controls; no sign of new pseudoaneurysm development was seen.

RESULTS: In our case there was no sign of infection but the suture lines were separated at the lateral end because of the continuous traumatic effect of the cardiac contractions. To avoid this effect during suturing the surgeon should use the fibrous rim instead of the myocardial tissue because it holds a lot stronger than the live myocardium. If it is necessary to use the myocardium Teflon supported extra suturing must be done. Also sufficient revascularization must be provided in LV aneurysms, if possible LIMA should be used because of its tendency to remain open. LVPA might progress silently if it occurs after heart surgery or myocardial infarction.

KEY WORDS: Pseudoaneurysm, Revascularization, Myocardial infarction



Operative View

Contrast Enhanced Thorax CT

PP-171 SAPHEOUS LOOP TO FEMORAL ARTERY FOR HEMODIALYSIS ACCESS: THREE YEARS FOLLOW-UP

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INTRODUCTION: Patients with end stage renal dysfunction are living longer than in the past, and the provision of vascular access for dialysis is a growing problem. The increasing number of patients requiring regular hemodialysis for many years produces a number of problems, one of which is the vascular access. When the upper extremity arteriovenous fistulae cannot be used either as the first –line or after some years of treatment, alternative methods and sites are necessary for using autologous material. We are giving here the third year results for his highly advantageous technique.

METHODS: We present here our clinical experience with third year results by using greater saphenous vein to common femoral artery loop arteriovenous fistula is presented. A retrospective analysis of 42(61.7%) male and 21(%38.2) female patients was made with a mean age of 51.6(range, 20-69) years. At preoperative period patients were evaluated by Doppler USG for the patency, insufficiency and caliber of the greater saphenous vein. Greater saphenous vein diameters over 4 mm. were used as loop for this procedure. Preoperatively, vein was evaluated for any thrombus formation or venous insufficiency and patient's history was detailed for any hypercoagulable state. Patients with any suspicion of venous insufficiency, intraluminal thrombus and with history of thrombophlebitis or deep venous thrombosis were not included in the study. At the end of third year after creation of the fistula, patients were called back for the late results and evaluated both clinically for functioning fistula and radiologically with Doppler USG.

RESULTS: Perioperatively, no acute occlusion was developed. In one of the patient the vein wall was macroscopically pathologic. In this patient we used PTFE graft for creation of arteriovenous fistula and excluded from the results. Infection at surgical area was detected at 17(25.0%) patients, in whom 9 were female. 11 of these patients were diabetic. Groin wound infection in 13 of these patients resolved with local wound care and specific antibiotic administration, other 4 patients required surgical drainage. Six of our patients died because of unknown causes and we couldn't get into contact with another five. Two of our patients were undergone renal transplantation during this period and their fistulas were closed elsewhere. Saphenous loop fistulas were functional for hemodialysis at the end of third year in 90.9% of the remaining 55 patients. 22(32.3%) patients developed mild to moderate edema at corresponding leg, managed by compression stockings.

CONCLUSIONS: Use of saphenous loop anastomosis to common femoral vein for dialysis access has acceptable results for alternate accesses. Factors recognized to be important for success were adequate size of saphenous vein , critical positioning of the loop and serious critical preoperative evaluation. For long term better results, we think single center hemodialysis with educated health care assistance specifically for this technique of arteriovenous fistula is essential.

PP-172 CORONARY ARTERY BYPASS SURGERY IN ANALBUMINEMIC PATIENT

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INTRODUCTION: Congenital analbuminemia is a rare autosomal recessive disorder characterized by the absence or very low concentrations of serum albumin. Up to now there have been only 43 cases reported. This is the first report of an analbuminemia patient operated for coronary artery disease in which preoperative experience is presented.

CASE REPORT: 37-year-old male with known congenital analbuminemia was admitted to the hospital with acute coronary syndrome. The patient was consulted with the nephrology clinic and has been given albumin treatment until the plasma albumin level has increased from 0,5 to 3 mg/dl. The patient underwent on pump CABG operation using moderate hypothermia and isothermic blood cardioplegia. 3 vessels were bypassed using left and right internal thoracic artery and saphenous vein grafts. The patient stayed 2 days in the intensive care unit. On the postoperative term, albumin treatment was continued in order to keep the plasma albumin level above 3 mg/dl. He was discharged home on the postoperative 9th day.

