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P01**Echocardiographic comparison of the coronary sinus in patients with and without atrioventricular nodal tachycardia**

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INTRODUCTION: There are conflicting results with different imaging methods about whether the size of coronary sinus (CS) in patient with atrioventricular nodal tachycardia (AVNRT) is bigger than in normal population. There is also no data about whether the echocardiography measured size of CS is different among patients with AVNRT or not. This study compares the echocardiography measured size of CS among patients with AVNRT or not

METHOD: The study included 86 patients diagnosed as AVNRT by EPS and 64 healthy populations. Osteal CS diameter (CS_O), mid CS diameter (CS_M) 1 cm distal to the ostium and distal CS diameter 1 cm distal to the mid CS were measured by using transthoracic echocardiography. We also calculate the coronary sinus index (cm/m²) by dividing the coronary sinus diameter (cm) to body surface area (m²)

RESULTS: The AVNRT and control groups were similar with regard to age, gender, body mass index, body surface area, osteal, mid, distal coronary sinus size and also coronary sinus index

CONCLUSION: The CS size of patients with AVNRT did not differ from that of control patients with TTE.

Anahtar Kelimeler: coronary sinüs, atrioventricular nodal tachycardia, echocardiography

Table 1

	AVNRT N:86	positive	Control N:64	group	p
Age (year)	45±10		42±11		0,140
Women	54(63%)		39(57%)		0,501
BMI (kg/m ²)	27±4,8		26±5,1		0,583
BSA (m ²)	1,8±0,2		1,8±0,2		0,932
CS(O) (mm)	12±2,6		11,3±2,3		0,102
CS(O)i cm/m ²	0,66±0,15		0,62±0,13		0,126
CS(M) (mm)	9,6±2		9,4±1,7		0,503
CS(M)i cm/m ²	0,53±0,12		0,52±0,10		0,585
CS(D) (mm)	8,3±1,5		8,1±1,5		0,679
CS(D)i cm/m ²	0,45±0,9		0,44±0,9		0,481

Characteristics of patients patient with and without atrioventricular nodal tachycardia

P02

Received Curative Results With Medical Treatment, The Giant Left Atrial Thrombus

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INTRODUCTION: In daily practice, especially in cardiology arrhythmic ground, it is common to the cases of left atrial thrombus. In our case, the giant thrombus in the left atrium, mitral stenosis in our patients, 9 months we have achieved with vitamin K antagonist therapy we share our curative result.

FACT: 72-year-old female patient was admitted to our hospital with palpitations and dyspnea. Rapid ventricular response atrial fibrillation induced transthoracic echocardiogram ejection fraction of 38%, the apex akinetic, moderate tricuspid regurgitation, PABs: 50 mmHg, moderate mitral stenosis, mitral valve area of 1.38 cm², the CW Doppler gradients of up to 18 mmHg and an average of 7 mm Hg was. Starting from the left atrium and the pulmonary region, it was seen in the 70x24 mm thrombus extending to the mitral valve level.

The patient was started on enoxaparin coronary angiography and surgery was recommended for thrombosis.

Warfarin in patients who refused surgery, began to be between INR 2.0-3.0. In the 9-month follow-up it showed that the thrombus on transthoracic echocardiography image disappears. Cerebrovascular embolic complications developed in such attacks.

DEBATE: In mitral stenosis, left atrium caused by the slowdown in the obstruction of blood flow (stasis) that result in thrombus. Typically located in the left atrial appendage thrombi in mitral stenosis. Free floating thrombus or causing major obstruction may occur. The diagnosis of mitral stenosis patients taking anticoagulants were put there in about 20% of left atrial thrombus. The presence of atrial fibrillation doubles the risk of thrombosis. Cardiac sources of embolic complications in patients with mitral stenosis is suitable for anticoagulation therapy for such cases to be seen. Appendix thrombus detected in the left atrial cavity or 9508 in a study in which patients received 47 ± 18 days rezoluzasyo the thrombus ratio was 80% with anticoagulant therapy.

RESULT: In patients with left atrial thrombus, surgery is considered the first option because of the risk of systemic embolism. However, our review of the literature and echocardiographic follow-up studies showing appropriate anticoagulant therapy can be removed from the thrombus and systemic embolism cases are available. In our case the first option considered surgery, but patients were followed up with anticoagulant is not consent. As a result of 9 months of patient follow-up transthoracic echocardiography it showed that the mass was completely destroyed. In light of these data for medical treatment, particularly in patients with non-valvular surgery, we believe that should be evaluated in the foreground.

Key Words: mitral stenosis, atrial fibrillation, left atrium, thrombus

9 ay sonra alınan TTE görüntüsü

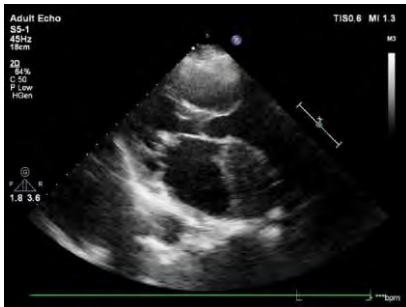


Transtorask Ekokardiyografi:
Apikal 4 boşluk, sol atriyal trombus



Kitlenin tamamen kaybolduğu izlenmektedir.

Transtorask Ekokardiyografi: Parasternal görüntü, sol atriyal trombus



P03

Dejeneratif mitral biyoprotez kapakta ileri stenoz ile beraber olan dev, mobil, sol atrial appendiks trombüsü

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GİRİŞ: Semptomatik romatizmal mitral kapak hastalığı olan genç kadınlarda cerrahi tedavide biyoprotez kapak seçilebilmektedir. Replasman sonrası oral antikoagülasyonun mutlak endike olmaması, gebelikte daha konforlu olması nedeniyle seçilebilmektedir. Dezavantajı uzun dönemde takipte kapak dejenerasyonudur. Bu vakamızda replasman sonrası dev trombüs gözlenen hastayı inceledik.

OLGU: 36 yaşında kadın hasta artan nefes darlığı, çarpıntı ile başvurdu. 2006 yılında romatizmal mitral darlığı nedeniyle biyoprotez mitral kapak replasmanı yapılan hastanın son birkaç aydır şikayetlerinde artma mevcuttu. Ritm bozukluğu olduğu söylenen hastanın warfarin kullanmasına rağmen yetersiz INR kontrolü olduğu hastane kayıtlarından gözlemlendi. Fizik muayenesinde kan basıncı 100/60, taşiaritmik idi. S1, S2 normal, S3, S4 yok, diastolik 2/6 üfürüm mevcut idi. EKG’de 156/dk atrial fibrilasyon ritmi gözlemlendi. Yapılan transtorasik ekokardiyografi incelemesinde sol atrium ve sağ kalp boşlukları dilate, aortta kapak uçlarında kalınlaşma gözlemlendi. Mitral biyoprotez kapak dejenere olarak gözlenmiş olup, ortalama 14 mmHg gradient ve orta derece mitral yetersizliği, orta-ileri aort yetersizliği, ileri triküspit yetersizliği gözlemlendi. Mitral kapak olanı basınç yarılanma ve planimetrik ölçümle 0,9 cm² olarak ölçüldü. Sol ventrikül ejeksiyon fraksiyonu %45 ve pulmoner arter basıncı 55 mmHg olarak hesaplandı. Biyoprotez kapak fonksiyonları, mitral ve aortik kapak yetersizliklerini optimal değerlendirmek amacıyla transözefageal ekokardiyografi yapıldı. Mitral yetersizliği orta, aort yetersizliği orta-ileri olarak gözlemlendi. Mitral biyoprotez kapakta ileri darlık saptandı. Sol atrium ve sol atrial appendikte yoğun spontan ekokontrast mevcuttu. Sol atrial appendiks’te, transtorasik ekokardiyografide gözlenmeyen, 3.1x1.9 cm boyutunda masif, kama biçimli, organize mobil trombüs gözlemlendi. Hasta yatırılarak, enoksiparin ve destek tedavi başlandı. Semptomatik ileri mitral darlığı, dev LAA trombüs, kapak yetersizliği nedeniyle hasta, kalp damar cerrahi ile konsülte edilerek erken operasyon planlandı.

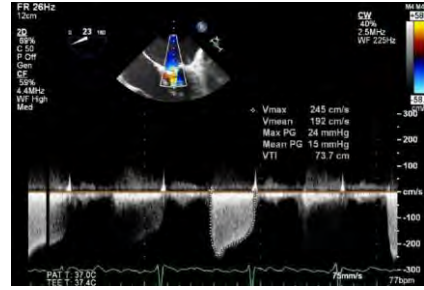
SONUÇ: Biyoprotez mitral kapak implantasyonu sonrası uzun dönemde özellikle LAA gibi akımın yavaş olduğu bölgelerde staz olabilmekte, büyük trombüs gelişimine neden olabilmektedir. Replasman ile birlikte LAA’nın cerrahi kapatılması bir seçenek olarak düşünülebilir.

Anahtar Kelimeler: appendiks, atrial, biyoprotez, mitral, sol, trombüs

01-Sol atrial appendikte dev trombüs



02-Biyoprotez mitral kapaktaki gradient



03-Mitral Biyoprotez Kapak - Diastolde



04-Mitral Biyoprotez Kapak - Sistolde



P04

Arrhythmic right ventricular dysplasia (ARVD) with apical thrombus

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INTRODUCTION: ARVD is a rare form of cardiomyopathy in which the heart muscle of the right ventricle (RV) is replaced by fat and/or fibrous tissue. The right ventricle is dilated and contracts poorly. It commonly presents in young adults with ventricular tachycardia or sudden death. Researchers have found two patterns of inheritance for ARVD; autosomal dominant, the family members have a 50 percent chance of inheriting the condition, autosomal recessive, one form is called Naxos disease. ARVD is usually diagnosed at a young age and symptoms may include ventricular arrhythmias, palpitations, dizziness, heart failure and also sudden cardiac death. ARVD is diagnosed on medical history, physical exam, and tests (echocardiogram, Holter monitor, electrophysiologic testing, cardiac MRI, and/or cardiac CT scan). Cardiac MRI is an important test for the diagnosis as it visualizes fibro-fatty infiltration of the right ventricular (RV) myocardium.

CASE: A 19 years old male was admitted to hospital with palpitation and syncope. There was no family history of heart disease or sudden death. On admission he was haemodynamically stable and was not in heart failure. T wave inversion was detected on surface ECG. Laboratory tests were normal. Echo showed: dilated right ventricle with outpouching in the right ventricular cavity and apex aneurysm with thrombus in it (figure-1). Cardiac MRI revealed right ventricular enlargement, fatty infiltration, fibrosis, wall motion abnormalities and apical aneurysm with thrombus. Anticoagulation started with ACE (angiotensin converting enzyme) inhibitor, and beta blocker, after three months later thrombus resolved and ICD was implanted.

DISCUSSION: ARVD is a leading cause of sudden death among young athletes. But it can affect people of all ages and all activity levels. International Task Force proposed criteria for the clinical diagnosis of ARVD/C, based on structural, electrocardiographic, arrhythmic, histological and familial characteristics of ARVD/C. The major condition which needs to be differentiated from ARVD/C is idiopathic ventricular tachycardia arising from the outflow tract. There are two primary goals of treatment of ARVD/C; to reduce the frequency and severity of ventricular arrhythmias and to prevent or limit the worsening of ventricular function and heart failure.

Keywords: Arrhythmic right ventricular dysplasia, fatty infiltration

Thrombus



Apical aneurysm with thrombus

P05

Mitral and aortic valve endocarditis together with mitral cleft developing due to an incorrectly inserted permanent hemodialysis catheter

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²Department of Cardiology, Afyonkarahisar State Hospital, Artvin, Turkey

INTRODUCTION: Catheter-related infection is the most important cause of infective endocarditis (IE) in hemodialysis (HD) patients. HD catheter-related left-sided endocarditis is quite rare and usually develops as the result of the right-sided infected catheter's affecting the left-sided valves through septicemia. Another rare cause not reported before is the HD catheter's passing from IAS to the left side and directly affecting the valves.

CASE: A 58-year-old male patient was admitted to emergency room with complaints of dyspnea, fever, night sweating and loss of appetite lasting for 3 weeks.. He had been enrolled in HD program 6 months ago had been inserted a permanent HD catheter from the right subclavian vein. On his physical examination, arterial blood pressure was 110/50 mmHg, heart rate was 130 bpm, rhythmic, fever was 38,6 C, on cardiac examination, there was 4/6 pansystolic murmur on apical focus and 3/6 diastolic murmur in aortic focus.

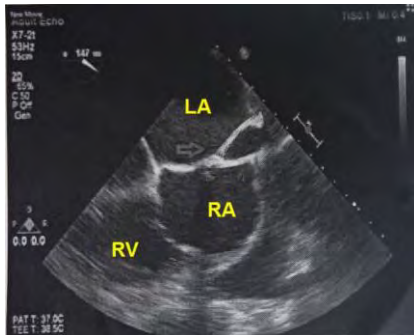
Laboratory findings were as follows: WBC 21 000/mm³, hemoglobin 9.5 gr/dl, hematocrit 29%, platelet count 226 000/mm³, urea 86 mg/dl, creatinine 4.8 mg/dl, C-reaktive protein (CRP) 36 mg/dl, erythrocyte sedimentation rate (ESR) 80 mm/h.. On Transesophageal echocardiography (TEE), a mobile, multiple, filamentous heterogenous density was observed on the catheter in the right atrium. The tip of the catheter was detected to pass from patent foramen ovale (PFO) which was a short tunnel in IAS and extend to pulmonary veins from the left atrium. A mobile vegetation in heterogenous density, measuring 1.2 x 1.4 cm² was observed on the anterior leaflet of the mitral valve. Beside, a vegetation image measuring 0.8x0.6 cm² was observed on non-coronary cusps of the aortic valve. A defect consistent with a perforation due to the destruction of the vegetation which causes a second jet on the anterior leaflet of the mitral valve was observed in addition to the severe central mitral insufficiency. Meticillin-sensitive staphylococcus aureus (MSSA) grew in two blood cultures.

Antibiotic treatment was arranged as sefazoline 1 gr once daily and gentamycin 0.5 mg/kg bid. Early surgical operation was planned under antibiotic treatment due to severe mitral insufficiency. However hemodynamic stability of the patient dramatically deteriorated and died despite sufficiecnt inotropic support treatment

DISCUSSION: In our case due to the malposition of the catheter. HD catheter's left sided location by passing from the iatrogenic or congenital defects in IAS and leading to IE is a very rare condition. This condition usually occurs during the procedures which are conducted without using scopy or echocardiography. Catheter site should be confirmed through an imaging method performed during or after the procedure in order to prevent catheter malposition

Keywords: Infective endocardiitis, Hemodialysis catheter, Renal failure

figure 1



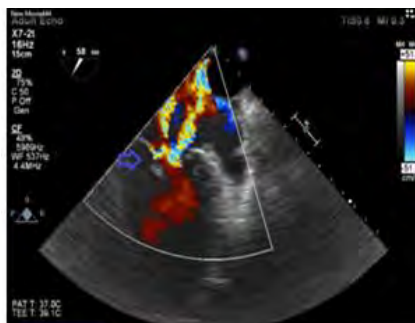
The tip of the catheter was detected to pass from patent foramen ovale in transesophageal echocardiography (TEE)

figure 2



the vegetations are present both mitral and aortic valves

figure 3



a cleft due to the destruction of the vegetation which causes a second jet on the anterior leaflet of the mitral valve was observed in addition to the severe central mitral insufficiency

P06

Echocardiographic comparison of the size of coronary sinus in patients with and without atrioventricular nodal tachycardia,

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INTRODUCTION: There are conflicting results with different imaging methods about whether the size of coronary sinus in patient with atrioventricular nodal reentrant tachycardia (AVNRT) is bigger than in normal population. There is also no data about whether the echocardiography measured size of CS is different among patients with AVNRT or not. This study compares the echocardiography measured size of CS among patients with AVNRT or not

METHOD: The study included 86 patients diagnosed as AVNRT by EPS and 64 healthy populations. Osteal CS diameter (CS_o), mid CS diameter (CS_m) 1 cm distal to the ostium and distal CS diameter 1 cm distal to the mid CS were measured by using transthoracic echocardiography. We also calculate the coronary sinus index (cm/m²) by dividing the coronary sinus diameter(cm) to body surface area(m²)

RESULTS: The AVNRT and control groups were similar with regard to age, gender, body mass index, Body surface area, osteal, mid, distal coronary sinus size and also coronary sinus index

CONCLUSION: The CS size of patients with AVNRT did not differ from that of control patients with TTE.

Keywords: coronary sinüs, echocardiography, atrioventricular nodal reentrant tachycardia

Table 1

	AVNRT positive N:86	Control group N:64	P
Age (year)	45±10	42±11	0,140
Women	54(63%)	39(57%)	0,501
BMI (kg/m ²)	27±4,8	26±5,1	0,585
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CS(D) (mm)	12±2,6	11,5±2,3	0,102
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CS(D) (mm)	8,3±1,5	8,1±1,5	0,679
CS(D) cm/m ²	0,45±0,9	0,44±0,9	0,481

BMI:Body Mass Index,BSA:Body Surface Area,CS(D): Distal Coronary Sinus,
CS(D)i: Distal Coronary Sinus index,CS(M): Mid Coronary Sinus,CS(M)i: Mid Coronary
Sinus index,CS(O):Osteal Coronary Sinus,CS(O)i: Osteal Coronary Sinus index
N:Number

baseline characteristics and cs sizes of patients

P07

Real-time three dimensional echocardiographic examination of calcified valve and massive left atrial appendix thrombus on a patient with severe aortic stenosis and heart failure

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INTRODUCTION: “Booster pump” of left atrium were known on patients with severe aortic stenosis. Hemodynamic decompensation on a patient with aortic stenosis could be result of worsening ejection fraction or developing atrial fibrillation. It can also cause thromboembolism. We present a case with massive left atrial appendix thrombus on a patient with severe aortic stenosis and dilated left ventricle.

