

Mid-Ventricular Obstructive Hypertrophic Cardiomyopathy with Apical Aneurysm

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A 54-year-old female patient was admitted to our clinic with the complaints of palpitation, dizziness, chest pain and dyspnea on exertion. Blood pressure was 100/60 mmHg, pulse 104 beats/min. An early systolic sound and third degree systolic murmur in mitral area radiating to mid-clavicular line were heard at cardiac auscultation. Other system examinations were normal. On electrocardiogram, downsloping type ST depression with negative T waves in precordial derivations and right bundle branch block were seen. Telecardiography showed neither cardiomegaly nor pulmonary congestion. Mitral insufficiency (central, jet second degree) and concentric left ventricular (LV) hypertrophy had been reported in the former echocardiography report. Coronary angiography and left ventriculography were done. Coronary angiograms showed no narrowing of major epicardial coronary arteries. Severe mid-ventricular hypertrophy with hourglass appearance at systole and apical aneurysm were detected by left ventriculography (Figure 1). Left ventricular catheterization revealed normal cardiac output and severe intra-ventricular pressure gradient (95 mmHg at rest) between the LV apical and basal chambers. A new echocardiographic examination was



Figure 1. Severe mid-ventricular hypertrophy with hourglass appearance at systole during left ventriculography



Figure 2. Left atrium, left ventricle and narrow neck are seen in the modified left apical two-chamber echocardiographic view

done to assess the LV anatomy and mitral insufficiency: mitral regurgitation of the 1st-2nd degree with centrally oriented jet, mid-ventricular obstructive hypertrophy without systolic anterior movement, stage III LV diastolic dysfunction (E>>A) and bi-atrial dilatation were reported.

Asymmetric LV hypertrophy may be localized in the septum, apex or mid-ventricular (mid-ventricular obstructive hypertrophic cardiomyopathy, MVHOC). Midventricular obstructive hypertrophic cardiomyopathy may be overlooked easily during echocardiographic evaluation. Modified left apical two-chamber echocardiographic view can be preferred for detection of narrow neck between basal and apical segments (Figure 2). Mid-ventricular obstruction was reported with apical aneurysm in literature (1-3). However, MVHOC may not be always associated with apical aneurysm especially in the early stages of disease. Intra-ventricular pressure gradient in the left ventricle may cause apical chamber dilatation at further stages (4).

References

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