Aortic valve aneurysm: a result or reason?

Aort kapak anevrizması: Neden mi, sonuç mu?

A 37-year-old patient had a cerebrovascular accident and according to history and physical examination, emboli secondary to infective endocarditis (IE) was suspected. He had no notable previous medical history. His tomography showed an ischemic area in the left cerebral hemisphere. Transthoracic echocardiography revealed a mild to moderate aortic regurgitation. On parasternal long-and short-axis views, a small mass was found attached to the left coronary cusp of the aortic valve. It resembled a cystic mass rather than a vegetation (Fig. 1). On transesophageal echocardiogram, the cystic mass was actually found to be the aneurysmatic left coronary cusp (Fig. 2, Video 1, 2. See corresponding video/movie images at www.anakarder.com). No solid lesion was discovered. The cusp prolapsed into the left ventricular outflow tract (LVOT) during diastole.

The antibiotherapy was started after blood samples were drawn. Methicillin-sensitive staphylococcus was cultured from three samples.

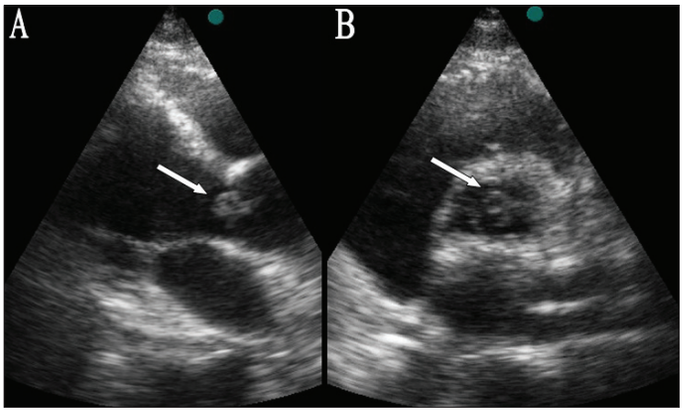

Figure 1. Transthoracic parasternal long (A) and short-axis (B) echocardiographic views showing a hyperechogenic mass mimicking a vegetation (arrows) attached to the aortic valve

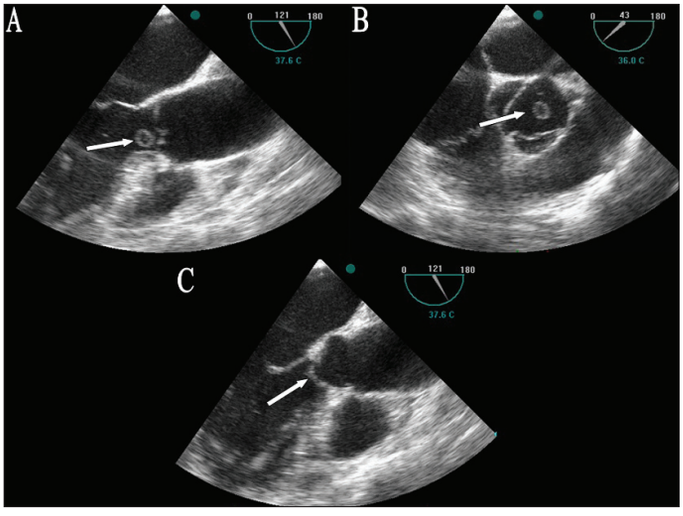

Figure 2. Transesophageal long-axis (A) and short-axis echocardiographic views (B) showing the aneurysm of the left coronary cusp of the aortic valve resembling cystic mass (arrows) (C) The left coronary cusp protruding into LVOT during diastole (arrow)
LVOT - left ventricular outflow tract

According to modified Duke's criteria, a possible diagnosis of IE was established (positive blood culture for typical microorganism, temperature >38°C and major arterial emboli). On follow-up, aortic regurgitation worsens and acute heart failure developed. He was referred for surgery. On operation, the left coronary cusp was found to be markedly enlarged, thin and aneurysmatic but no vegetation was found. The valve was replaced with a prosthesis and the postoperative follow-up was uneventful.