CASE: Sixty seven years old male had exertional dyspnea during a few months. Heart failure treatment were administered on another clinic and functional capacity were regressed to NYHA II. On physical examination, S1, S2 were normal, S3 and S4 were absent. 3/6 midsystolic murmur was present. Blood pressure were 130/60 mmHg. ECG revealed sinus rhythm at 88 bpm and left ventricular hypertrophy pattern were present. Transthoracic echocardiogram were showed mild mitral and moderate aortic insufficiency, restricted aortic valves, global hypokinesia and ejection fraction of %25. Peak pressure gradient was 55 mmHg and mean pressure gradient was 32 mmHg on aortic valve. A mobile hyperechogenic mass were detected near anterior leaflet of mitral valve. Transesophageal echocardiogram was performed. Massive mobile thrombus with size of 1.7x3.1 centimeters were observed on left atrial appendix through center of left atrium. Thrombus were fragmented on mid segment. Real time three dimensional echocardiography showed severe restriction of aortic valve and thrombus. History of patient, clinical findings and images on three dimensional echocardiography were pointed severe aortic stenosis with low output-low gradient. Heart team including cardiovascular surgeons and experienced interventional cardiologists decided to aort valve replacement and thrombectomy with high cardiovascular risk. Patient and his family have been informed about his illness. Purpose and risks of surgery were described clearly. Informed consent was obtained. Coronary angiography and cardiovascular operation were planned.

CONCLUSION: Severe aortic stenosis were associated with thromboembolic complications along with angina, heart failure and sudden death. Real time three dimensional echocardiography can be used for optimal imaging of low output-low gradient severe aortic valvular stenosis. It can be also show other pathological conditions like thrombus and other cardiac masses.

Anahtar Kelimeler: atrial, aort, appendiks, darlığı, sol, trombüs

01-TTE LA kitle



Transtoraksik ekokardiyografi incelemesinde mitral kapak anterior yaprakçık yakınında yuvarlak, mobil hiperekojen kitle

02-TEE LA kitle-1



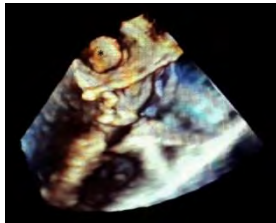
Transözefageal incelemede sol atrial apendikte massif trombüs.

03-TEE LA kitle-2



Transözefageal diğer kesitte trombüsün fragmente olduğu görüldü.

04-TEE-3B-LAATrom-AD



*Transözefageal gerçek zamanlı üç boyutlu görüntüde sol atrial apendikteki trombüs, kalsifik ve dar aort kapak ve mitral ön yaprakçık arasındaki ilişki görülmüyor. Trombüs * ile işaretlenmiştir.*

05-TEE-3B-AD



*Transözefageal gerçek zamanlı üç boyutlu görüntüde kalsifik ve açılımı ileri derece kısıtlı aort kapak horizontal olarak görülmekte. * ile işaretlenen kitle trombüsü gösteriyor.*

P08

Late right ventricle perforation: a case report

Hatice S Kemal¹, Evrim Şimşek¹, Elif İlkey Yüce¹, Tahir Yagdi², Cemil Gürgün¹, Mustafa Akın¹

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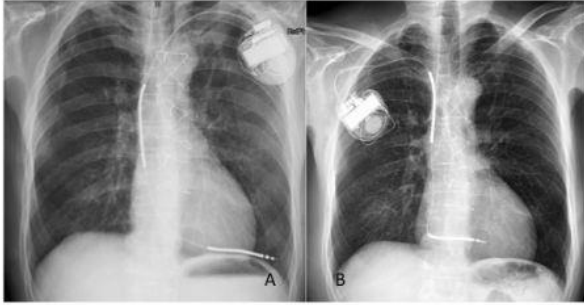
²Department of Cardiovascular Surgery, Ege University, İzmir, Turkey

INTRODUCTION: The expanding indications for cardiac pacemaker (PM) and implantable cardioverter defibrillator (ICD) therapy have led to a substantial increase in device implant for the last years. Lead perforation of the right ventricle (RV) is a rare and potentially lethal complication that may occur during, shortly or late after implant.

CASE: We present a 56-year-old man with history of coronary bypass 6 years ago. The patient had an ICD with active fixation lead implant 5 months ago for secondary prevention of sudden cardiac arrest. The patient was admitted to hospital after hearing a beeping from the ICD. Device interrogation suggested lead fracture and chest x-ray demonstrated that the tip of the lead had migrated out of the heart silhouette (Figure1A). Computed tomographic (CT) scan confirmed the perforation and minimal pneumothorax. Transthoracic echocardiography revealed no pericardial effusion. The lead was successfully removed by simple manual traction in the operating room under fluoroscopic guidance with surgical backup support. No complications occurred after removal. After a week, a new passive fixation single-coil ICD lead was implanted and post implantation chest x-ray and CT scan confirmed that the pacemaker lead was in the normal position (Figure 1B).

Keywords: right ventricle perforation, pacemaker, lead

Figure 1



Chest x-ray showing A, right ventricle perforation by the lead and B, new lead positioned at the apex.

P09

Huge aortic aneurysm

Özgen Şafak

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INTRODUCTION: Aneurysm is defined as the irreversible dilation of the artery by more than 50% of the normal diameter. Aortic aneurysms are classified as abdominal (the majority) or thoracic. Thoracic aortic aneurysms (TAAs) may affect various parts of the thoracic aorta; Ascending aorta, aortic arch, descending aorta, thoraco-abdominal aorta. The Global Burden Disease 2010 project demonstrated that the overall global death rate from aortic aneurysms and AD increased from 2.49 per 100 000 to 2.78 per 100 000 inhabitants between 1990 and 2010, with higher rates for men. Genetic diseases (Marfan syndrome, Loews-Dietz syndrome, Ehler Danlos syndrome, familial thoracic aortic aneurysm syndrome, and aneurysms osteoarthritis syndrome), cystic medial necrosis, giant cell arteritis, infections (syphilis, mycotic infections, tuberculosis) and trauma play a role in the aetiology. TAA is usually asymptomatic and is normally diagnosed with imaging techniques performed for unrelated reasons. In this case we report asymptomatic man with unexpected diameter.

CASE: A 70 year-old man was consulted to our clinic from nephrology service who was hospitalised due to chronic renal insufficiency. He had hypertension for 20 years with an irregular antihypertensive treatment. He had a history of smoking for 50 pocket-year. He suffered from dyspnea but he had chronic obstructive pulmonary disease (COPD). In echocardiographic examination, systolic function was normal, left ventricular diastolic dysfunction, mild mitral regurgitation, moderate aortic insufficiency, with 11 cm thoracic aorta diameter. No aortic dissection signs were detected. Computed tomography revealed ascending aortic aneurysm with 11 cm diameter without dissection. Patient refused to be operated. His antihypertensives were optimized, beta blocker was added and has taken to control programme.

CONCLUSION: The pathogenesis of TTA is complex and probably involves inflammation, proteolysis and reduced survival of smooth muscle cells in the aortic wall. There is probably an imbalance of proteolytic enzymes versus their inhibitors. Once the aorta reaches a critical diameter (about 6 cm in the ascending aorta and 7 cm in the descending aorta), it loses all distensibility so that a rise in blood pressure to around 200 mm Hg can exceed the arterial wall strength and may trigger dissection or rupture. Although rupture of TAA and dissections are very rare, they have a high morbidity and mortality rates. Therefore, early detection is important. Although usually asymptomatic, chest pain, back pain, hoarseness due to recurrent laryngeal nerve compression, difficulty in swallowing due to compression of the oesophagus and shortness of breath due to the bronchial compression may be seen. Nowadays, because of low morbidity, mortality and hospital stay, thoracic endovascular stent graft surgery, generally under epidural anaesthesia, is the preferred surgical method in especially old TAA patients.

Keywords: thoracic aortic aneurysm, dissection

Aortic Aneurysm



P10

Interatriyal septumdan geçen kalıcı hemodiyaliz kataterine bağlı oluşan mitral cleft ile birlikte mitral ve aort kapak endokarditi olgusu

Oktay Şenöz¹, Sadık Volkan Emren²

¹Artvin Devlet Hastnesi

²Afyonkarahisar Devlet Hastanesi

INTRODUCTION: Catheter-related infection is the most important cause of infective endocarditis (IE) in hemodialysis (HD) patients. HD catheter-related left-sided endocarditis is quite rare and usually develops as the result of the right-sided infected catheter's affecting the left-sided valves through septicemia. Another rare cause not reported before is the HD catheter's passing from IAS to the left side and directly affecting the valves.

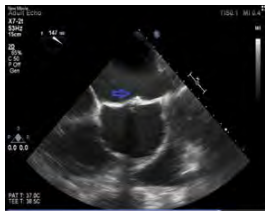
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Laboratory findings were as follows: WBC 21 000/mm³, hemoglobin 9.5 gr/dl, hematocrit 29%, platelet count 226 000/mm³, urea 86 mg/dl, creatinine 4.8 mg/dl, C-reaktive protein (CRP) 36 mg/dl, erythrocyte sedimentation rate (ESR) 80 mm/h.. On Transesophageal echocardiography (TEE), a mobile, multiple, filamentous heterogenous density was observed on the catheter in the right atrium. The tip of the catheter was detected to pass from patent foramen ovale (PFO) which was a short tunnel in IAS and extend to pulmonary veins from the left atrium. A mobile vegetation in heterogenous density, measuring 1.2 x 1.4 cm² was observed on the anterior leaflet of the mitral valve. Beside, a vegetation image measuring 0.8x0.6 cm² was observed on non-coronary cusps of the aortic valve. A defect consistent with a perforation due to the destruction of the vegetation which causes a second jet on the anterior leaflet of the mitral valve was observed in addition to the severe central mitral insufficiency. Meticillin-sensitive staphylococcus aureus (MSSA) grew in two blood cultures. Antibiotic treatment was arranged as sefazoline 1 gr once daily and gentamycin 0.5 mg/kg bid. Early surgical operation was planned under antibiotic treatment due to severe mitral insufficiency. However hemodynamic stability of the patient dramatically deteriorated and died despite sufficiecnt inotropic support treatment

DISCUSSION: In our case due to the malposition of the catheter. HD catheter's left sided location by passing from the iatrogenic or congenital defects in IAS and leading to IE is a very rare condition. This condition usually occurs during the procedures which are conducted without using scopy or echocardiography. Catheter site should be confirmed through an imaging method performed during or after the procedure in order to prevent catheter malposition

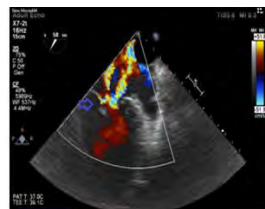
Anahtar Kelimeler: infektif endokardit, kateter malpozisyonu,hemodiyaliz

resim 1



transözafegale ekokardiyografide interatriyal septumda hemdodiyaliz kataterinin geçtiği bölgede okla işaretlenmiş olarak gösterilen vejetasyon

resim 2



*Mitral kapak anteriorleaflet üzerinde 1.2*1.4 cm² büyüklüğünde vejetasyonla uyumlu kitle imajı. Santral ciddi mitral yetmezliğine ilaveten mitral kapağın anteriorleafleti üzerinde ikinci bir jete neden olan destrüksiyonuna bağlı cleft ile uyumlu defekt.*

resim 3



transözafegale ekokardiyografide aort nonkoroner kusp ve mtral anterior leaflet üzerinde vejetasyonların birlikte görünümü

P11

Surgically Acquired Reverse-Gerbode Type Defect

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INTRODUCTION: Gerbode defect is an unusual cardiac defect and usually congenital, only a few cases are acquired, mostly due to infective endocarditis. We present a case of a 20-year-old woman who complained of palpitation and dyspnea on exertion. Echocardiography revealed an abnormal communication between the right ventricle and the left atrium (mirror image of Gerbode defect).

CASE: A 20 year old female patient was admitted to our outpatient department with the complaints of palpitation and shortness of breath that was exaggerated with modest exercise. Physical examination was notable for 3/6 pansystolic murmur at apex. In her past medical history, she had cardiac catheterization which demonstrated primum atrial septal defect (ASD), atrioventricular septal defect (AVSD), small inlet type ventricular septal defect (VSD) and mitral cleft with severe mitral regurgitation (MR). The mitral valve was primarily repaired by ligation while the ASD was repaired by a pericardial patch at 5 years old. Inlet type VSD was not detected during the operation. She had postoperative residual moderate MR and mild tricuspid regurgitation (TR) and her follow-up for fourteen years was uneventful. Transthoracic echocardiography showed severe MR and moderate TR, biatrial dilatation, enlarged right ventricle and a small defect on perimembranous interventricular septum (figure 1). Tricuspid valve was displaced towards the base of the heart compared to mitral valve as a result of remodelling after the surgery. Mitral cleft was detected causing severe MR. A nonsignificant shunt was revealed from left atrium (LA) to right ventricle (RV) during diastole which was created by the perimembranous septal defect and the displaced tricuspid valve. A minimal regurgitant volume from the right ventricle to LA during systole was also detected (mirror image of Gerbode defect), but this regurgitation was interrupted with severe MR jet because of equalization of the pressures of the chambers (figure 2).

Management and Outcome: Later on she had cardiac operation for severe MR. Mitral valve was repaired and perimembranous VSD was ligated by surgery. Her exertional dyspnea and leg swelling was improved. She was followed uneventful for 5 years.

Discussion and CONCLUSION: Gerbode defect is an unusual cardiac defect and most commonly associated with partial or complete atrioventricular defect. But as in this case, the defect would not be clinically significant, if the severe MR were not present. In a real Gerbode type defect, the defect cause clinical consequences by inducing pulmonary hypertension, and should be surgically repaired. Cardiac catheterization is not necessary in most of these patients. Carefull evaluation with transthoracic echocardiography is effective in diagnosing Gerbode like defects. Surgical closure remains the mainstay of treatment.

Keywords: Gerbode defect, ventricular septal defect, atrial septal defect, atrioventricular septal defect

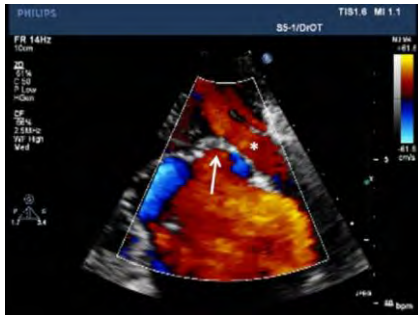
Figure 1



Inlet type VSD was seen in apical four chamber imaging in 2D echocardiography (arrow).

(RA: Right atrium, LA: left atrium, LV:left ventricle, RV: Right ventricle)

Figure 2



Tricuspid inflow () and the shunt from the left atrium to the right ventricle (arrow) during diastole was shown. Red colored flow was created by severe mitral regurgitation which circulates through the left atrium.*

P12

İkili sol ön inen arter: Nadir bir koroner anomali

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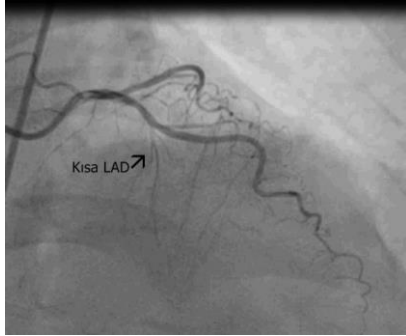
Introduction: The prevalence of coronary artery anomalies in the recent studies are reported in 0.2 to 1.2%. Left anterior descending artery (LAD) is a continuation form of the left main coronary artery and located in the interventricular sulcus. LAD contains diagonal and septal branches; which supply blood flow to the front part of the interventricular septum. Although variations of the right coronary artery (RCA) are more common, variations of origin and distribution of LAD is rare. Dual LAD is a rare coronary artery anomaly. In recent studies, its frequency was reported 1/10,000 and 4 types have been identified. In this case we reported a dual LAD which is recognized by coronary angiography in a patient admitted with chest pain.

Case report: A 59 year-old man was admitted to the cardiology clinic with retrosternal chest pain. In the ECG the rhythm was in sinus rhythm and there was no ischemic changes. The patient was performed coronary angiography (CAG) and stent implantation in his medical history. CAG demonstrated that a short artery originating from the left main coronary artery (LMCA) thought short LAD (Figure 1) and a long artery originating from the RCA, spreading in the LAD area thought long LAD (Figure 2). There was no significant stenosis in the LAD and left circumflex artery. There was a significant stenosis in the distal segment of RCA and percutaneous coronary intervention was performed, then a bare metal stent was implanted. There was no postoperative complications and patient was discharged with medical therapy.

Discussion: Dual LAD is a very rare benign abnormality and usually does not cause symptoms. These patients usually determined accidentally. Atherosclerotic changes were found in symptomatic patients. In the angiography with this anomaly, the empty area of the LAD can be misinterpreted as an occlusion in the mid segment of LAD. This anomaly should be considered when there is no retrograde filling to the short LAD origins left main coronary artery (LMCA) and there is an artery origins RCA to the LAD area. In our case, there were chest pain and in the angiography we found that longer LAD was originated from RCA, shorter LAD originated from LMCA called type IV dual LAD anomaly. We think the lesion in the RCA is the cause of the ischemia and symptoms. As a result, dual LAD coronary artery anomalies are very rare and when they are not diagnosed it can lead to incorrect diagnosis and treatment. Therefore, cardiologists and cardiovascular surgeons should pay an attention to these rare coronary artery anomaly and it is important for the prevention of wrong diagnosis and treatment.

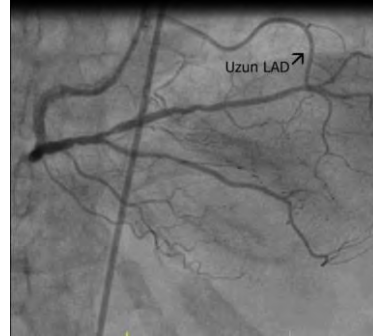
Anahtar Kelimeler: çift LAD, koroner anomali, koroner anjiyografi

Resim 1



Sol ana koroner arterden köken alan kısa LAD

Resim 2



Sağ koroner arterden köken alan uzun LAD

P13

Malignancy Induced Massive Right Atrial Thrombus on Pacemaker Lead

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INTRODUCTION: Right atrial thrombus secondary to pacemaker (PM) is a condition which is rarely seen. This life-threatening condition is diagnosed with echocardiography and treated by surgical or percutaneous removal of the lead or by medical thrombolysis to provide the lysis of thrombus. Herein, we aimed to present a patient who was admitted with dyspnea and diagnosed with massive right atrial thrombus (Type A) on PM lead secondary to breast cancer, which is a very rare condition.

