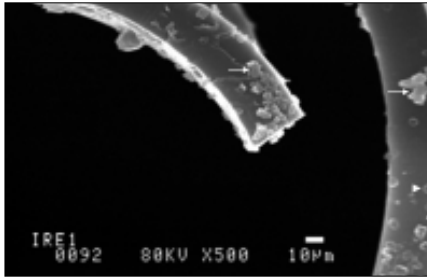
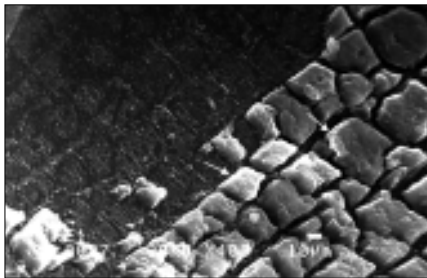




Resim 4. Sağ internal karotis arterine stent yerleştirilmesi ve darlıkta düzelme



Resim 5. Kırmızı kan hücreleriyle (ok başları) birlikte görülen koruma cihazının yüzeyindeki kolesterol kristalleri (oklar)



Resim 6. Koruma cihazının lümeninde bazı alanlarda taş tarlası görünümünde kolesterol kristalleri (oklar)

2. Martin JB, Pache JC, Treggiari-Venzi M, Murphy KJ, Gailloud P, Puget E, et al. Role of the distal balloon protection technique in the prevention of cerebral embolic events during carotid stent placement. Stroke 2001; 32: 479-84.
3. Stary HC, Chandler AB, Dinsmore RE, Fuster V, Glagov S, Insull W Jr, et al. A definition of advanced types of atherosclerotic lesions and a histological classification of atherosclerosis. Circulation 1995; 92: 1355-74.

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A case of multiple ascending aorta and aortic arch thrombi causing simultaneous cerebral and peripheral embolism

Eş zamanlı serebral ve periferik emboli oluşturan assandan aort ve aortik arkus orijinli çoklu trombus olgusu

A 62-year-old man was admitted with left arm ischemia and unconsciousness for 6 hours. His blood pressure was 150/80 mmHg; his heart rate was 90 beats/min. His left arm pulses were deficient and he had no pathologic reflexes. He responded to the painful stimuli. Electrocardiogram, transthoracic echocardiography and chest radiography were normal. Contrast enhanced computed tomographic (CT) angiography showed multiple ascending aortic and arcus pedunculated thrombus (Fig. 1). He was operated using right axillary artery cannulation and selective antegrade cerebral perfusion (28°C, 12 minutes under 800ml/min flow). Oblique aortotomy was extended to the lesser curvature of aorta. There were multiple pedunculated aortic thrombi adhered to the ascending aorta and arch. The aortic wall was normal, so the thrombi were evacuated (Fig. 2) and aorta was closed primarily. Brachial embolectomy was done afterwards. Histological evaluation of the evacuated material revealed thrombus. Unfortunately, the patient was lost on the second postoperative day due to sudden hypotension unresponsive to treatment.

Thrombi of the aortic arch are infrequent causes of systemic emboli (1-3). Atherosclerosis, dissection, trauma, malignancy, and coagulopathies have been associated with aortic mural thrombi (3). Intraluminal thrombus may be located in the ascending aorta, even without extensive atherosclerotic plaques (4). In our patient, aortic thrombus originated from aortic tissue free from atherosclerosis. But, it was reported that many patients have aortic atherosclerosis complicated by clot formation. Young patients have extensive clot formations floating in the aorta, without transesophageal echocardiographic evidence of profuse atherosclerosis but with a history of embolic events. Thrombosis of the aortic arch was discussed to appear to be a variant form of aortic atherosclerotic disease associated with arterial embolism in young patients (5). The presented case is the first case with both peripheral and cerebral embolism due to both ascending and arcus aorta thrombi.

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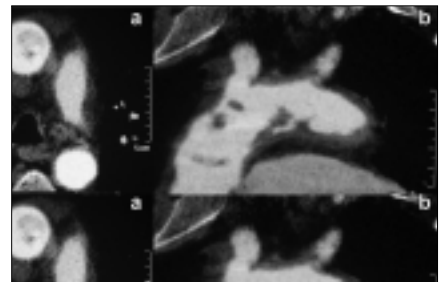


Figure 1. Axial (a), sagittal (b), and coronal (c) slab computerized tomography images created with MinIP show multiple intraaortic thrombi