DISCUSSION: There is very few information about analbuminemia and no operated patient has been reported in literature. Open heart surgery still has many unknowns and components of this unique surgery; heparinization, hemodilution, hypothermia might lead to catastrophic changes in the operative course in analbuminemic patients in the absence of a key element, albumin.

CONCLUSION : This is the first reported analbuminemic patient in the literature who has undergone open heart surgery. We advocate beating heart surgery if possible and using albumin treatment and keeping serum albumin level above 3 mg/dl until the role of albumin treatment in these patients is enlightened with further investigations and studies.

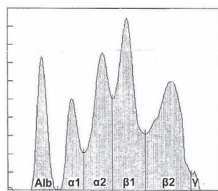


Figure 1

PP-173 HYPOTHYROIDISM PRESENTING AS POSTPERFUSION SYNDROME

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BACKGROUND: The postperfusion syndrome is uncommon event after open-heart surgery with extracorporeal circulation. Mostly associated with old age at surgery and cardiopulmonary bypass lasting longer than 60 minutes. Pituitary gland enlargement or apoplexy is characterized by a sudden onset of headache, visual symptoms, altered mental status, and hormonal dysfunction. This condition usually stems from an acute expansion of a pituitary adenoma.

CASE: A 70-year-old man was admitted to the hospital with chest pain and shortness of breath. Past medical history revealed hypercholesterolemia. Neurological examination on admission was normal. Subsequent coronary angiography showed three-vessel coronary artery disease. The patient was underwent elective coronary artery bypass surgery. After conventional general anesthesia and systemic heparin administration, on cardiopulmonary bypass, myocardial revascularization was carried out using standard operative techniques. On second day he developed sudden onset of headache, visual symptoms, altered mental status. An urgent brain CT-scan demonstrated a sellar mass with suprasellar extension. Magnetic resonance imaging confirmed the sellar tumor suggestive of pituitary adenoma. The optic chiasm was compressed by the mass which resulted in bitemporal hemianopsia and the worsening of the visual acuity. The mass was totally resected

CONCLUSIONS: During cardiac surgery, cardiopulmonary bypass-induced cerebral edema may contribute to the critical enlargement of silent pituitary adenomas. Cardiopulmonary bypass may also cause infarction or hemorrhage in pituitary adenomas in view of an increase susceptibility to hypoperfusion or ischemia of the abnormal pituitary tissue or to an increased risk of bleeding as a result of anticoagulation. Without proper treatment, pituitary apoplexy can be fatal or cause permanent neurological or endocrine damage. Its diagnosis should always be considered in patients who develop visual disturbances or ophthalmoplegia following cardiac surgery. Neuroimaging studies enable rapid diagnosis and can exclude other intracranial disorders such as ischemic or hemorrhagic lesions, other tumors, and vascular disease.

PP-174 HEREDITARY TROMBOPHILIA RELATED TO ACUT CORONARY SYNDROMES

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A twenty-nine years old young women administered to the emergency department with the complaints of chest pain. She had no previous health problems and she didn't drink alcohol. She smoked and used oral contraceptives. At the time of admission , his physical examination revealed right arm blood pressure of 80/55 mmHg. Pulse rate was 96 beats/minute, regular. On cardiac auscultation there was S3 sound heard at the 4th and 5th intercostal spaces. On lung auscultation there were bilateral rales. Her 12 lead electrocardiogram showed a regular sinus rhythm and ST-T wave changes in leads V1-V6, II-III-aVF and ST elevation in laed I-aVL (figure-1). First laboratory results were clear. Doppler eocardiographic examination showed regional wall motion abnormalities (Apical, septum, anterolateral, anterior, inferior, posterior, posterolateral hypochinesia) of the left ventricle and low ejection fraction %35 (figure-2). Coroner angiography showed 100% of left anterior descending coroner artery lesion by thrombi (figure-3). Percutan coronary intervention performed LAD and then given tirofiban infusion. One week later she had chest pain again. Immedety coronary angiography performed, it showed % 98 of left anterior descending coroner artery lesion in stent. We offered CABG. She underwent successfully CABG. In conclusion, In young women with acute coronary syndrome , factor V leiden mutation must be remembered.