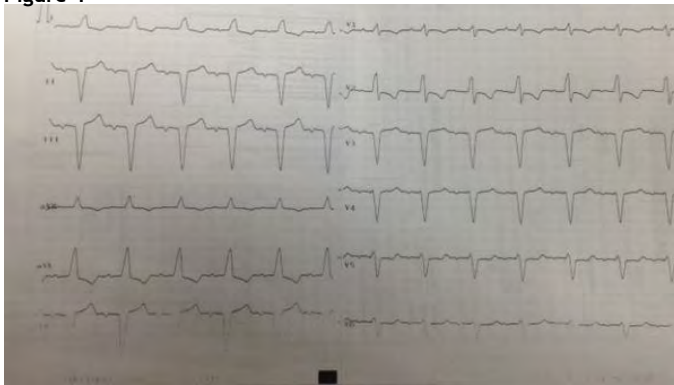
Case Presentation: 64-year old female patient was admitted to our clinic with a 6 months history of dyspnea and edema of legs. Her past medical history revealed coronary artery bypass grafting, previous chemotherapy and radiotherapy due to breast cancer and dual chamber PM implantation due to total atrioventricular block. On the physical examination blood pressure was 110/70 mmHg, heart rate was 70/min with regular rhythm, oxygen saturation in room air was 92%, body temperature was 36.6 °C. Cardiovascular auscultation revealed 2/6 diastolic murmur in aortic area and 2/6 systolic murmur in mesocardiac area. On pulmonary auscultation, we detected decreased breath sounds in the basilar portion of the left lung and bilateral basilar rales. Pretibial edema was bilateral and hepatojugular reflux was positive. PM rhythm was recognized on the ECG (Figure 1). Pacemaker controls showed unacceptably high thresholds. Chest X-ray demonstrated cardiomegaly, but pacemaker battery and leads were in their normal positions without a lead fracture. Renal and liver function tests and CRP level were all found within normal limits. The eosinophil level was zero. The other haematological and coagulation parameters were also within normal reference values.

Transthoracic echocardiography (TTE) revealed a 2.1x1 cm sized lesion on PM lead which was prolapsing from right atrium into right ventricle consistent with thrombus causing severe tricuspid insufficiency (Figure 2A, B). The findings obtained from transesophageal echocardiography were supporting TTE results. An ultrasound Doppler was done and showed no evidence of deep venous thrombus. Two sets of blood cultures were obtained following echocardiography to exclude infective endocarditis. Blood cultures were negative at 48th and 120th hours. Intravenous heparin infusion was immediately commenced while targeting a partial thromboplastin time of 50-70 seconds. The patient was consulted to cardiovascular surgery department and the decision of the heart team was to perform lead extraction by sternotomy, however the patient refused surgery. The patient was voluntarily discharged with warfarin treatment with the goal of INR between 2 and 3.

CONCLUSION: The history of malignancy increased her tendency of thrombosis. Lead-related thrombus in right atrium is rarely seen. It is very mortal and difficult to manage once it occurs. High morbidity and mortality risk of lead-related right atrial thrombus warrants urgent determination of treatment modality after diagnosis,

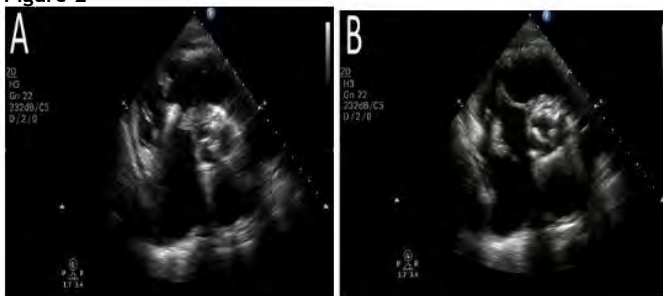
Keywords: Right Atrium Thrombus, Malignancy, Lead

Figure 1



Electrocardiography shows regular pacemaker rhythm.

Figure 2



Transthoracic echocardiography showing a large, mobile thrombotic mass in the right atrium (A) which is prolapsing into the right ventricle (B).

P14

A Rare Cause of Exercise-Induced ST-segment Elevation: Coronary Vasospasm due to Endothelial Dysfunction in a Patient with Chronic Kidney Disease

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INTRODUCTION: Cardiovascular diseases are the main causes of morbidity and mortality in chronic kidney disease (CKD). Endothelial dysfunction is almost universal in different stages of CKD. We present a 61-year-old male patient with CKD who developed ST-segment elevation during treadmill exercise test. His coronary angiography revealed normal coronary arteries indicating a rare cause of exercise-induced ST-segment elevation which is coronary vasospasm. Furthermore the clinical presentation of CKD related endothelial dysfunction with ST-segment elevation is also a novel finding.

CASE: A 61-year-old male patient was admitted to the outpatient clinic for chest pain. He had a medical history of hypertension and stage 4 CKD. He was on nifedipine 60mg/day treatment. Physical examination was normal and he was referred to treadmill exercise test. Initial electrocardiography at rest showed sinus rhythm with no remarkable findings. At 6th minute of the test patient developed typical chest pain and electrocardiography showed 4-6mm ST-segment elevation in leads V2-V3, DI and aVL with reciprocal ST-segment depressions in leads DII, DIII, and aVF (Figure 1). Exercise test immediately stopped and patient was transported to the catheter laboratory for coronary angiography. Coronary angiography showed normal coronary arteries (Figure 2A,B). Initial troponin I level was 0.13ng/mL (normal value <0.06ng/mL). His glomerular filtration rate was 29.2 ml/min, serum electrolyte levels were normal. With these findings exercise-induced ST-segment elevation was considered to be secondary to coronary vasospasm. Isosorbide mononitrate of 40mg/day was added to his regular therapy of nifedipine. After an angina free period of one month a control treadmill exercise test was performed which showed no ST-segment changes and angina (Figure 3).

CONCLUSION: Coronary vasospasm due to endothelial dysfunction may cause exercise-induced ST-segment elevation in patients with CKD. Treatment with nitrate will probably elicit symptoms and electrocardiographic findings.

Keywords: Treadmill Exercise Test, ST Segment Elevation, Chronic Kidney Disease

Figure 1:



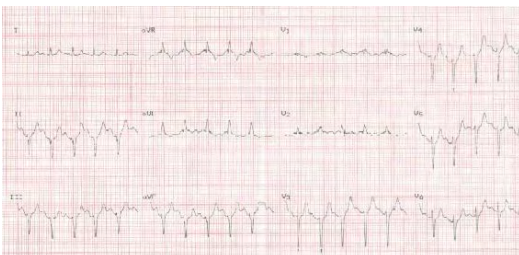
Electrocardiography shows ST segment elevation.

Figure 2A,B:



2A: Coronary angiography image demonstrating left anterior descending, and circumflex arteries. 2B: Coronary angiography image shows normal right coronary artery.

Figure 3:



Electrocardiography of the same patient after 1 month of nitrate treatment shows no ST-segment changes during 3rd stage of treadmill exercise test.

P15

Non-alcoholic steatohepatitis score is an independent predictor of right ventricular dysfunction in patients with non-alcoholic fatty liver disease

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OBJECTIVE: Non-alcoholic fatty liver disease (NAFLD) is associated with increased risk of cardiovascular disease. Although NAFLD is associated with impaired left ventricular (LV) function, the impact of NAFLD on right ventricular (RV) function remains unclear. The aim of the present study is to investigate the RV functional properties in patients with NAFLD. **METHODS:** Ninety consecutive patients with the diagnosis of NAFLD and 45 age-sex matched controls were included in the study. All patients underwent an echocardiographic examination and ultrasonography-guided liver biopsies. RV functions were evaluated by two dimensional (2D) speckle tracking echocardiography (STE).

RESULTS: Mean fibrosis stage and non-alcoholic steatohepatitis (NASH) score were 1.3 ± 1.1 and 5.2 ± 1.6 in patients with NAFLD, respectively. NAFLD patients displayed decreased RV function compared to controls. NAFLD patients with liver fibrosis (67 patients) have significantly lower RV-GLS (global longitudinal strain) compared to NAFLD patients without liver fibrosis ($18.9 \pm 3.4\%$ vs. $21.6 \pm 2.3\%$, $p < 0.001$). Patients with definitive NASH (NASH score ≥ 5) have significantly lower RV-GLS compared to patients without definitive NASH ($18.9 \pm 3.1\%$ vs. $21.0 \pm 3.4\%$, $p = 0.006$). NASH score was inversely correlated with RV-GLS in patients with NAFLD ($r = -0.370$, $p < 0.001$). NAFLD patients with decreased RV-GLS score ($< 19\%$) displayed lower NASH score and ALT level than NAFLD patients with normal RV-GLS score ($\geq 19\%$). Logistic regression analysis revealed that NASH score was an independent predictor of impaired RV function in patients with NAFLD.

CONCLUSIONS: Patients with NAFLD have impaired RV function. NASH score correlates with RV-GLS. In fact, NASH score is an independent predictor of impaired RV function in patients with NAFLD.

Keywords: Right ventricular function; speckle tracking echocardiography; nonalcoholic fatty liver disease

P16

Nikel allerjisi olan hastada biyoabsorbabl stent implantasyonu- yeni bir endikasyon?

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INTRODUCTION: Immune system mediated reactions are thought to play role in stent restenosis and late stent thrombosis. There have been clues of hypersensitivity reactions in post mortem stent thrombosis materials. Metal allergy is seen in 8% of the population. Most of those are against the nickel. Metallic stents constitute 10-35% of nickel. In recent years, there are articles about increased restenosis rates in nickel allergic patients and there are concerns and conflicts about the stents' long term patency and the management plan. Our case is about our management of a nickel allergic patient who presented with unstable angina.

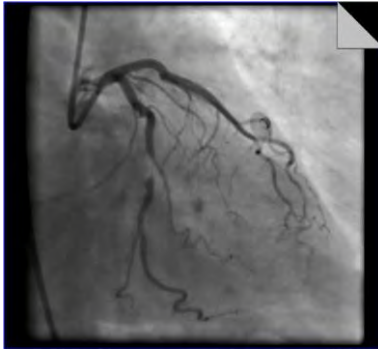
Case presentation: Our patient was a 60 year old lady, without a history of coronary heart disease. She was admitted to our coronary care unit because of the ongoing chest pain for 3 days. On admission she was stable and chest pain free. Her coronary angiography revealed 95% tubular occlusion of mid circumflex artery (picture 1). In her medical history, the patient had told about remarkable metal allergy. The interventionalists were concerned about this history and the intervention was deferred to get a skin allergy test of nickel, as all metallic stent manufacturers have put a caution on stent boxes about the nickel allergy.

Management and Outcome: The patient was stable and chest pain free on medical treatment. Her skin test showed positive results for remarkable nickel allergy (picture 2). Bioabsorbable stent was the choice for the patient. Absorb 2.5x18 mm (BVS Abbott) was implanted successfully to the lesion in the circumflex artery (picture 3). During the follow up, the patient had no clinical problems and at 6th month she was evaluated by an exercise test which revealed negative maximal results.

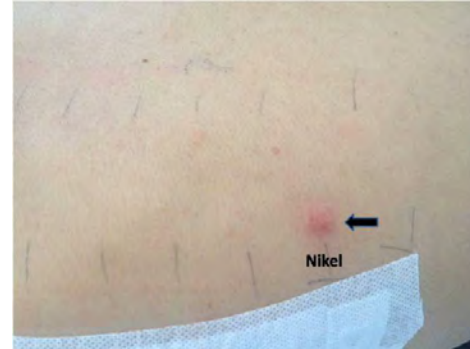
DISCUSSION: All metallic stents, as a prospectus information, are contraindicated in nickel allergic patients. In clinical practice metal allergy is not questioned much and most clinicians think of it as an irrelevant issue. However, in remarkable nickel allergy it may be a clinical issue. There are data about late type hypersensitivity and increased restenosis rates in those patients. Besides, there are also data showing no relationship between restenosis and allergy. So, there is not a net consensus at this area. Bioabsorbable stents have no metallic compounds and are degraded in the body by time. It's still being argued whether this stent type can be a solution in nickel allergic patients, or not. It's for sure that to be able to put direct indications, big randomised trials are needed. Till then, we can say that in elective stenting, patients with metal allergy history should be checked by a skin test. If the patient has nickel allergy and has metallic stent, he/she should be under a close follow up for future restenosis risk. And, as an option, bioabsorbable stent types can be safely considered in this group. In the future, nickel allergy may become the only indication for the bioabsorbable stent implantation.

Anahtar Kelimeler: nikel allerjisi, biyoabsorbabl stent, cilt testi, restenoz

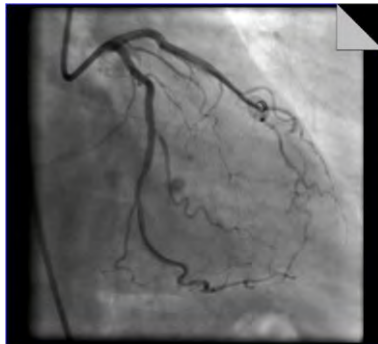
Resim 1: Diagnostik koroner anjiyografide saptanan sirkumflex lezyonu



Resim 2: Cilt testinde kuvvetli pozitif olarak değerlendirilen nikel allerjisi



Resim 3: Sirkumflex artere 2.5x18 mm biyoabsorbabl stent implantasyonu sonrası görüntü



P17

Closure of Iatrogenic Pseudoaneurysm of Femoral Artery by Angio-Seal Vascular Closure Device: A New Technique

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Introduction: We present a case of iatrogenic femoral pseudoaneurysm following coronary angiography treated by Angio-Seal vascular closure percutaneously.

Case presentation: The patient was a seventy four year old male patient with a history of coronary artery bypass grafting surgery. He was admitted to our coronary intensive care unit with acute coronary syndrome. Coronary angiography using 6 French intraducer by right femoral artery route was performed. and three bare metal stents were implanted to the lesion responsible for acute coronary syndrome. One day after the coronary intervention, a femoral pseudoaneurysm was detected.

Management and Outcome: Surgical repair was not planned, and ultrasound guided compression failed to occlude the neck of pseudoaneurysm. There was no other option for the treatment of pseudoaneurysm and a new technique was planned. In coronary angiography laboratory, a 6 French intraducer was inserted into left femoral artery and retrograde selective angiogram of right femoral artery was performed. The pseudoaneurysm in the 1/3 proximal portion of superficial femoral artery was viewed.(Figure 1) A 0.035 guidewire and an internal mammary artery diagnostic catheter were inserted into the pseudoaneurysm lumen through the neck. After administering local anesthetic agent into right inguinal region, an incision of 0.5 cm diameter was made and a portegue was inserted into the pseudoaneurysm through this incision. The guidewire was held and taken out by portegue, thus a right-left loop was created. By using this loop, the neck of pseudoaneurysm was occluded with 8F Angio-Seal vascular closure device.

Following this procedure, selective angiogram of the right femoral artery was repeated and showed no pseudoaneurysm and complication.(Figure 2)

Discussion: Pseudoaneurysm, also known as false aneurysm, is a hematoma outside the arterial wall. It results from a leaking hole in the arterial wall and has a communication with arterial lumen by a neck. It is generally iatrogenic and most commonly seen in the femoral artery, since it is the vessel of choice for most endovascular arterial and coronary interventions. The diagnosis should be confirmed by Doppler Ultrasonography by revealing arterial blood flow into the pseudoaneurysm. A computerised tomography angiogram or conventional angiogram can also help to diagnose a pseudoaneurysm. Treatment options include surgical repair, ultrasound guided compression, ultrasound guided thrombin injection, coil embolisation and endovascular therapy: stent-graft placement. All these techniques have their own advantages and disadvantages. In some cases, these treatment options may not be feasible and new techniques can be performed. Closure of pseudoaneurysm by Angio-Seal vascular closure device is a new technique and can be an effective option for the treatment of pseudoaneurysm.

Keywords: Iatrogenic pseudoaneurysm, femoral artery, Angio-Seal, vascular closure device

Figure 1



Selective angiogram of iatrogenic pseudoaneurysm of right superficial femoral artery

Figure 2



Selective angiogram of right femoral artery after closure of pseudoaneurysm by Angio-Seal Closure Device

P18

Does Subarachnoid Hemorrhage Mimic Acute Myocardial Infarction?

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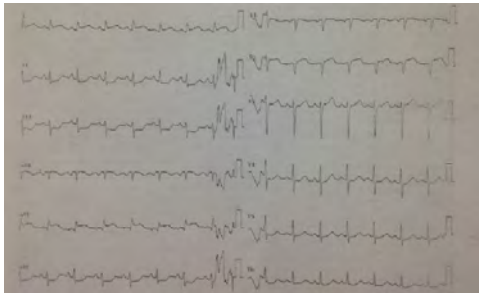
INTRODUCTION: Although elevation of cardiac markers, local wall motion abnormalities on echocardiography and nonspecific ischemic changes on electrocardiography (ECG) are generally seen following subarachnoid hemorrhage (SAH), presence of typical myocardial infarction findings on ECG is a rare condition. In this case presentation, we aimed to mention a female case who was admitted to emergency department with the findings of myocardial infarction but later diagnosed with SAH after brain imaging.

Case Presentation: The patient with the history of diabetes mellitus, hypertension and dysrhythmia was admitted to emergency department with acute and complete loss of consciousness. Her history revealed that she had no chest pain before loss of consciousness and she had been irregularly taking her antihypertensive drugs. Physical examination performed at the time of admission revealed her blood pressure was 176/82 mmHg. Cardiovascular examination was normal, while respiratory system examination revealed minimal bilateral basilar rales. ECG showed 1 mm ST elevation in D1, AVL and reciprocal ST depression in inferior derivations (Figure 1). Bedside echocardiography performed left ventricular ejection fraction of 40%, hypokinetic lateral and apicolateral walls and mild degree of mitral insufficiency. We decided to take the patient to the room for primary angioplasty with the initial diagnosis of acute lateral myocardial infarction. Cardiac marker levels obtained at the time of admission were normal. We did not apply any antiaggregant or anticoagulant treatment prior to taking the patient to the room. Since the patient was still unconscious during this period, neurological examination was performed to evaluate the patient's neurological status, which revealed E1M3V1 and mydriatic pupils. We immediately performed cranial computed tomography examination. On cranial computed tomography imaging, widespread SAH in both cranial hemispheres and bilateral Sylvian fissures, 1x2 cm sized intracranial hemorrhage in the right frontal lobe were detected (Figure 2). Urgent operation was planned by neurosurgery department. However, respiratory and cardiac arrest occurred and CPR was performed for 45 minutes. No cardiac rhythm was achieved and the patient was accepted exitus at the end of 45 minutes.