One may wonder if the prevailing valvular aneurysm is a risk factor for IE rather than a complication of it. As we do not know whether the patient had any previous valvular disease or not, we could not answer this question definitely. As valvular aneurysms are almost never seen in daily practice and the coexistence with infective endocarditis in literature, it is reasonable to assume that they are the consequences of IE.

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A rare angiographic finding: aortic pseudo-coarctation

Çok nadir anjiyografik bir bulgu: Aortik psödokoarktasyon

Aortic pseudo-coarctation is a quite rare cardiovascular malformation characterized by a redundant and severely kinked aortic arch. Diagnostic assessment is usually performed by angiography or other imaging techniques. In this report, we present a 49-year-old man who was admitted to our department because of chest pain. On physical examination he had rhythmic heart beats, 3/6 systolic murmur on the second left intercostal space. The electrocardiography revealed sinus rhythm with a ventricular rate of 75 beats/min and normal electrocardiographic findings. Echocardiogram demonstrated normal left ventricular function and wall motion. There was no pathology at valves. Transthoracic echocardiographic examination through suprasternal window showed maximal 15 mmHg gradient. At a first glance in aortography, severe aortic coarctation was considered (Video 1. See corresponding video/movie images at www.anakarder.com). However, aortic gradient was found to be of 15-20 mmHg by pigtail catheter. In addition, there was no a typical coarctation pattern in different positions. Therefore, it seemed that this might not be a coarctation but a pseudocoarctation (Video 2. See corresponding video/movie images at www.anakarder.com). In order to clarify this finding, a multislice computed tomography (MSCT) was performed. It did not reveal aortic coarctation but kinking of aorta. Taking into account of the results of aortography and MSCT, we assumed that because of aorta kinking on itself in aor-

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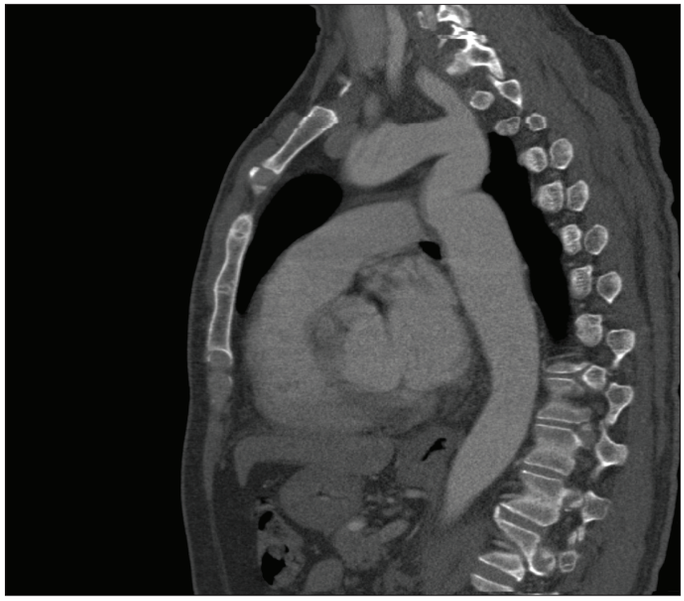

Figure 1. Computed tomography scan image of the kinking of the aorta

tography we erroneously considered that image as a significant aortic coarctation (Fig. 1). Since there was no significant hemodynamic gradient, medical treatment was advised.

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Incidental multislice computed tomography finding of a congenital submitral ventricular aneurysm

Çok kesitli bilgisayarlı tomografi ile rastlantısal olarak saptanan bir konjenital submitral ventrikül anevrizması

Congenital ventricular aneurysms do not have normal layers of ventricular wall, have paradoxical contraction, and they are connected to the main cardiac chamber with a broad neck. A subannular left ventricular aneurysm is very rare, and is mostly considered to be a congenital anomaly. We report on a case of congenital submitral left ventricular aneurysm that was detected with the use of 128-slice multidetector-row computed tomography (MDCT) and not visualized during echocardiography in a woman presenting with atypical chest pain.