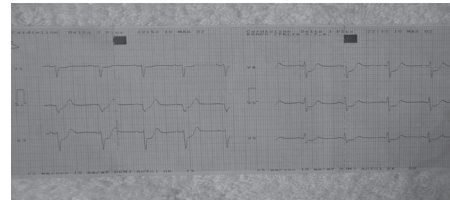


Figure-1 ECG

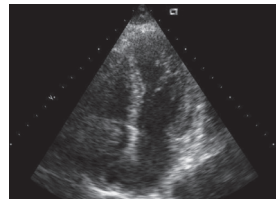


Figure-2 Echocardiography



Figure-3 Angiography

PP-175 CARDIAC SURGERY IN PATIENTS WITH EXTRACARDIAC MALIGNANCY

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AIM OF THE STUDY: In order to evaluate patients with extracardiac malignancies who were to be operated for cardiovascular pathologies, a study was undertaken.

Methods: Twenty three patients who were to undergo cardiovascular surgery between March 2007 and May 2009 were prospectively evaluated.

RESULTS: The malignancies encountered in the patients were: 6 patients with gastrointestinal malignancies, 5 with pulmonary, 4 with breast, 3 with urinary bladder, 2 with haemopoietic system, 1 with larynx, 1 with endometrium and 1 with mandibular epidermoid tumour. Nine of the patients had preoperative surgical procedures related to their malignancies. One patient had simultaneous mandibular epidermoid carcinoma resection, coronary artery bypass grafting and ipsilateral carotid endarterectomy. Seven patients underwent postoperative cancer surgery. Ten patients had their cardiovascular pathology diagnosed while having been treated for their malignancies and 12 patients had their diagnosis made incidentally while being evaluated for any malignancy

The cardiovascular operations performed were: 11 operations with cardiopulmonary bypass (coronary artery bypass grafting, and 1 mitral valve repair, 1 repair for ruptured ascending aorta aneurysm) Twelve patients had off pump coronary artery bypass grafting. Three of the patients were operated on emergently due to unstable hemodynamic conditions: 2 left main coronary artery stenosis with impending chest pain and 1 ruptured ascending aorta aneurysm. Two patients were lost in the early postoperative period due to pulmonary complications. One patient with colonic carcinoma, severe chronic obstructive pulmonary disease and off-pump coronary artery bypass grafting and another patient with simultaneous coronary artery bypass grafting, carotid endarterectomy and ipsilateral mandibular epidermoid carcinoma resection. The remaining 21 patients are discharged without any major complication with all of them maintaining their therapy for their malignancies with good cardiac condition (New York heart Association class I).

CONCLUSION: Some extracardiac malignancies share the same risk factors especially with coronary artery disease (age, smoking,etc.). For this reason, while patients are evaluated for their malignancies, they are also screened for cardiac pathologies that may require surgical intervention. Each patient should be evaluated individually by oncology and cardiovascular surgery clinics and an appropriate therapeutic strategy should be determined by both clinics. Primary determinant factor for cardiovascular surgery should be the life expectancy of the patient according to the guidelines. As maintenance cardiovascular stability during oncological surgery and medications is of great importance for the success of this therapy, this should also be taken into consideration while deciding for cardiac surgery.

PP-176 IDIOPATHIC SUSTAINED VENTRICULAR TACHYCARDIA ORIGINATING FROM GREAT CARDIAC VEIN

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OBJECTIVE: Idiopathic ventricular tachycardia (VT) and premature ventricular contractions (PVC) mainly originate from the right ventricular outflow tract (RVOT). Idiopathic VT/PVCs originating from the great cardiac vein constitute only a small number of cases. There is little data regarding to the prevalence, ECG characteristics, common sites of tachycardia origin around the coronary sinus and especially its branches, and efficacy of radiofrequency (RF) catheter ablation of these cases. We, herein, report a case of 32 year old female with healthy, symptomatic, sustained idiopathic VT originating from the great cardiac vein.

