

Double-chambered left ventricle with nonsustained ventricular tachycardia

Ventriküler taşikardiyle birlikte iki odacıklı sol ventrikül

A 22-year-old male was admitted to our clinic with symptoms of palpitation, dizziness, and easy fatigability. On auscultation an apical grade 3/6 late peaking systolic murmur was detected. Left ventricular hypertrophy was present on electrocardiogram (ECG). Transthoracic echocardiography revealed a fibromuscular ridge, dividing the left ventricle (LV) into two chambers (Video 1 and 2. See corresponding video/movie images at www.anakarder.com). It was also confirmed by magnetic resonance imaging (Fig. 1). We determined a peak 93 mm Hg pressure gradient between apical and basal chambers with Doppler echocardiographic examination (Fig. 2. Upper panel). We performed cardiac catheterization to exclude coronary shunt to LV, and to confirm the pressure gradient between chambers. Cardiac catheterization disclosed normal coronaries, and double-chambered LV with normal pressure in basal chamber (Fig.3). Unfortunately, catheter-induced runs of ventricular tachycardia prevent us to reach the apical chamber. A 24-hour Holter ECG disclosed infrequent runs of ventricular tachycardia.

The patient refused the surgical treatment. He was put on metoprolol 100 mg/day. We expected that metoprolol would decrease pressure gradient by its effect on contractility and suppress ventricular tachycardia attacks. On control examination, symptoms of the patient regressed to minimal exertional dyspnea. The control echocardiography revealed a trans-chamber gradient of 33 mm Hg (Fig.2: Lower panel).

Double-chambered LV is a rare congenital anomaly with little data about its clinical characteristics. The treatment of choice in symptomatic patients is surgical removal of the separating structure. We tried the use of metoprolol and the outcome was very good.

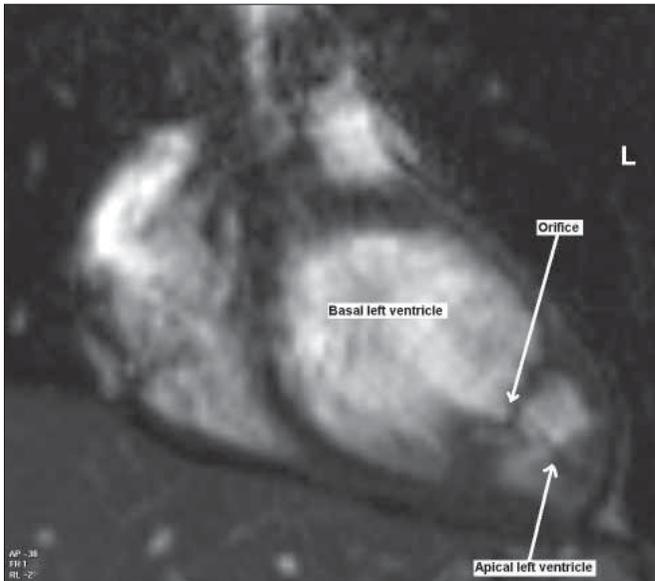


Figure 1. Oblique coronal T2 weighted magnetic resonance imaging shows fibrous band dividing left ventricle into two chambers

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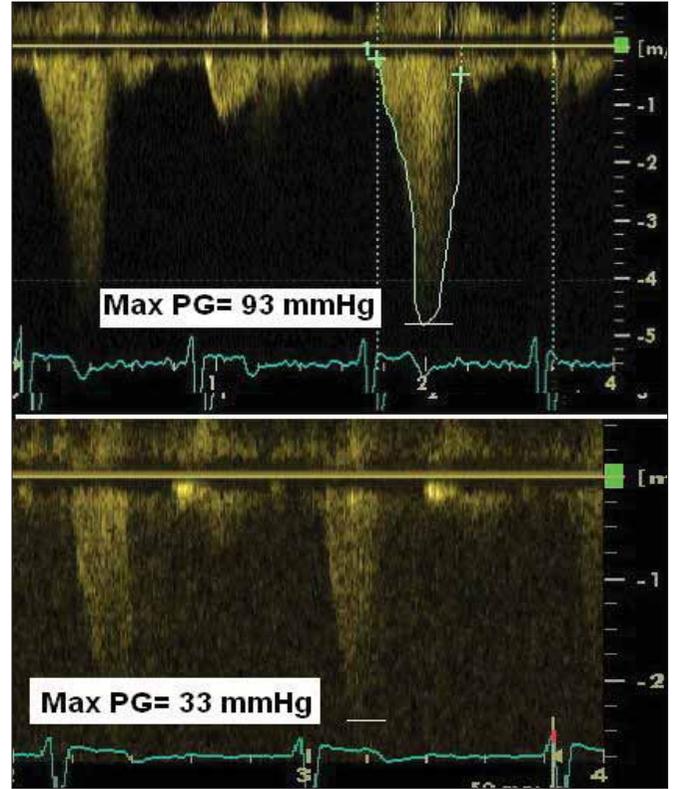


Figure 2. Continuous Doppler echocardiographic recording of the jet in the basal chamber (Upper panel: before metoprolol, lower panel: 4th week of metoprolol use)

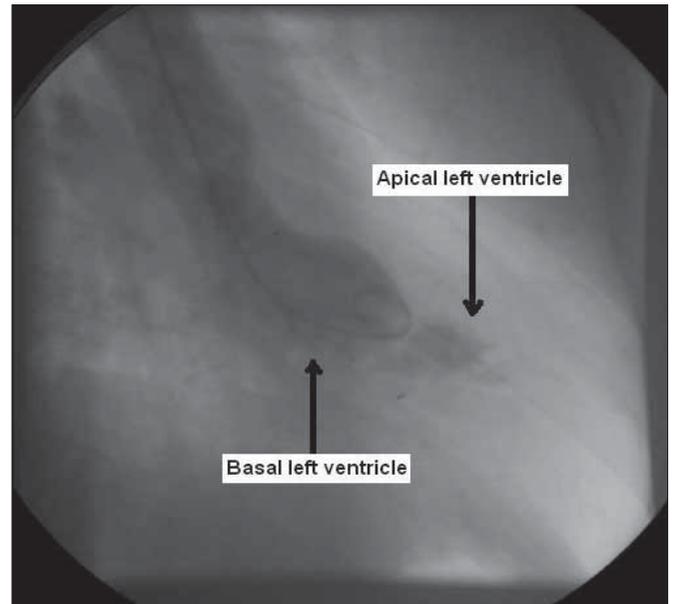


Figure 3. Radiographic appearance of the left ventricle after contrast injection

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