A 49-year-old woman presented with atypical chest pain. Cardiac computed tomography (CT) was performed to rule out the presence of coronary artery stenosis. CT examinations were performed by a 128-slice CT scanner (Somatom Definition AS Plus 128, Siemens) with retrospective electrocardiographic gating. MDCT angiography showed absolutely normal coronary arteries. A CT scan showed the presence of an out-pouching structure that arose from the left ventricular outflow tract, just below the submitral annulus (Fig. 1). Volume-rendered images revealed that the orifice of this sac was located mainly just below the posterior cusp is of mitral valve (Fig. 2). Transthoracic echocardiography revealed normal left ventricular size and function without significant valvular disease. A submitral aneurysm was not seen on transthoracic echocardiography. The treatment and prognosis of congenital left ventricular aneurysm are determined by clinical status of the patient and any associated abnormalities. Medical follow-up was proposed for this patient.

Cardiac CT imaging using 128-slice MDCT was demonstrated as a reliable and noninvasive tool to detect this rare type of cardiac anomaly.

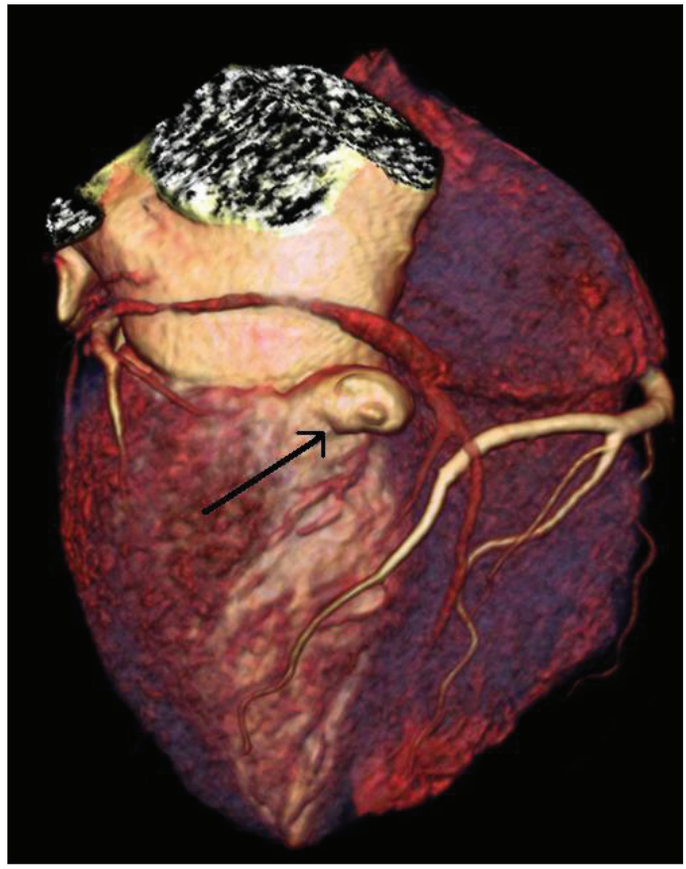

Figure 1. A 128-slice multidetector-row computed tomography view of the submitral left ventricular aneurysm (1.3x1.1 cm in size) (arrow)

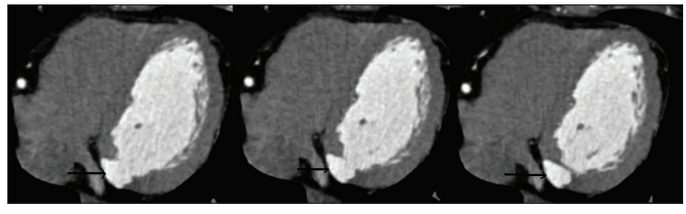

Figure 2. Axial CT images of the left ventricle in mid-diastole show an out-pouching structure (arrows) that originates from the left ventricular outflow tract
CT - computed tomography