CONCLUSION: SAH related cardiac alterations have been thought to be associated with sympathetic system activation and catecholamine hypothesis has been proposed in animal experiments. SAH causes a local and excessive catecholamine release from sympathetic nerve endings. Catecholamine reaching a level toxic for myocardium causes selective troponin I proteolysis via increased levels of free radicals and calcium, which ends up with myocardial stunning. As a result, subendocardial and myocardial damage triggered by catecholamines cause ischemic changes on ECG, cardiac marker elevation and local wall motion defect on echocardiography. This condition has been defined as neurocardiogenic injury.

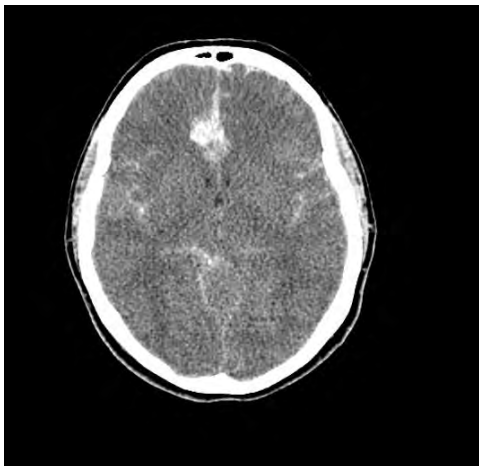
Keywords: Subarachnoid Hemorrhage, Acute Myocardial Infarction, Neurocardiogenic Injury

Figure 1



Electrocardiography shows ST segment elevation in D1 and aVL.

Figure 2



Cranial Computed Tomography shows subarachnoid hemorrhage and 1x2 cm sized intracranial hemorrhage in the right frontal lobe.

P19

Hiatal hernia compressing the left atrium

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PURPOSE: Hiatal hernias may demonstrate a wide spectrum of manifestations even mimicking acute cardiovascular events. The clinical presentation of hiatal hernia-induced cardiac compression can range from dyspnea, recurrent acute heart failure and even hemodynamic collapse. Its echocardiographic manifestations may mimic a left atrial space-occupying structure leading to differentiation from such lesions. Despite the high prevalence of sliding type hiatal hernia, a relatively small number of echocardiographically manifested cases have been reported.

Case details: A 73-year-old Caucasian female presented to our emergency department with symptoms of dysphagia, retrosternal chest pain and severe orthopnea. She was on pulmonary edema which responded well to therapy. However, physical examination, biochemical tests, cardiac markers and ECGs, were inconclusive for the reason of her acute clinic. Chest X-ray showed pulmonary venous congestion with a normal cardio-thoracic index and widened mediastinum with an air-fluid level. We were informed that her complaints were generally occurring after meals and she got worse. Transthoracic echocardiography performed in the emergency department and revealed almost complete obliteration of the left atrium by an echolucent space-occupying mass. A subsequent thoracic computed tomography showed a sliding hernia in the posterior mediastinum, impinging on the posterior left atrial wall (figure 1). She was subsequently transferred to general surgery department with appropriate recommendations.

Conclusions: Identification of a hiatal hernia with the clues from the patient's medical history along with imaging modalities is important to avoid misinterpretations. Especially it shall be kept in mind in cases with recurrent heart failure events.

Keywords: Echocardiography, left atrium, sliding hernia.

Sliding hernia

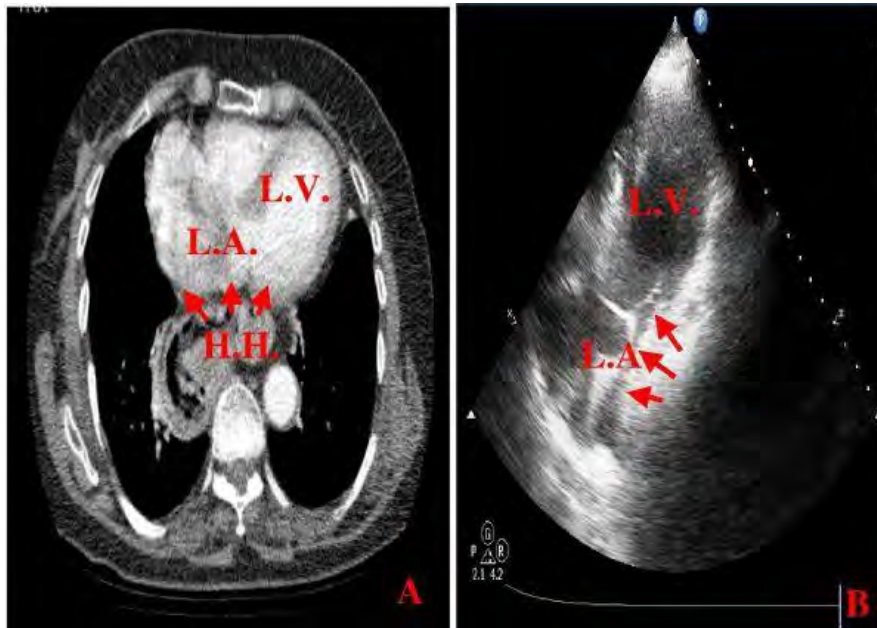


Figure 1: A) Axial computed tomography scan (post contrast) demonstrating well-defined large ovoid-shaped sizable hiatus hernia (83x63x48 mm) impinging on the posterior aspect of the left atrium (arrows). B) Apical four chamber view of transthoracic echocardiography revealing almost complete obliteration of the left atrium by the echolucent apparent mass (arrows). LV; left ventricle, LA; left atrium, HH: Hiatal hernia.

P20

İlginç bir olgu: INR düzeyi 26.1 olan ve dabigatran kullanan 81 yaşında kadın hasta

İpek Turkoglu

İzmir Kemalpaşa Devlet Hastanesi

GİRİŞ: 81 yaşında kadın hasta kardiyoloji polikliniğine aşırı halsizlik ve ağız içi kanama şikayeti ile başvurdu.

OLGU: Hastanın 1 haftadır aşırı halsizlik ve 2 gündür ağız içinde spontan kanama şikayeti mevcuttu. Atrial fibrilasyon ve ciddi aort darlığı nedeniyle tedavi görüyordu ve düşük ejeksiyon fraksiyonu mevcuttu. Hastaya TAVI önerilmiş ama hastanın kabul etmemesi üzerine yapılmamıştı. Hastanın kan basıncı 130/90 mmHg ve ağırlığı 46 kg idi. EKG'de orta ventrikül yanıtı atriyal fibrilasyon izlendi. Laboratuvar sonuçları INR (international normalized ratio) dışında olağan sınırlardaydı. Coalyzer 410 ile çalışılan ilk örnekte INR düzeyi 24.5 ve ikinci örnekte 26.1 saptandı. Eşzamanlı çalışılan aPTT (activated partial thromboplastin time) 162.7 saniye bulundu. Kreatinin düzeyi 0,7 mg/dl ve kreatinin klirensi 48 ml /dk idi. Detaylı anamnezde hastanın dabigatran 110 mg 2x1 kullanırken 1 ay önce yaptırdığı INR düzeyinin normal gelmesi üzerine dabigatrana ek olarak 1 aydır warfarin 5 mg/gün kullandığı öğrenildi.

BULGULAR: Hasta yoğun bakım ünitesine yatırıldı, kanama takibi yapıldı ve taze donmuş plazma (TDP) verildi. İzlemde aktif kanaması olmadı, hemoglobin düzeyi değişmedi, 3 ünite TDP sonrası INR düzeyi 4,2 oldu ve hastanın genel durumu düzeldi. Yatışının 3. gününde INR 1.8 olduğunda dabigatran 110 mg günde 2 doz olarak tekrar başlandı ve 4. günde güvenli bir şekilde taburcu edildi.

SONUÇ: Yeni oral antikoagülan ajanların kullanıma girdiği bu dönemde hasta eğitimi çok önemlidir.

Anahtar Kelimeler: INR, Dabigatran, Warfarin, Atrial fibrilasyon

P21

Nötrofil/lenfosit oranının anterior miyokard infarktüs hastalarında külprit plak lokalizasyonu ile ilişkisi

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AMAÇ: Nötrofil/ lenfosit oranının (N/L oranı) major kardiyovasküler olay ile yakın ilişkili olduğu gösterilmiştir. Bu çalışmada, anterior miyokard infarktüsü hastalarında NLR ile sol ön inen arterdeki (LAD) stabil olmayan plağın lokalizasyonu arasındaki ilişki araştırıldı.

ÇALIŞMA PLANI: Akut anterior miyokard infarktüsü ile hastanemize başvuran hastalar çalışmaya dahil edildi. Hastaların tümüne primer perkutan anjiyoplasti amaçlı sol kalp kataterizasyonu uygulandı ve LAD tek damar hastalığı tespit edilen 58 hastanın hematolojik parametreleri retrospektif incelendi. N/L oranı hesaplandı. Proksimal segment LAD lezyonu olan hastalar Grup I, mid segment LAD lezyonu olan hastalar Grup 2 olarak isimlendirildi.

BULGULAR: Grup I (n = 41, ortalama yaş 52.5 ± 12.7) ve Grup II (n = 17, ortalama yaş 52.0 ± 10.8) kıyaslandığında N/L oranı, Grup I'de anlamlı olarak yüksek saptandı (6.9 ± 5.6 vs 3.3 ± 2.0 p = 0.01). Grup I' de sol ventrikül ejeksiyon fraksiyonu (LVEF) anlamlı olarak düşük saptandı (p = 0.008).

SONUÇ: Çalışmamızda, anterior miyokard infarktüsü hastalarında, sol ön inen arterde proksimal külprit lezyonu varlığında N/L oranının anlamlı yüksek olduğu gösterilmiştir. Bu nedenle N/L oranı, sadece ciddi aterosklerotik hastalığı tespit etmede değil aynı zamanda akut miyokard infarktüsü hastalarında külprit plak lokalizasyonunun tahmin edilmesinde yardımcı bir araç olarak kullanılabilir.

Anahtar Kelimeler: koroner arter hastalığı, nötrofil lenfosit oranı, akut koroner sendrom

P22

Rarely seen cardiac mass in right atrium: Hydatid cyst

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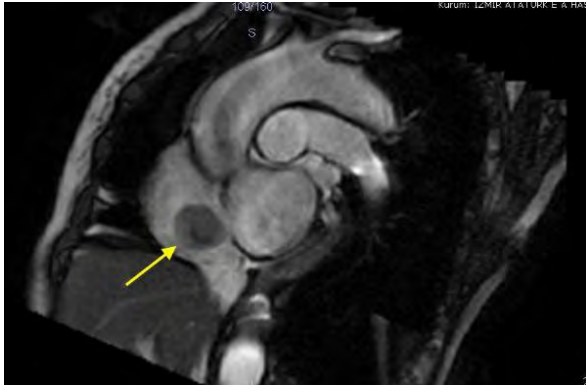
INTRODUCTION: There are many causes of forming mass in the right atrium. Rarely seen causes of the mass in the right atrium is hydatid cyst. Hydatid cyst can be seen everywhere in cardiac structure. However it is rarely seen in right right atrium.

CASE: 80 year old female patient admitted to our clinic with exertional dyspnea which had been aggravated recently. She hadn't had any known cardiac disease previously. Cardiovascular examination revealed 2/4 diastolic murmur at the left sternocostal border. Transthoracic echocardiography showed oval shaped, hypoechoic, mobile, and pediculated mass in the right atrium which was attached to interatrial septum. Transesophageal echocardiography was planned for precise definition of the mass, measured 32mm x 33mm in diameter (Figure 1). Cardiovascular magnetic (MRI) imaging (MRI) showed the exact nature of the mass with smooth border and homogenous septal nature consistent with the appearance of hydatid cyst (Figure 2). The patient was referred to cardiovascular surgery for excision of hydatid cyst. However the patient didn't accept surgery. She was followed medically with mebendazole and she was doing well 1 year after her admission.

DISCUSSION: Hydatid cyst generally involved in the left ventricle (60%), right ventricle (10%), pericardium (7%), pulmonary artery (6%), and left atrial appendage (6%), with rare involvement of the interventricular septum (4%). Echocardiography is often the first and frequently the only required imaging modality to establish the diagnosis. CT scanning, MRI, and TEE with harmonic capabilities may help to better visualize the cyst with its septae, the surrounding tissue, and to exclude co-existing hydatid locations. Since risk of rupture with cardiac echinococcal cysts is high, aggressive surgical treatment is usually recommended. It is unusual to medically follow up hydatid cyst forming an intracardiac mass of that size but this was our patient's choice and gave us an opportunity to observe long term results of medical follow up.

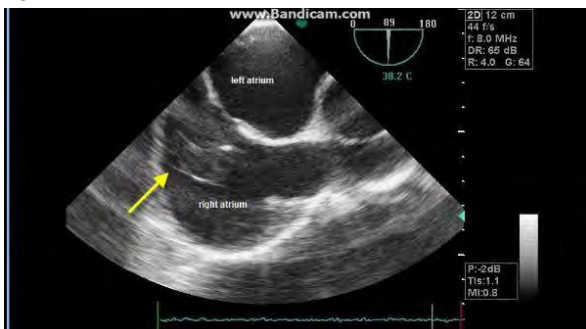
Keywords: Hydatid cyst, right atrium, echocardiography

figure 2



MRI image of the hydatid cyst

figure 1



Hydatid cyst was shown in right atrium

P23

Nadir bir perkütan koroner girişim komplikasyonu: Sağ posterior serebral artere stent embolisi

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GİRİŞ: Perkütan koroner girişimler (PCI) sık uygulanmasına rağmen, komplikasyonlar nadir görülmektedir. Bu komplikasyonlar içinde kateter parçası, kılavuz tel, açılmamış stentin embolizasyonu oldukça seyrekdir. Bu vakada, PCI esnasında sağ vertebral artere yönelen, oradan posterior serebral artere kadar ulaşan nadir yerleşimli stent embolisini sunduk. OLGU: 57 yaşında erkek hasta 3 saatlik göğüs ağrısı, soğuk terleme, fenalık hissi ile acil servise başvurdu. Tansiyon arteriyel 70/50 mmHg ve kalp tepe atımı 120/dk idi. S1, S2 normal olup S3(+), apikal 2/6 midsistolik üfürüm saptandı. EKG'de inferior derivasyonlarda ST elevasyonu ve AV tam blok izlendi. Hasta primer PCI için kateter laboratuvarına alındı. Yapılan koroner anjiyografide LAD mid bölgede %50 darlık CX proksimalde %95 darlık ve RCA proksimalden total tıkalı izlendi. RCA ya balon ile dilatasyon sonrası 3.5x24 mm Liberte stent başarılı bir şekilde implante edildi. Hastanın ritmi AV tam bloktan sinüs ritmine döndü.

İşlem sonrası göğüs ağrısı devam etmesi, kan basıncı 85/77 ve kalp tepe atımı 124/dk saptanması, hemodinamik bozukluğun devam etmesi üzerine kritik CX lezyonuna girişim planlandı. LMCA JL4 Judkins guiding kateter ile kanüle edildi. CX proksimalindeki %95 dalık kılavuz tel ile geçildi. 3.5x12 mm Simfleks stent Cx ostealinden geçerken, hastanın serebral hipoperfüzyon nedeniyle aniden aşırı hareket etmesi sonucu tüm sistemin aorta attığı görüldü. Hızlı bir şekilde guiding kateterin içerisine alınan sistem kontrol edildiğinde balon üzerinde stentin olmadığı izlendi. Floroskopik olarak vasküler sistemin taramasında açılmamış tubuler stentin intrakranial yerleştiği saptandı (resim 1). Hastada nörolojik semptom veya bulgu gelişmedi. Yapılan selektif anjiyografiler sonrası stentin sağ vertebral arter yoluyla sağ posterior serebellar arter içerisinde olduğu saptandı. İnvaziv Nöroradyoloji ile yapılan konsültasyon sonucu, stentin posterior sistemde yerleşimli olması, akımı bozmaması ve kollateral dolaşım göz önünde bulundurularak takip kararı alındı. Hastaya ömür boyu klopidoğrel ve asetil salisilik asit tedavisi planlandı. 1. Hafta kontrollerinde nörolojik semptom veya bulgu gözlenmedi.

SONUÇ: Stent embolisi nadir olmasına karşın ciddi bir komplikasyondur. Hastanın arteriel anatomisinin farklılığına göre atipik yerleşimlere embolize olabilir. Stenti yakalayıp çekme, bulunduğu yerde şişirerek yerleştirme gibi girişimsel olarak yönetilebileceği gibi, yarar-zarar dengesine göre konservatif takip etmek bir seçenek olabilir.

Anahtar Kelimeler: emboli, serebral, stent, vertebral, arter, posterior

01-IKStentEmboli-KontrastOncesi



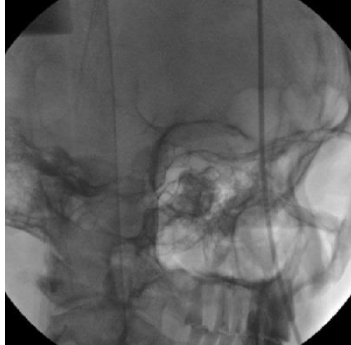
AP görüntüde frontal sinüs septum bölgesinde stentin yatay konumda projekte olduğu gözlemlendi.

02-IKStentEmboli-KontrastSonrası



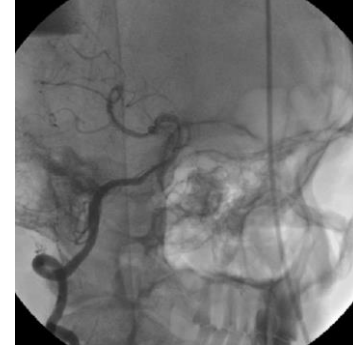
AP görüntüde sağ vertebral artere verilen kontrast sonrası stentin posterior sistemde olduğu saptandı.

