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Coronary Cameral Fistula from the Right Coronary Artery to a Left Ventricular Aneurysm

Sağ Koroner Arterden Sol Ventrikül Anevrizmasına Koroner Kameral Fistül

CASE IMAGE
OLGU GÖRÜNTÜSÜ

A 27-year-old gentleman presented with exertional dyspnea and palpitations for two years. Clinical examination revealed blood pressure of 136/70 mmHg, cardiomegaly, a prominent apical impulse, a soft left ventricular third heart sound, and a continuous murmur at the lower sternal border, more prominent in diastole. The electrocardiogram demonstrated first-degree atrioventricular block, features of left atrial enlargement, T-inversion in D3 and augmented vector foot (aVF), and poor R-wave progression (Figure 1a). Transthoracic echocardiography showed a dilated, dysfunctional left ventricle, moderate mitral regurgitation, and a large thick-walled akinetic accessory chamber in the posteromedial aspect of the left ventricle (Figure 1b, Video 1). Coronary angiography revealed an ectatic right coronary artery (RCA) with a large fistulous communication to the left ventricle. The left system was normal. Computed tomography (CT) angiography delineated the coronary cameral fistula from the RCA draining into the wide-mouthed, thick-walled accessory chamber in the posterobasal left ventricle, with myocardial attenuation characteristics conforming to a true aneurysm (Figure 1c-e, Video 2). There was no thrombus. Viral serology, Treponema pallidum hemagglutination test, rheumatoid factor, and antinuclear antibody profile were negative. The patient had no history of trauma, angina, or prolonged fever, and work-up for Koch's disease was negative. The patient was scheduled for aneurysmectomy, fistula ligation, and distal RCA bypass.

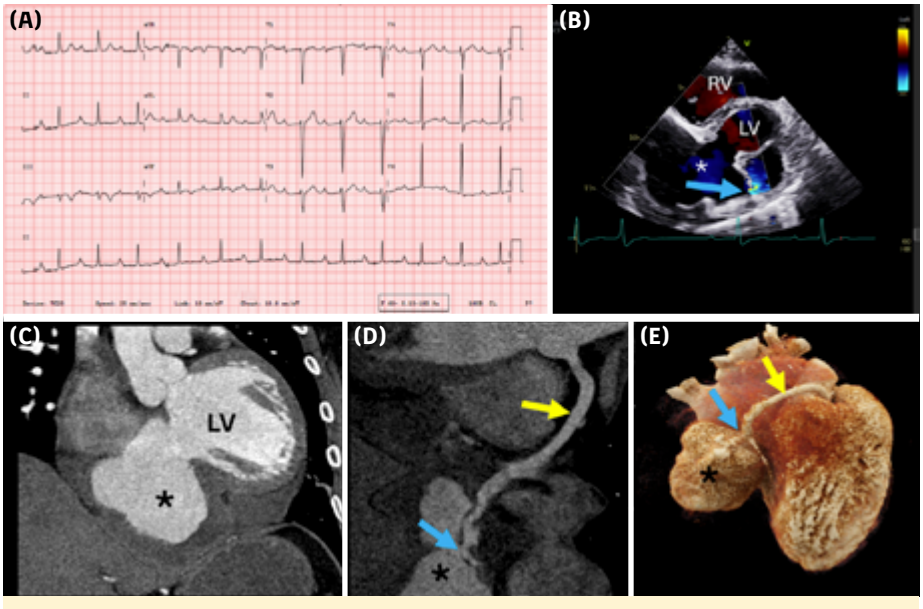

Figure 1. (A) The electrocardiogram of the patient. (B) The modified parasternal short-axis projection demonstrating the large aneurysm (asterisk) from the posterobasal left ventricle (LV). The blue arrow depicts the entry of the coronary cameral fistula into the left ventricle (LV). RV – Right ventricle. (C) The oblique computed tomography (CT) section demonstrating the aneurysm (asterisk) from the posterobasal LV. (D) The CT reconstruction demonstrating the right coronary artery (yellow arrow) opening into the LV aneurysm (blue arrow). (E) The corresponding 3D CT reconstruction.

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The left ventricle is the least common drainage site of coronary cameral fistulae. Failure of regression of embryonic myocardial sinusoids from endothelial protrusions into intertrabecular spaces of the thicker left ventricle is rarer compared to those draining into the right heart. Progressive intimal ulceration, medial degeneration, mural thrombosis, and focal coronary hypoperfusion are possible reasons for aneurysm formation at drainage sites, including the left ventricle.

Ethics Committee Approval: This is a case image, and therefore ethics committee approval was not required in accordance with institutional policies.

Informed Consent: Informed written consent was obtained from the patient concerned. No patient identity particulars have been disclosed.

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Video 1. Transthoracic echocardiographic cine loop from the modified parasternal short-axis projection demonstrating the large aneurysm (asterisk) from the posterobasal left ventricle (LV).

Video 2. Curved multiplanar reconstructed computed tomography (CT) coronary angiography demonstrating the coronary cameral fistula opening into the left ventricle (LV).