MATERIAL AND METHODS: 12-lead electrocardiogram (ECG) obtained during the clinical tachycardia revealed sustained VT with right bundle branch block (LBBB) QRS morphology and a rightward axis (figure 1). Echocardiography and electrophysiological study were performed to the patient. Pace mapping was performed during the electrophysiological study. Radiofrequency catheter ablation is performed at the earliest ventricular activation site.

RESULTS: Echocardiography revealed a normal examination with a global ejection fraction of 68%. Electrophysiological study (EPS) was performed to the patients. During mapping of coronary sinus in electrophysiological study (EPS), pace mapping and the earliest ventricular activation site revealed that the origin of the tachycardia was the great cardiac vein. The intracardiac electrocardiographic recordings showed the ventricular activation was 18 ms before QRS onset (figure 2). Radiofrequency (RF) energy was applied to this site. After the procedure, tachycardia completely disappeared. After 20 minutes of monitoring under the basal conditions in the EPS laboratory no spontaneous VT/VPCs were observed. Stimulation with isoproterenol infusion, also did not induce the clinical tachycardia and the VPCs. The electrocardiograms obtained two days after the procedure were normal (figure 3). Patient was discharged from the hospital without any medication. The patient has remained completely asymptomatic 6 months after the procedure.

CONCLUSION: Although idiopathic VT and PVCs mainly originate from the RVOT, uncommon sites of origin is seldomly encountered. If localization of the idiopathic VT/PVCs were failure in the most common origin, the epicardial focus including coronary sinus and its branches should be done pace-mapping by the physicians. Careful analysis of the ECG before the procedure will facilitate the electrophysiological study in these patients.

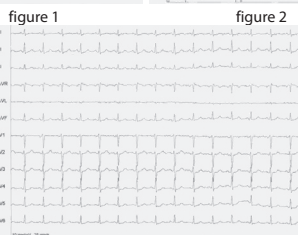
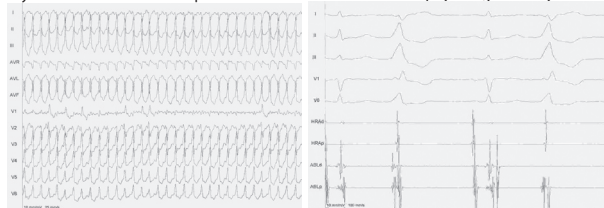


figure 3

PP-177 OUR PORT CATHETER APPLICATION EXPERIENCES

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INTRODUCTION: We evaluated the results of the pursue and applications carried on for persistend port catheter applications used for chemotherapy for long time by our clinic.

METHOD: In our clinic, 174 patients whose port catheters were inserted were examined with the aim of treatment in the patients with cancer between the dates January 2006 and May 2009.

THE RESULTS: The ages of the patients whose port catheters were inserted were between 34 and 82 years. 93 of the patients were female, and 81 of them were male. The places of port catheters were as follows. Colon ca 53, breast ca 34, esophagus ca 28, lung ca 23, stomache 20, bladder ca 12, nashopharinks ca 4; right juguler vein 89, right subclavian vein 25, left juguler vein 46, left subclavian vein 12, right femoral vein 2. All of the port catheters insertations were made in operation room and accompanied by scopy. As complications, there was catheter obstruction in four patients and there was infection in two patients. Mortality depending on the insert process wasn't seen.

DISCUSSION AND CONCLUSION: In recent years, due to the increase in the cancer cases and the choice of medical treatments, port catheter application in the patients who will receive chemotherapy is a safe and comfort one as regards treatment and infection. Th fact that port catheters were inserted by experienced stff on the sterilized media accompenied by scopy is very important and the maintenance of catheter after insertion is also important.

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