03-IKStentEmboliRAO-KontrastOncesi



RAO görüntüde sağ orbitanın üst lateral alanına projekte olan intrakranial stent gözlemlendi.

04-IKStentEmboliRAO-KontrastSonrası



RAO görüntüde kontrast sonrası kontrastın yıkandığı willis poligonuna denk gelen seviyenin üzerinde, posterior serebral sistemde olduğu saptandı.

P24

Anomalous origin of the left circumflex coronary artery from the right coronary artery presented as acute inferior myocardial infarction

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INTRODUCTION: An anomalously originated left circumflex coronary artery (LCX) from the proximal right coronary artery (RCA) or right sinus of Valsalva is a relatively common however its concurrence with acute myocardial infarction is rare. And all cases with acute MI reported in the literature have been treated with percutaneous coronary intervention. Here, we introduced a very rare case of LCX from the proximal RCA presented with acute inferior MI and treated with intravenous thrombolytic therapy.

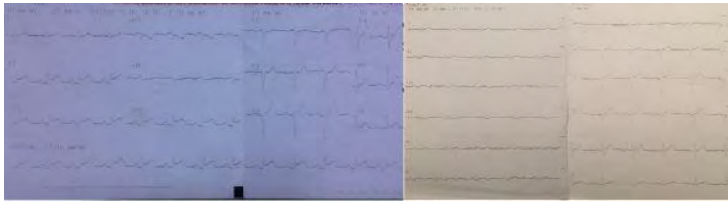
CASE: A 42-year-old man without any cardiovascular risk factors except 20 pack-years smoking history admitted to emergency department with acute-onset chest pain of two-hour in duration. Electrocardiography (ECG) on admission revealed ST-segment elevation of more than 2 mm in leads II, III, and aVF (Figure 1). Since the patient had no contraindication for thrombolytic therapy, he was immediately given 40 mg of tenecteplase intravenously over 5 seconds in accordance with 75-kg subject as indicated.

Acetylsalicylic acid, klopidoğrel, unfractionated heparin was given according to current guidelines. There was release of chest pain without ST-segment resolution of more than 50% in lead II at 90 minute, thus the patients was referred to our center for rescue percutaneous coronary intervention (PCI). Pre-CAG transthoracic echocardiography examination was normal except mild hypokinetic wall motion at inferior of the left ventricle. Serial cardiac enzyme measurements were in accordance with acute myocardial infarction treated with thrombolytic. Follow-up ECG at 3rd hour revealed complete resolution of ST-segment elevations (Figure 1). Since the patient did not give consent for the CAG, it was cancelled. The patient reported that he used the prescribed medication for only six months after the discharge and then quitted on his will. Two years later, he admitted to our department with troponin-negative chest pain. The patient was electively referred to CAG laboratory. The CAG of the left coronary system revealed normal left anterior descending artery without the LCX while the CAG of the right coronary system, an anomalously originated LCX from the proximal RCA without any obvious lesion on both coronary arteries was demonstrated (Figure 2). The patient was discharged with acetyl salicylic acid and statin treatment and under follow-up without any symptom.

DISCUSSION: Management of coronary anomalies has been always difficult due to different anatomical structure both at CAG and PCI when necessary. Here, we considered thrombotic occlusion of the anomalous LCX which reperused following thrombolytic treatment and also we aimed to emphasize the use of thrombolytics in patients with congenital abnormality of the coronary arteries.

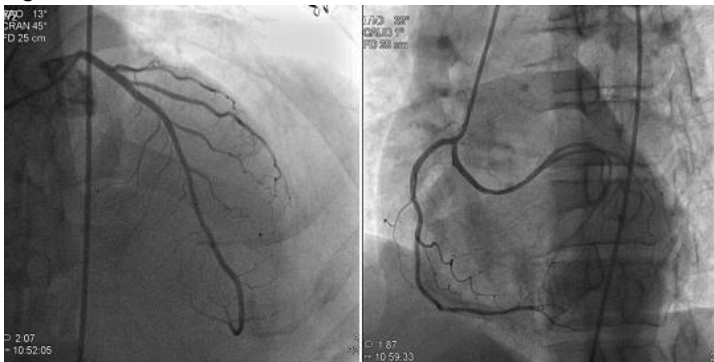
Keywords: Acute myocardial infarction; Coronary anomaly; The left circumflex artery

Figure 1



Beginning and third hour electrocardiography of the subject

Figure 2



The coronary angiography images of the subject

P25

Primary spontaneous coronary dissection in a young male and the role of intravascular ultrasonography for the diagnosis and treatment

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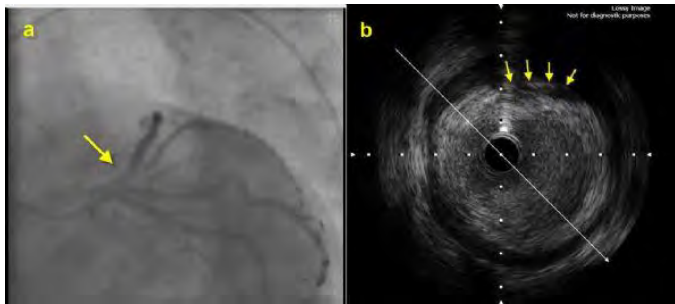
INTRODUCTION: Primary spontaneous coronary artery dissection (SCAD) is a rare cause of acute coronary syndrome and sudden cardiac death. It's especially observed during gestation or postpartum periods of young healthy female patients who have not classical cardiovascular risk factors. However, SCAD is much more rarely seen in young male patients.

CASE: A 32 year-old male admitted to our clinic with a typical anginal complaint which had started after a verbal discussion in family media. His history included a smoking of 10 packs per year. There were no disease or medicine use in his history as well. A sinus rhythm was detected in electrocardiography with an ST segment depression at V1-V6 derivations. Troponin I level was detected as 5.3 ng/ml (references values:0-0.6). An ejection fraction of 50% with mild hypokinesia of anterior wall. The patient was hospitalized with a diagnosis of acute myocardial infarctus without ST elevation. During coronary angiography, a lesion seen like dissection at proximal region of left anterior descending artery (LAD) and 30% stenosis in circumflex artery and plaque in right coronary artery were observed. In LAD osteal region, a dissection flap and intimal rupture was observed at 12.00-2.00 o'clock position by imaging via intravascular ultrasonography (IVUS) (Figure 1). A stent of 5.0* 12 mm in size was implanted by inflating at 12 atmosphere pressure to dissected lesion in LAD osteal region. Imaging by IVUS after the procedure showed that stent apposition was not appropriate. For this reason, the balloon was again put through into the stent and inflated at 16 atmosphere pressure. A control imaging by IVUS showed an exactly appropriate apposition of stent preparates (Figure 2). Patient was discharged with a prescription of acethyl salicylic acid, clopidogrel, atorvastatin.

DISCUSSION: Etiologic conditions causing non-atherosclerotic SCAD are mainly fibromuscular dysplasia, gestation, connective tissue disorders, systemic inflammatory diseases, hormonal therapy and idiopathic causes. The reasons triggering SCAD include intense exercise, intensive emotional stress, birth labor, conditions by powerful valsalva manuevre like heavy cough, vomiting, and drugs like cocaine, amphetamine. SCAD is more common in female population. Hormonal factors may play an important role in female patients. However no descriptive data exist for male cases. Our case was very young and had no atherosclerotic risk factor without a history of smoking. It was suggested that intense emotional stress was the triggering factor for coronary dissection. The gold standart imaging method for SCAD is coronary angiography. Recently, imaging methods like IVUS make important contribution to diagnosis of dissections which can't be detected by coronary angiography. Treatment must be individual. Medical therapy, percutaneous coronary intervention and coronary artery by-pass surgery are the main treatment options.

Keywords: spontaneous coronary dissection, Intravascular ultrasound, acute coronary syndrome

figure 1



The dissection imaged lesion in LAD was shown in coronary angiography (CAG). 1b: In LAD osteal region, a dissection flap and intimal rupture was observed at 12.00-2.00 o'clock position by imaging via intravascular ultrasonography(IVUS)

figure 2

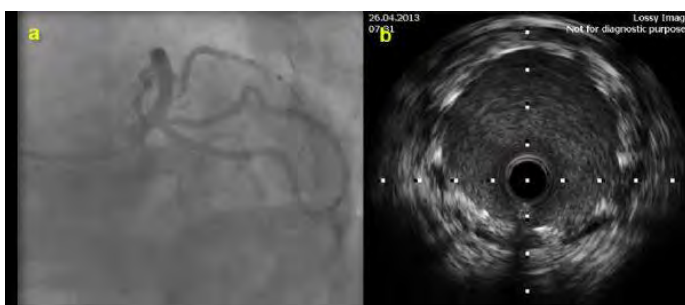


Figure 2a: Dissected lesion in LAD was closed after stent implantation. 2b. IVUS image showed the apposition of stent structures.

P26

Left main coronary artery thrombosis and acute anterior myocardial infarction

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INTRODUCTION: Myocardial infarction secondary to left main coronary artery (LMCA) thrombosis is quite rare. As the area fed by LMCA is quite large, it is more severe when compared to the acute occlusion of other coronary arteries. Left ventricular pump failure and development of ventricular arrhythmia are higher in these patients

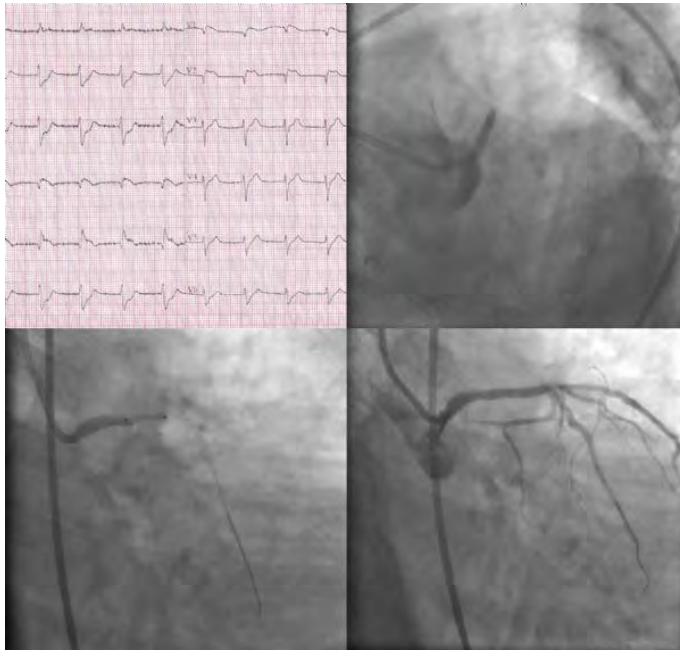
Case presentation: 59 year-old female was brought to the emergency service due to chest pain and perspiration. Systemic blood pressure of the patient on admission was 40/30 mmHg. Accelerated junctional rhythm on electrocardiogram, ST elevation on AVR, D1-AVL, V1-4 and ST depression in inferior derivations were present (Figure1). On transthoracic echocardiographic examination; left ventricle (LV) was globally hypokinetic and LV ejection fraction was about 20%.

Management and outcome: The patient was transferred to coronary angiography unit for percutaneous coronary intervention (PCI). Right coronary artery was dominant and severe stenosis was present in the mid region. LMCA was totally occluded from the distal part. The total lesion of LMCA was passed by a guide wire. Balloon was applied to the lesion initially and blood flow was supplied to the LAD and CX. Afterwards, stent was placed to the LMCA (Figure 2). Ventricular fibrillation (VF) occurred due reperfusion and successfully defibrillated. Stent was monitored as open, and LAD and CX flow were monitored as well. Following repeated VF attacks, the cardiac rhythm turned into asystole. Patient did not respond to cardiopulmonary resuscitation and died.

DISCUSSION: Mortality rate is high even if a successful PCI is performed in LMCA lesion. In cases even with successful PCI, mortality rate is about 23% while it is 100% in unsuccessful cases.

Keywords: Cardiogenic shock, coronary stenosis, electrocardiography, myocardial infarction

Figure



Accelerated junctional rhythm on electrocardiogram, ST elevation on AVR, D1-AVL, V1-4 and ST depression in inferior derivations are monitored Main coronary artery is totally occluded,lesion is monitored while balloon is applied thereto and mage of lesion subsequent to balloon and stent

P27**Association between platelet indices and ST-segment-elevation myocardial infarction**Fatih Akın, Burak Ayça, Sinan Varol, İrfan Şahin, Gökmen Kum, Sevgi Özcan, Mustafa Hakan Dinçkal, Ertuğrul Okuyan

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AIM: Platelets play an important role in the physiopathology of CAD. Platelet volume indices such as mean platelet volume (MPV), platelet distribution width (PDW), plateletcrit (PCT) and platelet are indicators of platelet activation and are routinely reported as a part of an automated full blood count. We investigated the association between platelet indices and ST-segment-elevation myocardial infarction (STEMI).

METHODS: A total of 565 subjects were included in the study. We compared platelet indices of 484 STEMI patients with those of 81 age- and gender-matched patients with normal coronary arteries. We analyzed the relation between platelet indices and STEMI. In all cases, blood samples were drawn at admission before starting any medication. Hemoglobin, PDW, MPV, PCT and white blood cell (WBC) count were measured on Cell-Dyne counter of Abbott Laboratories (Cell-dyne 3700 Abbott Laboratories, IL, USA).

RESULTS: Overall 565 patients, 425 (75.3%) males and 140 (24.7%) females, were enrolled in our study. In control group, mean age of the patients was 59.9 ± 10 years and 63 (77.7) of the patients were males. The incidence of diabetes was higher in STEMI group than control group ($p < 0.001$). The MPV ($p = 0.046$), plateletcrit ($p = 0.001$), and neutrophil levels ($p = 0.011$) were significantly higher in the STEMI group than in the control group. Platelet distribution width was not significantly different between STEMI group and control group ($p = 0.119$).

CONCLUSION: Plateletcrit, was higher in patients with STEMI but PDW was similar in the 2 groups. Our results suggest that plateletcrit, an inexpensive and easily measurable laboratory variable, plays a role in the aetiopathogenesis of coronary atherosclerosis in patients with STEMI.

Keywords: MPV, PCT, PDW, ST elevation myocardial infarction**Table 1. Baseline clinical and laboratory characteristics of the STEMI and control groups**

	Control group (n=81)	STEMI group (n=484)	P value
Age, years	61±10.3	60±10.1	0.258
Male gender, n (%)	63(77.7)	362(74.7)	0.541
Hypertension, n (%)	23(28.3)	158(32.6)	0.242
Diabetes, n (%)	11(13.5)	109(22.5)	<0.001
Smoking, n (%)	16(20)	94(19.4)	0.756
Platelet (10/L)	235±71	250±80	0.112
Mean platelet volume (fl)	9.1±1.2	9.4±1.2	0.046
PDW, %	13.8±2.8	14.3±2.9	0.119
Neutrophil count (109/L)	7.7±4.2	8.3±5.2	0.011
Plateletcrit, %	0.21±0.7	0.24±0.7	0.001
LDL cholesterol (mg/dl)	120±34.8	121±35.2	0.654
HDL cholesterol (mg/dl)	35±20.6	37.5±13	0.440
Triglyceride (mg/dl)	131±94.3	134.3±105	0.624
eGFR (mL/min/1.73m ²)	78±18	76±18	0.242
SYNTAX score	-	22.4±13.1	<0.001

P28

Diagnosis methods of left ventricle apical thrombus: Left ventriculography and echocardiography

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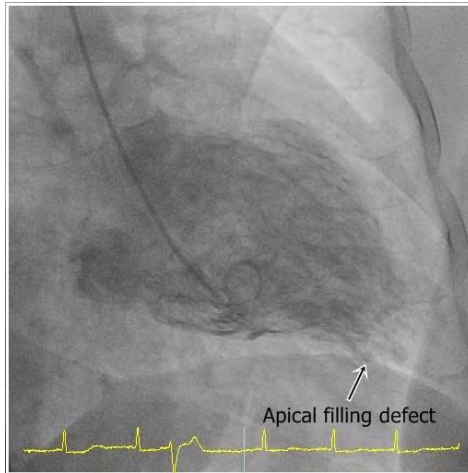
INTRODUCTION: Ventricular aneurisms are one of the many complications that may occur after a myocardial infarction. Thrombus formation can occur inside of ventricular aneurisms and form peripheral embolisms. Thrombus formation can be determined by echocardiography and cause filling defect in the ventriculography. In this case, we report a left ventricular apical thrombus detected by ventriculography and transthoracic echocardiography (TTE).

CASE: A 50 years old man admitted to our emergency department with angina and dyspnea. He had angina episode for 4 days. Physical examination showed blood pressure of 157/77 mmHg, heart rate of 66 beat/min. His cardiovascular examination was normal. His electrocardiography was sinus rhythm, 69 beat/min and there was Q waves and 1 mm ST elevation in v1-v3, negative T waves in v5-v6, 1 mm ST depression in D2, D3 aVF derivations. Coronary angiograph and ventriculography were performed, critical stenosis detected at left anterior descending coronary artery, circumflex coronary artery and right coronary artery. Apical aneurism formation and filling defect in this apical segment was detected by ventriculography (Figure1). After this assessment, TTE was performed and left ventricular (LV) ejection fraction was found 45%, segmental wall motion abnormality was detected in anterior segments and about 13*19 mm thrombus formation in apical aneurism (Figure 2). We didn't plan revascularization for this patient because of coronary vessels' structure. We gave optimal medical therapy for coronary artery disease and warfarine for LV thrombus and he was discharged after 3 days.

CONCLUSION: Left ventricular apical thrombus should be suspected in patients with filling defect in LV apical segments in left ventriculography and TTE should be performed to confirm LV apical thrombus diagnosis.