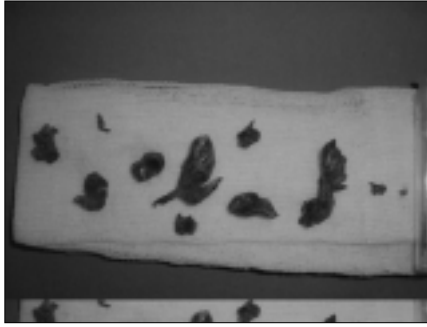


Figure 2. View of evacuated aortic thrombi

References

1. Kolvekar SK, Chaubey S, Firmin R. Floating thrombus in the aorta. *Ann Thorac Surg* 2001; 72: 925-7.
2. Berneder S, van Ingen G, Eigel P. Arch thrombus formation in an apparently normal aorta as a source for recurrent peripheral embolization. *Thorac Cardiovasc Surg*. 2006; 54: 548-9.
3. Choi JB, Choi SH, Kim NH, Jeong JW. Floating thrombus in the proximal aortic arch. *Tex Heart Inst J* 2004; 31: 432-4.
4. Qanadli SD, Rangheard AS, Lacombe P. Intraluminal thrombus of the ascending aorta with systemic embolism detected by spiral CT. *Clin Radiol* 2000; 55: 75-7.
5. Laperche T, Laurian C, Roudaut R, Steg PG. Mobile thromboses of the aortic arch without aortic debris. A transesophageal echocardiographic finding associated with unexplained arterial embolism. *Circulation* 1997; 96: 288-94.

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Thrombosed giant right coronary artery aneurysm

Tromboze olmuş dev sağ koroner arter anevrizması

A 50-year-old male patient, without previous history, presented with prolonged precordial pain following moderate exercise. He was transferred to a local hospital, where acute coronary syndrome (ACS) was diagnosed and was treated with conventional (aspirin, β -blockers, nitrates, heparin) treatment. His recovery was uncomplicated and he left the intensive care unit 48 hours later. He was discharged from the hospital 7 days later and the following treatment was prescribed: β -blocker, angiotensin converting enzyme inhibitor, statin, and aspirin. The patient was a smoker (60 packs per year), presented dyslipidemia and had no positive family history of coronary artery disease. After his release from the hospital, he was admitted to our hospital for cardiac catheterization without any symptoms. He was hospitalized as planned, two weeks following the ACS and underwent coronary angiography.

Coronary angiography showed normal left main coronary artery, left anterior descending artery and left circumflex artery. The right coronary artery (RCA) was totally occluded, with a mass at proximal segment (Fig. 1, 2. Video 1, 2. See corresponding video/movie images at www.anakarder.com). Transthoracic and transesophageal echocardiography showed no abnormalities of cardiac valves or contractile function and the ascending aorta as well.

The patient was then transferred to radiodiagnostic unit to investigate this mass with multislice computed tomography (MSCT) (Fig. 3. Video 3. See corresponding video/movie images at www.anakarder.com) and cardiac magnetic resonance imaging (MRI) (Fig. 4. Video 4. See corresponding video/movie images at www.anakarder.com). Blood examination and chest X-ray showed no significant pathological findings. For certain diagnosis and treatment, surgical resection of the mass was our preferred treatment modality, with the agreement of cardiovascular surgery department. As the patient refused the surgical intervention; a course of conservative treatment was decided upon and it was recommended that the patient follows a pharmaceutical treatment. Follow-up MSCT was planned at the end of six months and the patient was discharged.

Coronary artery aneurysm is an abnormal dilatation of focal or diffuse segments of coronary artery. The incidence of coronary aneurysm among coronary artery disease is about 1.5% to 5% (1-3). It may be congenital, or secondary to other diseases, such as atherosclerosis, trauma, previous coronary intervention, mycotic emboli, Kawasaki's disease or systemic lupus erythematosus (4). In this case, our patient presented with ACS. Coronary angiography displayed total occlusion of the RCA and a giant aneurysm. Abnormal flow pattern in the aneurysm may lead to thrombus formation with



Figure 1. Selective right coronary angiography shows that the right coronary artery is totally occluded from the beginning and a residual trace of contrast agent in the entrance of giant aneurysm

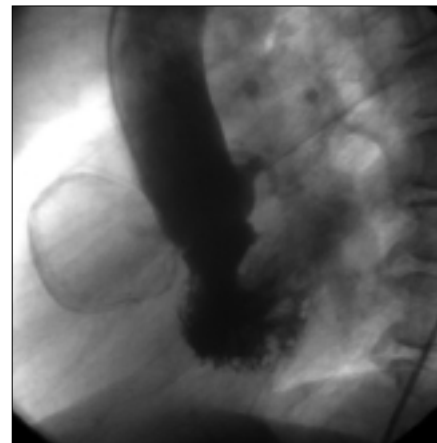


Figure 2. Right anterior oblique view of coronary angiogram shows a giant right coronary artery aneurysm at the proximal portion