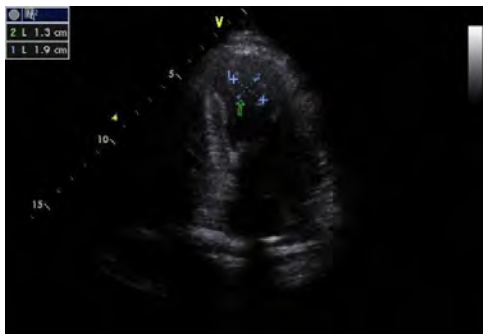
Keywords: apical thrombus, left ventriculography, echocardiography

Figure 1



Left ventricular filling defect in left ventriculography

Figure 2



*Echocardiographic image of 13*19 mm thrombus formation in apical aneurism*

P29

İskemik Kalp Hastalarında Ortalama Platelet Hacmi ile Miyokard Perfüzyon Sintigrafisi Parametreleri İlişkisi

Umut Elboga, Y.zeki Çelen

Gaziantep Ün. Tıp Fak. Nükleer Tıp AD

GİRİŞ: Koroner arter hastalığı(KAH) ve KAH ile ilişkili mortalite ve morbiditeyi öngörmeye ortalama platelet hacminin (MPV) kullanışlı bir parametre olduğu daha önceki bazı çalışmalarda bildirilmiştir. Bu çalışmanın amacı KAH şüphesiyle miyokard perfüzyon sintigrafisi(MPS) ile belirgin iske mi ve şüpheli iske mi olarak değerlendirilen hastalarda platelet fonksiyonlarının parametresi olan MPV'nin MPS bulguları ile ilişkisini araştırmaktır.

GEREÇ-YÖNTEM: Retrospektif olarak yapılan çalışmamızda 2011-2015 yılları arasında MPS incelemesi yapılan belirgin iske mi ve şüpheli iske mi olduğu belirlenen 105 hasta alındı. 44 erkek, 61 kadın (ortalama yaş 58.4 ±10.5) çalışma grubunu oluşturdu. Hastalar sintigrafik sonuçlarına göre belirgin iskemisi ve şüpheli iskemisi olanlar olarak iki gruba ayrıldı. Stres e jeksiyon fraksiyonu, sistol ve diastol sonu hacimleri gibi GATED MPS'den elde edilen parametreler ile MPV sonuçları ile istatistiksel olarak karşılaştırıldı.

BULGULAR: Hastaların 89 (%84,8)' u belirgin iskemik,16 (% 15.2)' sı şüpheli iskemik olarak bulundu. Hastaların MPV değerleri şüpheli iskemik grupta 8,11±1,24, belirgin iskemik grupta 8,01±1,17 bulundu. Hastaların MPS sonuçları ile MPV sonuçları arasında istatistiksel olarak anlamlı farklılık bulunamadı. (p=0,056)

SONUÇ: Bizim çalışmamızda yapılan önceki çalışmalarla KAH açısından risk faktörü olduğu bildirilen MPV'nin belirgin iskemik ve şüpheli iskemik MPS parametreleri ile ilişkili olmadığı dikkati çekmiştir.

Anahtar Kelimeler: Ortalama Platelet Hacmi, Miyokard Perfüzyon Sintigrafisi, Koroner Arter Hastalığı.

P30

Olanzapine induced coronary vasospasm

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Olanzapine is an antipsychotic drug that is commonly used for schizophrenia. In this case we report a 48 years old man who was on olanzapine treatment, and presented with resting chest pain. On admission, coronary angiography showed diffuse coronary vasospasm. After discontinuation of the olanzapine, normal coronary artery anatomy was found on control angiogram.

Introduction

Olanzapine has been used schizophrenia, acute mania with bipolar disorder, and in psychotic symptoms of dementia. Olanzapine may lead cardiac adverse events including QT prolongation, orthostatic hypotension, tachycardia, myocarditis and sudden cardiac death. In this case, we report olanzapine induce coronary vasospasm in a schizophrenic patient.

Case report: A 48 years old male patient with no known cardiac disease was admitted because of recent onset chest pain. The only risk factor for coronary artery disease was active smoking status. He was on olanzapine treatment due to schizophrenia for the last 3 months. Physical examination and resting electrogram were within normal limits. Transthoracic echocardiography showed normal systolic function without regional wall motion abnormality. Because of elevated troponin levels we performed coronary angiography and it showed diffuse coronary vasospasm (figure 1). After discontinuation of the olanzapine, normal coronary artery anatomy was found control angiogram. (figure 2).

Discussion: Coronary artery spasm (CAS) is sudden, excessive vasoconstriction of the coronary arteries causing complete or incomplete vessel occlusion. The mechanism of CAS may be endothelial dysfunction, primary hyperreactivity of vascular smooth muscle cells or abnormal platelet activity (1,2,3) Activated platelets release vasoconstrictor substances, including thromboxane A2, serotonin may result in coronary vasospasm (4).

To the best of our knowledge, this is the first case with olanzapine induced coronary vasospasm. Olanzapine antagonizes serotonin, dopamine, histamine and acetylcholine receptors (5,6,7,8). Changes in serotonin metabolism or sympathetic vasomotor discharge may be associated with coronary vasospasm (9). Further work is warranted to understand the exact mechanism behind this association.

Keywords: Chest pain, coronary vasospasm, olanzapine.

figure 2



figure 2



figure 2

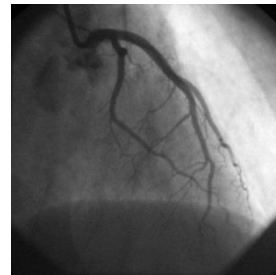


figure 2

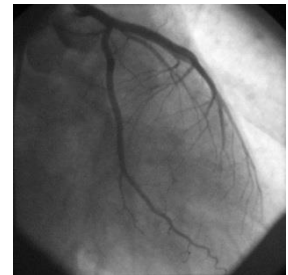


figure 2

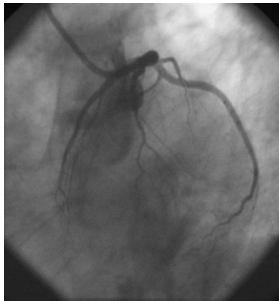


figure1



figure1



figure1

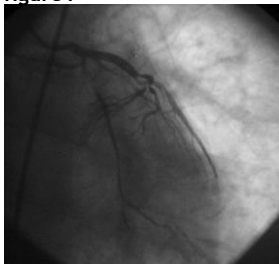


figure1

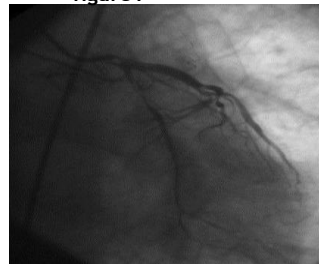
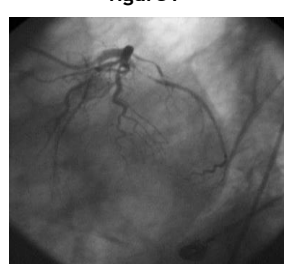


figure1



P31

Sirolimus salınlı stent implantasyonundan çok uzun süre sonra gelişen koroner arter anevrizması

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INTRODUCTION: Drug-eluting stents (DES) are being used increasingly due to the low rate of restenosis. However, especially in the early stage, it is reported to caution against the development of coronary artery aneurysm (CAA) because of delayed endothelialization with DES. In this case report, we present a case of a coronary artery aneurysm that develops very late after DES implantation.

CASE: A 47-year-old male admitted to cardiology department with chest pain in May 2009. There were no critical stenosis in the left anterior descending artery (LAD) and circumflex coronary artery (Cx) at the coronary angiogram (CAG). In the right coronary artery (RCA), 80% stenosis was determined in the proximal segment and a CYPHER Sirolimus-eluting coronary stent (Cordis) was deployed. The patient admitted to our department with chest pain in January 2012 and CAG was performed. Stent in the RCA was patent, there was no critical stenosis in the Cx (Figure 1A) and there was 70% stenosis in the LAD's diagonal branch (Figure 1B) and everolimus eluting Xience stent (Abbott) was deployed to the Dg (Figure 1C). Two years later, CAG was repeated with a complaint of chest pain and stents in the RCA and Dg were patent (Figure 2A-B). After one year, a multislice computerized tomography had been performed in another hospital and critical stenosis had been determined in the RCA. At that time patient was asymptomatic. Because of this examination, the patient was admitted to our clinic and CAG was repeated. CAG revealed that there was no critical stenosis in the Cx, the stent in the Dg was patent and there was an aneurysm formation at the proximal region of the stent in the RCA (Figure 3). The patient was asymptomatic, exercise capacity was sufficient and there was no exertional angina. So that we decided to give medical treatment and discharged the patient.

DISCUSSION: DES have been often preferred due to the significant reduction in restenosis. In the meta-analysis of randomized controlled trials, it has been reported that DES had been obtained better results when compared with the bare metal stents (BMS). Also, it has been reported that the major problems with DES are late stent restenosis, hypersensitivity reactions, coronary aneurysm formation, vasospasm, thrombosis and late stent malposition. CAA develops in a period of 3 days - 5.5 years after DES implantation and 6 days - 9 years after BMS implantation. In our case, we found that the CAA has been developed after about 6 years after stent implantation. The half-life of sirolimus is 60 hours and sirolimus is released only the first 6 weeks after implantation by stent polymers. Therefore, in our case, the development of chronic inflammatory response to the drug and the stent polymers may have triggered the release delayed endothelialization and the aneurysm development. As a result, the use of DES has been increasing in recent years and it is now more important to follow these patients.

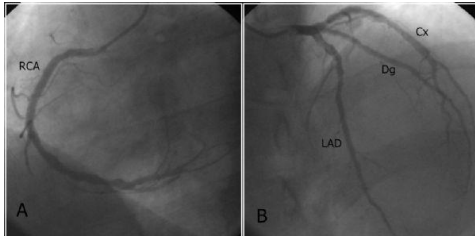
Anahtar Kelimeler: İlaç salınlı stent, sirolimus, koroner arter anevrizması

Resim 1



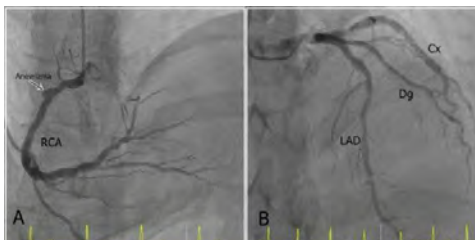
(A) İlk stent yerleştirilmesinden 3 yıl sonra yapılan koroner anjiyografide RCA stentinin açık olduğu; (B) Cx'de ve LAD gövdede kritik darlığın olmadığı, Dg'de ciddi darlığın olduğu izleniyor. (C) Dg'e stent yerleştirilmesi sonrası görüntü

Resim 2



(A) İkinci işleminden 2 yıl sonra yapılan koroner anjiyografide RCA stentinin açık olduğu izleniyor. (B) Dg stentinin açık olduğu izleniyor.

Resim 3



İlk stent yerleştirilmesinden 6 yıl sonra yapılan koroner anjiyografide RCA ve Dg'deki stentin açık olduğu, RCA'daki stentin proksimal bölgesinden kaynaklanan anevrizma izleniyor

P32

Sağ ventrikül lead perforasyonu ve konservatif yaklaşımla lead'in başarılı reposizyonu

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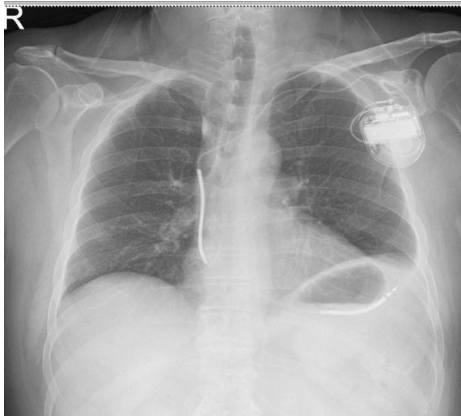
GİRİŞ: İmplantasyon sonrası pacemaker lead perforasyonu nadir olmakla birlikte önemli bir komplikasyondur. Ön planda cerrahi tedavi gerektirse de kendini sınırlayan bazı vakalar konservatif girişimlerle çözülebilmektedir.

GEREÇLER VE YÖNTEM: İskemik dilate kardiyomiyopati nedeniyle başvuran 49 yaşında erkek hastaya ICD implantasyonu uygulandı. İşlem sırası ve sonrasında R wave, eşik, lead empedansı ve diğer değerler normal sınırlarda idi. İşlem sonrası akciğer filminde lead uygun pozisyonda gözlendi. Hasta taburcu edildi. 1 ay sonra hasta plöretik göğüs ağrısı ile başvurdu. Ağrısı 1 hafta önce şiddetli olarak başlamış, 1 saat sürmüştü, sonrasında azalmıştı. Ağrının geçmemesi üzerine kliniğimize başvurdu. Tekrar çekilen akciğer grafisinde lead sol kosta kenarına çok yakın, mide hava odacığı hizasında olduğu gözlendi. Yatakbaşı ekokardiyografide perikardiyal efüzyon bulgusu yoktu. ICD ölçümünde R wave 0.4 mV idi ve pacing'e yanıtız olduğu gözlendi. Lead ve Defibrilatör impedansları normal sınırlarda idi. Çekilen Thorax BT'de ICD lead'inin sağ ventrikülün apikale yakın serbest duvarından epikardiyal yağ yastıkçığına, oradan da sol kostaya dayandığı izlendi. Hasta kalp-damar cerrahi ile konsülte edildi. Ameliyathane koşullarında işleme alındı. Lead, jeneratörden ayrıldıktan sonra, skopi ve eko kılavuzluğunda vidası içeri alındıktan sonra yavaş yavaş çekildi. Lead sağ ventrikül içerisine alındıktan sonra ekokardiyografi kontrolleri ile perikardiyal efüzyon gelişmediği gözlendi. Daha sonra hastanın lead'i skopi altında septumda R wave 10 mV ve eşik < 1.0 mV olan bir bölgede aktif kontrollü olarak implante edildi. Hastanın işlem sonrasındaki ekokardiyografi kontrollerinde de perikardiyal sıvısı gözlenmedi. İki gün sonra çekilen akciğer filminde lead yeri optimaldi. Klinik, ekokardiyografik ve cihaz kontrolleri iyi saptanan hasta kontrollere gelmek üzere yatışının 5. Gününde taburcu edildi.

SONUÇ: Pacemaker lead perforasyonu, hemodinamik bozukluğu olmayan, minimal semptomatik seçilmiş olgularda, kalp-damar cerrahinin yakın desteği ile konservatif yaklaşımla da çözülebilir.

Anahtar Kelimeler: icd, konservatif, lead, perforasyon, pacemaker, reposizyon

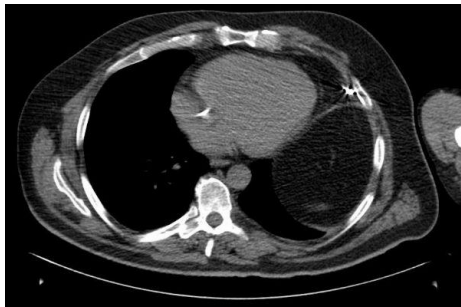
01-Akciğer filminde anormal lead pozisyonu



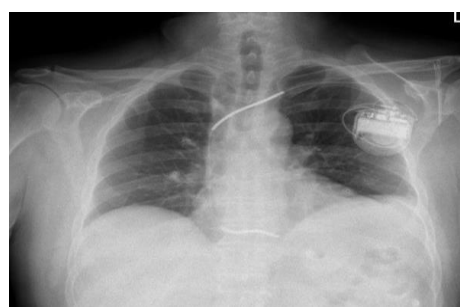
02-Lead perforasyonu



03-Anormal lead'in sol kostaya uzanan distal ucu



04-Reposizyon sonrası lead



P33**ST Segment Yükselmeli MI Geçirirken Genç Olmak**

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Ege Üniversite Kardiyoloji Anabilim Dalı, İzmir

AMAÇ: Ege Üniversitesi Tıp fakültesi kardiyoloji kliniğine 2008-2013 yılları arasında ST Segment Yükselmeli MI (STYME) ile başvurup trombolitik tedavi alan ardışık 463 (%79.3 erkek, yaş ortalaması: 58± 11 yıl) hastanın risk faktörleri, koroner arter hastalığı yaygınlığı ve hastane içi mortalite açısından cinsiyet ve yaşlarına göre retrospektif olarak karşılaştırıldı. Koroner arter hastalığının yaygınlığı tek veya çok damar hastalığı ve koroner arterinde ≥%50 darlık görülmesi şeklinde değerlendirildi.

BULGULAR: Hastalar genç (≤ 55yaş erkek ve ≤ 50 yaş kadın) ve yaşlı olarak iki grubu ayrıldı. Risk faktörleri arasında genç hastalarda sigara kullanımı anlamlı olarak daha fazla iken ise yaşlı grupta hipertansiyon ve diyabetes mellitus (DM) anlamlı olarak daha yüksek saptandı.

İnfarktüstten sorumlu koroner arter en çok LAD iken iki yaş grubu arasında fark yoktu (p=0.7). Gençlerde tek damar hastalığının sıklığı yaşlı gruba göre daha fazla idi (P=0.006) (Tablo-1).

Her iki yaş grubunda erkek cinsiyet oranı daha fazla idi (Tablo-2). Erkeklerle kıyasla her iki grupta kadınların yaş ortalaması daha yüksek saptandı (P <0.001). Erkeklerde risk faktörü olarak sigara kullanımı anlamlı yüksek iken kadınlarda HT, DM, HPL ve obezite anlamlı olarak daha sık saptandı. Kadınlara göre erkeklerde çok damar tutulumu daha fazla olmakla birlikte anlamlı fark saptanmadı (P=0.5). İnfarktüstten sorumlu koroner arter her iki cinsiyette benzer olup en sık LAD idi. Hastane içi mortalite her iki cinste benzer oranlarda saptandı (p=0.9).

SONUÇ: Genç STYME hastalarında sigara kullanımı daha sık, tek damar hastalığı daha fazla ve hastane içi mortalite oranı daha az olmaktadır. Erkeklerde sigara kullanımı daha sık iken kadınlarda DM, HT, HPL ve obesite daha belirgindir.

Anahtar Kelimeler: STEMİ, trombolitik tedavi, risk faktörleri**Tablo-1 Hastaların Yaş Gruplarına Göre Karşılaştırması**

	Genç (N= 125)	Yaşlı (N=338)	P
Yaş ortalaması (yıl)	45 ± 5.2	63 ± 8.2	<0.001
Erkek Cinsiyet (%)	84	84,6	0.8
HT (%)	26.4	48.5	<0.001
DM (%)	20	34.3	0.003
HLP (%)	20	29	0.05
SİGARA (%)	79.2	66	0.019
Tek Damar Hastalığı (%)	55.4	38	0.006
Çok Damar Hastalığı (%)	44.6	62	0.01
Sorumlu arter: LAD (%)	47.8	44.9	0.7
Hastane içi Mortalite (%)	0	3.6 (12)	0.042

Tablo-2 Hastaların cinsiyete Göre Karşılaştırması

	Erkek (N=391)	Kadını (N=72)	P
Yaş ortalaması (yıl)	57.4 ± 10.7	62.1 ± 11.8	<0.001
HT (%)	37.6	69.4	0.001
DM (%)	27.9	44.2	0.005
HLP (%)	24.3	38.9	0.01
OBESİTE (%)	21.5	38.9	0.002
SİGARA (%)	21.5	38.9	0.002
Tek Damar Hastalığı (%)	43 (n=99)	48.7 (n=19)	0.6
Çok Damar Hastalığı (%)	57 (n=129)	51.3 (n= 20)	0.5
Sorumlu arter: LAD (%)	43.6(n=17)	45.7 (n=105)	0.8
Hastane içi Mortalite (%)	2.6 (n=10)	2.8 (n=2)	0.9

P34
Factors affecting the subclinical left ventricle dysfunction 7 days after initiation of trastuzumab therapy

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INTRODUCTION: Trastuzumab is a chemotherapeutic agent used in the treatment of breast cancer. Trastuzumab therapy has been shown to induce subclinical left ventricular (LV) dysfunction during a three to six month period as evidenced by strain echocardiographic examination without any change occurring in the ejection fraction of LV. The present study evaluated the factors affecting the subclinical LV dysfunction using strain echocardiography 1 day and 7 days after the initiation of trastuzumab therapy.

METHODS: The patients with breast cancer receiving adjuvant trastuzumab therapy underwent 2-dimensional, tissue Doppler, and strain echocardiographic examination at baseline and 1 day and 7 days after the therapy for the calculation of LV global longitudinal strain (GLS), global circumferential strain (GCS) values, and other echocardiographic parameters.

RESULTS: A total of 40 patients were evaluated in the study. All patients were females and the mean age was 50±10 years. Of these patients, 97% received anthracycline and 73% received radiotherapy before the initiation of trastuzumab therapy. Of the entire population 25 patient developed trastuzumab mediated LV dysfunction. There was no difference between patients that developed cardiac dysfunction and those who did not develop cardiac dysfunction in terms of age, BMI, and clinical parameters (Table 1). The patients that developed subclinical cardiac dysfunction had lower GLS values at day 7, while GCS and mitral inflow parameters (E and A waves) were similar (Table 2).

CONCLUSION: All the paramaters except GLS values at day 7 were similar between patients with and without early subclinical LV dysfunction.

Keywords: Strain echocardiography, trastuzumab, subclinical dysfunction

Table 1

	Left ventricle dysfunction (+) N:25	Left ventricle dysfunction (-) N:15	p
Mean Age (years)	48±2,2	53±2,8	0,129
BMI (kg/m ²)	29±6,1	32±6,8	0,295
Left side tumor	14(56%)	6(40%)	0,327
Anthracycline use	21(84%)	14(93%)	0,633
Late stage (3-4)	12(48%)	8(53%)	0,744
Chest irradiation	16(64%)	13(87%)	0,120
Smoking	6(24%)	3(20%)	0,769
DM	1(4%)	3(20%)	0,139
HT	1(4%)	0	-

DM, Diabetes Mellitus; HT, Hypertension
Values are expressed as mean ± SD or number (percentage).

Baseline clinical parameters of patient with and without trastuzumab-mediated LV dysfunction.

Table 2

	LV Dysfunction (+)	LV Dysfunction (-)	p
Ejection Fraction (%)			
Pretrastuzumab	61±5,3	68±7,9	0,222
Day 1	59±5,6	65±5,4	0,152
Day 7	60±5,2	66±4,6	0,442
GCS (%)			
Pretrastuzumab	22±4,5	22±3,6	0,833
Day 1	21±4,8	22±3,6	0,696
Day 7	18±3,9	19±2,4	0,113
GLS (%)			
Pretrastuzumab	18±2,1	18±3,1	0,065
Day 1	18±3,8	18±1,9	0,762
Day 7	17±3,7	19±2,4	0,095
E wave (cm/s)			
Pretrastuzumab	114±3,1	114±3,5	0,832
Day 1	10±1,6	10±2,8	0,510
Day 7	8±2	9±2,9	0,210
A wave (cm/s)			
Pretrastuzumab	85±1,0	85±0,9	0,999
Day 1	85±1,3	85±1,3	0,730
Day 7	85±1,1	84±1,0	0,909
A/E ratio			
Pretrastuzumab	82±2,0	78±1,9	0,622
Day 1	81±2,9	80±1,0	0,688
Day 7	85±3,6	86±3,6	0,706

E, Ejection Fraction; GCS, Global Circumferential Strain; GLS, Global Longitudinal Strain; E/A, ratio between E and A waves; p, p-value; values are expressed as mean ± SD or number (percentage).

Echocardiographic Parameters of Patients With and Without Trastuzumab-Mediated LV Dysfunction

P35

Pulmonary embolism case mimicking acute coronary syndrome

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INTRODUCTION: Pulmonary embolism is a high mortality condition and the most important step in reducing the mortality rate is to make a true diagnosis.

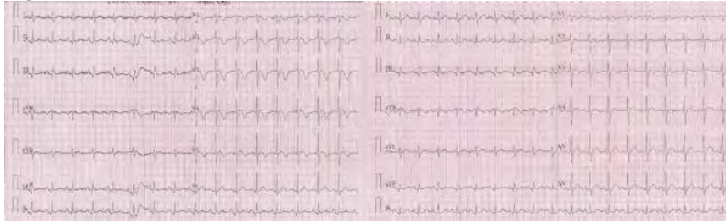
Case presentation: 65 year-old old hypertensive male was admitted to the emergency service due to the pain in the midline of the chest and T-negativity was present in the anterior derivations on electrocardiogram (Figure-1-left); however, T-negativity was amended fifteen minutes later (Figure-1-right). Left ventricular ejection fraction was 65%, and mild mitral and tricuspid regurgitation were present with left ventricular hypertrophy on transthoracic echocardiography. Estimated systolic pulmonary artery pressure was 35 mmHg.

Management and Outcome: Coronary angiography was performed for the troponin positive patient and revealed plaques in coronary vessels without any severe stenosis. Contrast enhanced pulmonary computerized tomography detected filling defect in right pulmonary artery (Figure-2). Thrombolytic treatment was not considered in hemodynamically stable patient and discharged home with oral anticoagulant therapy and he had an event free follow-up.

DISCUSSION: 50% of the cases may have chest pain and cardiac enzymes are elevated 30-50% of these cases. 50% of the pulmonary thromboembolism cases who are hemodynamically stable may have normal echocardiogram. In more than 70% of the pulmonary embolism cases ECG changes may be observed. The most common ECG change monitored is the T-negativity in inferior (49%) and anterior (42%) derivations. Pulmonary thromboembolism should be kept in mind as an alternative diagnosis in patients with dynamic T-wave changes.

Keywords: Acute coronary syndrome, electrocardiogram, pulmonary embolism

Figure-1



T waves changes in anterior derivations

Figure-2



Filling defect in right pulmonary artery

P36

Heart rate turbulence analysis in subclinical hypothyroidism.

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OBJECTIVE: Heart rate turbulence (HRT) is a baroreflex-mediated biphasic reaction of heart rate in response to premature ventricular beats. Abnormal HRT identifies patients with autonomic dysfunction or impaired baroreflex sensitivity. The aim of the present study was to demonstrate the effect of subclinical hypothyroidism (SCH) on cardiac autonomic function using HRT parameters.

MATERIAL-METHODS: The study sample consisted of twenty-five (10 men, 15 women with a mean age of 39.7 ± 15.5 years) patients who were diagnosed SCH and thirty-five (13 males, 22 females with a mean age 38.4 ± 11.7 years) euthyroid patients. All patients underwent 24-h ambulatory ECG monitorization. Two HRT parameters turbulence slope (TS) and turbulence onset (TO) were calculated. HRT parameters were compared between groups and the relationship between HRT and TSH levels was examined.

RESULTS: The characteristics of SCH patients and control cases were similar with regard to age, sex except for thyroid-stimulating hormone (TSH) levels. Serum TSH levels were significantly higher in SCH patients than the controls. TO was significantly higher in SCH patients compared with controls (-1.51 ± 0.5 vs -2.2 ± 1.0 $p=0.002$). SCH patients had lower TS values than controls (7.6 ± 2.4 vs 10.8 ± 3.4 $p<0.001$). TO was positively correlated with serum TSH levels ($r=0.27$ $p=0.03$). There was negative correlation between TS and serum TSH levels ($r=0.43$ $p<0.001$)

CONCLUSIONS: Our study results indicate that cardiac autonomic function is impaired in patients with SCH.

Keywords: Heart rate; Holter electrocardiography; Hypothyroidism

Results of heart rate turbulence analyses

	SCH# (n=25)	Control(n=35)	P value
HRT* onset, %	-1.51 ± 0.5	-2.2 ± 1.0	0.002
HRT slope, ms/beat	7.6 ± 2.4	10.8 ± 3.4	<0.001

*: Heart rate turbulence, #: Subclinical hypothyroidism.

Clinical Characteristics of the patients

	SCH* (n=25)	Control (n=35)	P value
Age, Years	39.7 ± 15.5	38.4 ± 11.7	NS
Male	10	13	NS
Female	15	22	NS
Current smoker	5	7	NS
Ejection Fraction, %	64.6 ± 2.7	63.9 ± 2.5	NS
TSH# μ U/ml	7.3 ± 1.8	2.4 ± 1.0	<0.001
FT3†, pg/ml	4.3 ± 1.1	4.4 ± 1.2	NS
FT4‡, pg/ml	15.0 ± 1.8	16.0 ± 2.3	NS

* Subclinical hypothyroidism, #Thyroid-stimulating hormone, †Free triiodothyronine, ‡Free thyroxine.

P37**Comparison of serum lipid profile and plasma atherogenic index between premenopausal and postmenopausal women.**

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OBJECTIVE: Menopause leads to changes in hormonal status, metabolism and lipid profile. The aim of the present study was to determine the influence of menopause and age on lipid profile in Turkish women.

METHODS: This study included 153 postmenopausal and 295 premenopausal healthy women. Premenopausal women were further arranged in to two different age group of 22-45 years and above 45 years of age. A preformed questionnaire was used to collect the clinical and demographic characteristics. Subjects were excluded if they had history of diabetes mellitus, hypertension, renal or thyroid dysfunction, irregular menstrual periods and hormone-replacement therapy. Serum lipid profile including total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglyceride (TG) were determined. Atherogenic index of plasma (AIP), which is a marker of plasma atherogenicity was calculated (log TG/HDL-C).

RESULTS: The mean ages of premenopausal and postmenopausal women were 37.4±6.1 and 57.4±6.4 years, respectively. There were statistically significant increases in TC, LDL-C, TG levels in postmenopausal group compared to that of premenopausal group (227.0±40.5 vs. 192.0±40.2 p<0.001, 140.4±34.4 vs. 112.1±36.6 p<0.001, 147.6±75.8 vs. 104.9±72.9 p<0.001, respectively). There was no significant difference in HDL-C level between premenopausal and postmenopausal women (56.5±14.7 vs. 54.3±15.4 p=NS). Only LDL-C level was significantly increased in premenopausal women above 45 years of age compared with the premenopausal women between 22-45 years of age (122.5±24.0 vs. 110.4±38.01 p=0.009).

CONCLUSIONS: Menopause alters lipid profile, but it is not associated with change in HDL-C levels. AIP is elevated in menopausal women and may be used for cardiovascular risk assessment.

Keywords: Menopause, Lipid, Atherogenic index of plasma.

Lipid profile of premenopausal and postmenopausal women.

	premenopausal (n=295)	postmenopausal (n=153)	p
TC (mg/dl)	192.0±40.2	227.0±40.5	<0.001
TG (mg/dl)	104.9±72.9	147.6±75.8	<0.001
HDL-C (mg/dl)	56.5±14.7	54.3±15.4	NS
LDL-C (mg/dl)	112.1±36.6	140.4±34.4	<0.001
AIP	-0.14±0.3	0.04±0.3	<0.001

AIP: Atherogenic index of plasma, HDL-C: High-density cholesterol, LDL-C: Low-density cholesterol, TC: Total cholesterol, TG: Triglyceride.

Lipid profile of premenopausal women between 22-45 years and >45 years of age

	22-45 years	>45 years	p
TC (mg/dl)	191.1±41.1	197.7±34.0	NS
TG (mg/dl)	103.9±76.3	111.5±46.2	NS
HDL-C (mg/dl)	56.7±14.8	54.5±14.4	NS
LDL-C (mg/dl)	110.4±38.01	122.5±24.0	0.009
AIP	-0.15±0.29	-0.07±0.23	NS

AIP: Atherogenic index of plasma, HDL-C: High-density cholesterol, LDL-C: Low-density cholesterol, TC: Total cholesterol, TG: Triglyceride.

P38

Arterial stiffness parameters are associated with vitamin D deficiency and supplementation in patients with normal cardiac functions

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BACKGROUND: Arterial stiffness parameters including pulse wave velocity (PWV) and augmentation index (AIx) are associated with increased risk of cardiovascular disease (CVD). Previous studies have shown that there is a close relationship between vitamin D deficiency and CVD. The aim of the present study is to investigate the effect of vitamin D deficiency and supplementation on arterial stiffness parameters in patients with normal cardiac functions.

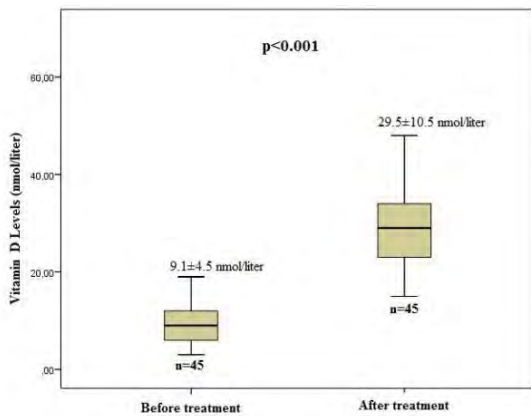
METHODS: The study population consisted of 45 patients with vitamin D deficiency who have normal cardiac functions (mean age: 42.9±8.4 years, 33 female). Patients were treated with oral administration of vitamin D3. Arterial stiffness parameters were evaluated by using a Mobil-O-Graph arteriograph system before and after treatment of those patients.

RESULTS: Vitamin D levels significantly increased after treatment of patients (9.1±4.5 nmol/liter versus 29.5±10.5 nmol/liter, p<0.001). There was no significant difference between conventional echocardiographic parameters before and after treatment. Post-treatment PWV and AIx were significantly lower than baseline measurements (6.4±0.9 m/s versus 6.8±1.0 m/s, p<0.001 and 21.6±12.3 % versus 30.4±9.8 %, p<0.001, respectively). Baseline vitamin D levels significantly correlated with PWV (r= -0.352, p=0.018). Post-treatment vitamin D levels also significantly correlated with post-treatment PWV (r= -0.442, p=0.002) and AIx (r= -0.419, p=0.004). Baseline vitamin D level was shown to be significantly and independently affecting baseline PWV (p=0.040).

CONCLUSIONS: Vitamin D supplementation provides beneficial effects on arterial stiffness parameters. Arterial stiffness parameters may help the clinician to assess the cardiovascular risk in patients with vitamin D deficiency.

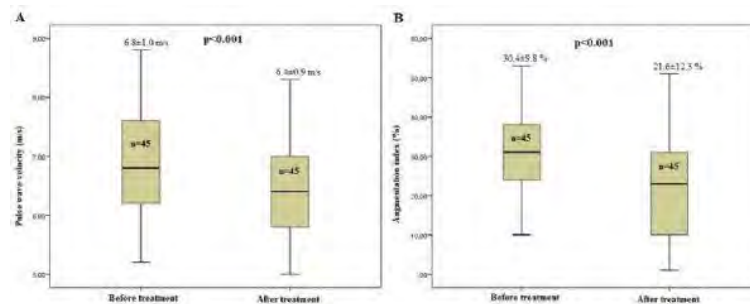
Keywords: Vitamin D; Arterial Stiffness; Pulse Wave Velocity; Augmentation Index; Cardiovascular risk

Figure 1



Comparison of Vitamin D levels before and after treatment of patients

Figure 2



Comparison of pulse wave velocity (2A) and augmentation index (2B) before and after treatment of patients.

P39

Severe Coronary Artery Disease In An Adolescent with Familial Hypercholesterolemia (type 2a)

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Introduction: Here in we present a young patient with familial hypercholesterolemia (type 2a) presented with multiple characteristic skin lesions and diagnosed as premature CAD and discuss the treatment options for these patients.

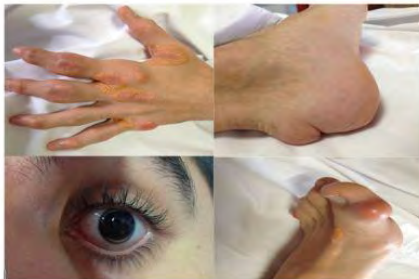
Case Report: A 19-year old male patient was admitted to our outpatient clinic with a history of typical chest pain for one year. He was first admitted at the age of 2 years with the complaint of sacral swelling and further evaluation revealed the diagnosis of type 2a hyperlipidemia. Since xanthomas disseminated despite diet therapy, oral suspension of statin was commenced and the treatment has been continued with atorvastatin after the age of 5 years. Rosuvastatin treatment was commenced at the age of 15 years and niacin was also added. Since low density lipoprotein cholesterol (LDL-C) levels of the patient have been measured to be around 700 mg/dl and he has had pain in the joints, he has received plasmapheresis twice daily for 2 years. LDL-C levels have dropped to 300 after plasmapheresis. Plasmapheresis has not been applied for the last year due to noncompliance of the patient. His family history revealed that his father died of acute myocardial infarction at the age of 39 years. On physical examination, multiple skin lesion was detected (Figure 1). Since widespread ST depression was detected on treadmill stress test (Figure 2), coronary angiography was performed. Left anterior descending artery (LAD) was occluded ostially, and had retrograd flow. Right coronary artery (RCA) had 80% proximal lesion, and circumflex coronary artery (Cx) was diffusely atherosclerotic (Figure 3). Coronary artery by-pass graft (CABG) was decided by heart team but the patient refused the operation and wanted to continue on medical therapy.

Discussion: Individuals without the diagnosis of CAD may first present with xanthomas and xanthelasmas which are unique for dyslipidemias. Complex atherosclerotic lesions, fully occlusive lesions and lesions in multiple vessels are more common in cases with familial hypercholesterolemia as observed in our case. The primary goal of the treatment of hyperlipidemia is to lower the level of serum lipid and minimize the risk of vessel damage caused by high lipid levels. Apheresis selectively removes LDL-cholesterol from blood. As much as 70% decreases in lipid levels. However, as it is also seen in our case, patient compliance is a major problem. In such patients, novel therapies as PCSK9 inhibitors, a drug family which phase 3 trials still continue, may promise hope.

Conclusion: It should be kept in mind that patients with familial hypercholesterolemia may firstly present by xanthelasmas and the possibility of developing premature atherosclerosis is high in these patients. Regular cardiological examinations, and in the presence of symptoms, exercise stress testing should be performed and coronary arteries should be evaluated by coronary angiography if these examinations reveal any pathology.

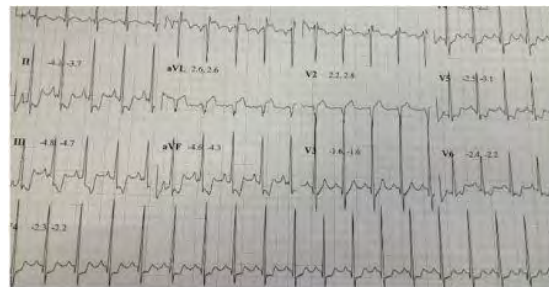
Keywords: Familial Hypercholesterolemia, type 2a hyperlipidemia, severe coronary artery disease in adolescents

Figure 1



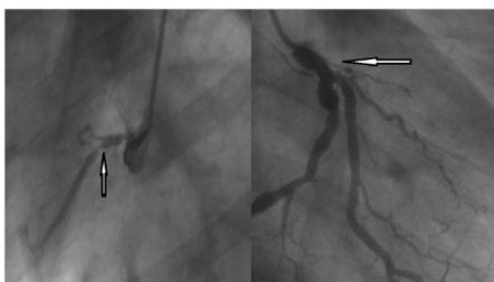
Photograph of patient's hand, foot, Achilles tendon showing multiple xanthoma and arcus senilis

Figure 2



Electrocardiography during the third stage of treadmill exercise test demonstrating prominent ST-segment depressions at infero-lateral derivations

Figure 3



Coronary angiography showing LAD ostial occlusion, and a proximal RCA lesion of 80%

P40

Why the Concept of Cardiac Self-Efficacy is So Important Nowadays for Patients with Cardiovascular Disease?

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INTRODUCTION: Self-efficacy is factor that has been shown to play an important role in recovery, derives from social cognitive theory and concerns people's belief in their ability to influence events that affect their lives.

PURPOSE: The purpose of this study was to investigate that the concept of cardiac self-efficacy is so important nowadays for patients with cardiovascular disease.

METHOD: We conducted a systematic literature review to evaluate the study results that the concept of cardiac self-efficacy for patients with cardiovascular disease. Akdeniz University center electronic databases including MEDLINE, CINAHL, EBSCOHOST, SocINDEX and ScienceDirect were searched studies published in English within the last five years with "cardiovascular disease and self efficacy", "cardiac self efficacy" key words. Search results reached in the 818 articles and four articles have been sampled.

RESULTS: Kang and Yang's (2013) study, descriptive correlational and cross-sectional survey design, sample of 214 patients with coronary artery diseases, indicated that rather than disease knowledge, factors related to subject's perception were more likely to associate with cardiac self-efficacy. Sol and colleagues (2011) referred to their study that improved self-efficacy was associated with improved adherence to guidelines for physical activity and food choices. In patients with vascular diseases, improvements in self-efficacy are associated with an improvement in cardiovascular lifestyle, namely, more exercise and better food choices. Another study conducted by Bennett and colleagues (2012) tested the hypothesis that self-efficacy mediates the relationship between pessimistic attributional style and experiences of cardiac symptoms among a sample of cardiac rehabilitation patients. Results supported diet self-efficacy as a mediator, but not exercise self-efficacy. And the other study, Koring and colleagues (2012), examined the effectiveness and the mechanisms of a combined planning and self-efficacy intervention to promote physical activity among motivated individuals. The intervention resulted in significantly more physical activity, higher levels of action planning, coping planning, and volitional self-efficacy beliefs. The study shows that the intervention successfully fostered physical activity and unfolds the underlying self-regulatory mechanisms of the intervention's effectiveness.

CONCLUSIONS: These findings might provide a theoretical basis to develop nursing interventions for enhancing cardiac self-efficacy of patients with cardiovascular diseases. These studies show that cardiac self-efficacy improve patients' cardiovascular lifestyle. Clinical nurses taking care of patients with cardiovascular diseases should awareness of risk factors in encouraging the cardiac self-efficacy to promote the health behaviours for the secondary prevention of cardiovascular disease.

Keywords: Cardiac Self-Efficacy, Cardiovascular Disease, lifestyle

P41

Cardiovascular Screening in Medical Students of Çukurova University

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INTRODUCTION: Screening in young people for cardiovascular diseases related to sudden death takes a significant place in medicine. The main goal of this study is determination of cardiac health status of medical students by the help of screening program.

METHOD: 283 medical students from all phases are voluntarily included in our study. A questionnaire composed of 12 queries which contain symptom, disease history, drug abuse and habits was inquired to every participant. Blood pressure was measured and physical examination was performed. Transthoracic echocardiography was applied after electrocardiogram was obtained. Additional tests such as serum biochemistry, genetic analyses, 24 hour holter ambulatory blood pressure monitoring, retinal examination are applied to participants whose parameters are pathologic.

RESULTS: According to questionnaire, 61.1 % of students are male, average age is 21. According to physical examination; average systolic, diastolic blood pressure and heart rate; 117,75 and 80, respectively. According to electrocardiogram; 5.3% early repolarization, 1.4% right axis deviation, 4.2 % left atrial anomaly, 0.4% biatrial anomaly, 8.1 % incomplete right bundle branch block, 1.1% supraventricular extrasystol, 8.8 % sinus arrhythmia, 1.8% short PR, 1.4% left ventricular hypertrophy voltage criteria, 0.4% ST depression, 1.8% R wave progression loss, 0.4% left posterior hemiblock, 0.4% left anterior hemiblock were detected. According to transthoracic echocardiography; 6.7% mild and 0.4% moderate mitral regurgitation, 8.5% mild tricuspid regurgitation, 0.4 % left ventricular diastolic dysfunction were found. One with genetically new mutation marfan syndrome, one with mitral valve prolapsus, one with white coat hypertension, 7 with inappropriate sinus tachycardia (IST), one with secondary hypertension were determined.

DISCUSSION: In our study, anomalies detected in electrocardiogram are not only confirmed by transthoracic echocardiography but also mild mitral and tricuspid regurgitations are considered in physiological borders. Prevalence of mitral valve prolapsus and marfan syndrome in general population is 2.4 % and 0.02 %, respectively. Hypertension occurs in 1 out of 3 people in the USA and 5-10% of them is assessed in secondary hypertension group. Prevalence of white coat hypertension among mild hypertensive patients is approximately 20 %. However in our population, prevalences of previously mentioned disorders is same and 0.4 %. Aino-Maija and friends have shown that 7 of 604 subjects with 4/3 female dominance has IST otherwise in our study 7 of 283 participants with 5/2 female dominance suffer from IST. In conclusion, cardiovascular diseases oriented anamnesis and physical examination are fundamental components for cardiovascular screening instead of electrocardiogram and echocardiography causing high economic burden.

Keywords: Cardiovascular Screening, Medical Student, Sudden Death

P42

Invasion of the Right Atrium with Hepatocellular Carcinoma in a Short Time

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Introduction: Malignant tumors of various organs and tissues, originating from all over the body, may disseminate to the right atrium (RA) by a nodular embolus and rarely by direct extension. Primary hepatocellular carcinoma (HCC) is the fifth most common cancer worldwide and the third leading cause of cancer-related death. HCCs frequently invade the vascular system at points such as the portal and hepatic veins. The results of autopsy studies indicate a 2.7-4.1% incidence of atrial metastases of HCC. A correct diagnosis is important in the clinical setting since cardiac metastases are able to induce sudden cardiac arrest.

Case Report: 65-year-old man with a history of HCC for one year presented to the cardiology clinic for dyspnea and new onset bilateral lower extremity edema rapidly progressing over two weeks. He was under the treatment of sorafenib (multikinase inhibitor).

On physical examination, there was pitting edema in lower extremities bilaterally and approximately 10 cm palpable mass at right upper quadrant of the abdomen.

2-D transthoracic echocardiography (TTE) demonstrated a large mass in the RA extending to the tricuspid valve without significant obstruction (figure 1 and figure 2). Thoracic and upper abdominal computer tomography (CT) showed expansive liver mass with the extension of the tumor into the RA via invasion of the inferior vena cava (IVC) (figure 3).

Compared with the previous CT and TTE images made three months ago, the hepatic mass of the liver was smaller and IVC or intra-cardiac extension was not demonstrated (figure 4).

The patient followed conservatively because of end staged metastatic HCC, and he died in 76 days after diagnosis of intra-cardiac tumor.

Discussion: The majority of HCC arises from viral hepatitis. Intra-cardiac involvement rarely occurs in patients with HCC and its frequency was found around 2% in various series. Most of the cardiac metastases are direct and contiguous extensions of the intrahepatic HCC. Various cardiac symptoms or findings such as dyspnea, lower extremity edema, sudden death, or dilatation of the jugular veins are generally seen in HCC patients with intra-cardiac involvement. The prognosis of HCC with intra-cardiac involvement is very poor, with a median survival range of 1-4 months. Multidisciplinary treatments to control the growth of HCC offer patients with cardiac involvement a useful chance of cure.

However, such therapeutic modalities may not be feasible especially if the patient has a poor general performance, metastatic disease or underlying hepatic dysfunction.

Conclusion: This case report showed that intrahepatic HCC can disseminate and invade the heart in a short time. Even there are no curative treatments for metastatic HCC, we want to emphasize the importance of monitoring the patient with HCC by TTE with short time intervals not only for side effects of chemotherapy also detect heart involvement by HCC.

Keywords: Hepatocellular carcinoma, intra-cardiac mass, transthoracic echocardiography

Figure 1



Apical four chamber view of 2-D transthoracic echocardiography showing the extension of the tumor to right atrium (see arrow)

Figure 2



Subcostal view of 2-D transthoracic echocardiography showing the tumor in right atrium (see arrow)

Figure 3



CT transverse scan of chest shows the right atrial and liver mass (see arrows).

Figure 4



First CT transverse scan of chest shows liver mass (see arrow) but there is no right atrial mass

P43

Ciddi aort darlığında tavi yapılan hastada takipte gelişen nadir bir durum

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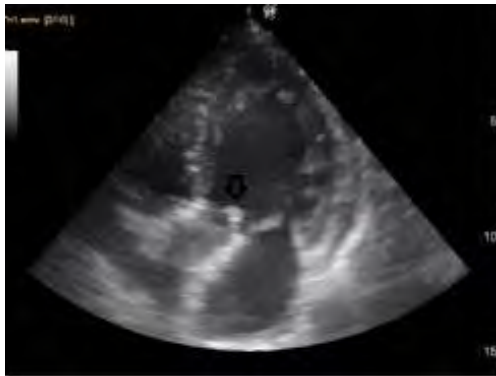
Ciddi aort darlığı(AD) yetişkinde sıklığı yaşla artan ve 65 in yaşın üstünde %25 sıklıkta görülen ciddi bir hastalıktır. Daha önceleri ciddi AD'na yaklaşımda medikal tedaviye ek olarak sadece cerrahi seçenek varken son yıllarda perkütan girişim olan Transkatater Aortic Valve Implantation (TAVI) eklenmiştir. Son zamanlarda yayınlanan AHA ve ESC kılavuzlarında sınıf I endikasyonla kılavuzlara girmiş olan TAVI prosedürü sonrası hasta takibinde gelişen bir komplikasyon sunulmuştur.

Olgu: 83 yaşında erkek, nefes darlığı düz yatamama şikayetleri ile acile servise başvurdu. Son 15 gündür artan nefes darlığı olan hastanın muayenesinde genel durumu iyi, solunum sayısı 34 takipneikti. Kardiyovasküler sistem muayenesinde aort odağında 3/6 sistolik ejeksiyon üfürümü olan hastanın solunum muayenesinde bilateral akciğer bazalinde inspiratuar raller mevcuttu. Elektrokardiografisi sinüs ritminde olan ve hipertrofik bulguları olan hasta yoğun bakıma alınarak diüretik tedaviye başlandı.Yapılan ekokardiyografisinde (eko) sol ventrikül ejeksiyon fraksiyonu %25, aort kapak alanı 0,7cm², AV max 4,2 m/sn,transaortik gradient 86/42 mmhg,aort yetmezliği hafif, mitral yetmezliği orta derecede olan hasta ciddi AD tanısı ile izlendi. Diüretik tedavi sonrası semptomları biraz gerileyen hastanın eşlik eden ciddi koah tanısı nedeniyle sık sık inhaler tedavi almaktaydı. Aort kapağına müdahale kararı alınan hastanın cerrahi risk skorları hesaplandı,logistic euroscore %26 olması nedeniyle hastaya TAVI hazırlığı yapıldı. Hastaya yapılan TAVI sırasında 23 mm balon ile dilatasyon yapıldı ve EDWARDS 26mm kapak implante edildi. İmplantasyon sırasında ve sonrasında herhangi bir hemodinamiyi bozan durum izlenmedi. İşlem sonrası yapılan kontrol ekosunda aort kapağı üzerinde fonksiyone biyoprotez aort kapağı, transaortik gradient 12/6 mmhg, olarak izlendi. Ancak implante edilen aort kapağının sol ventrikül yüzüne doğru işlem öncesi olmayan hiperekosten saplı, mobil, sistolde ventriküle doğru hareket eden diyastolde kaybolan görünüm izlendi.(resim 1) Minimal paravalvüler aort yetmezliği izlendi. Perikardiyal mayi saptanmadı. Hemodinamisi iyi olan hastaya izlem kararı alındı. Günlük yapılan ekolarla hasta yakın takip edildi. Görüntülerde hiperekosten yapının zamanla boyutunun küçüldüğü ve her sistolde olan hareketinin azaldığı izlendi.(resim 2)

Tartışma: Hastanın bu görüntüsünün nativ aort kapağının balon ile dilatasyonu aşamasında ventriküle olması ve takılan kapağın zamanla aort köküne daha iyi yapışması sonrası hareket eden kısmın daha sabit kalmasına neden olduğunu düşündük. Hastanın koroner yoğun bakım izleminden sonra serviste de 5 gün kadar izlenen hasta foksiyonel klasi 1-2, ortopnesi belirgin gerilemiş, efor kapasitesi artmış şekilde taburcu edildi. Bu vakada komplikasyon olarak balon sırasında nativ aort kapağının bir kuspının rüptüre olduğunu ve sonrasında edwards kapağı tutan iskeletin kapak anulusuna iyice yapıştıkça bu hareketinin azaldığını gözlemlemiş olduk.

Anahtar Kelimeler: Ciddi AD, tavi, komplikasyon

resim 1



aort kapağından sol ventrikül çıkış yoluna doğru uzanan hiperekosten yapı

resim 2



aort kapağında sol ventrikül çıkış yoluna uzanan yapının küçülmüş olduğunu gösteren resim

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Yoğun Bakım ve Klinik Hemşirelerinde Tükenmişlik Düzeyi ve İş Doyumu Arasındaki İlişkinin İncelenmesi

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Giriş: Günümüzde sosyal bir problem olarak karşımıza çıkan tükenmişlik sendromu, özellikle insanlarla yakından ilişki içerisinde bulunan meslek gruplarında sık görülmektedir.

OLGU: Bu çalışma ile Elazığ ilinde görev yapan yoğun bakım ve klinik hemşireleri arasındaki tükenmişlik düzeylerinin yaygınlığının saptanması ve iş doyumunu ile ilişkisinin incelenmesi amaçlanmıştır. Elazığ ilinde görev yapan 60 yoğun bakım, 60 klinik hemşiresi olmak üzere toplam 120 gönüllü birey çalışmaya dahil edilmiştir. Veriler 'Maslach Tükenmişlik Envanteri' ve 'Minnesota İş Doyum Ölçeği' uygulanarak toplanmıştır.

SONUÇ: Araştırma sonuçlarına göre, yoğun bakım ve klinik hemşirelerinde duyarsızlaşma ve duygusal tükenme alt ölçeklerinde anlamlı farklılıklar bulunmuş olup, kişisel başarı alt ölçeğinde anlamlı bir fark saptanmamıştır. Duygusal tükenme ve duyarsızlaşma arttıkça iş doyumunun azaldığı gözlenmiştir. Ayrıca gruplar arasında iş doyumunu skorları bakımından da anlamlı fark bulunmamıştır. **TARTIŞMA:** Sonuç olarak, araştırma kapsamına alınan hem yoğun bakım hemde klinik hemşireleri tükenmişlik yaşamaktadır. Bu nedenle hem çevresel hem de bireysel anlamda, hemşirelerin tükenmişlik düzeylerinin azaltılması ve iş doyumunun artırılmasına yönelik stratejilerin geliştirilmesi gerekmektedir. Meslek içi eğitimin kalitesi artırılmalı, stresle başa çıkma stratejileri planlanmalı ve uygulanmalıdır.

Anahtar Kelimeler: Maslach, Minnesota, Hemşirelik, Tükenmişlik, İş Doyumu



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