Apical hypertrophic cardiomyopathy coexistent with a myocardial bridging

Apikal hipertrofik kardiyomiyopati ile beraber görülen miyokardiyal "bridging"

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A 50-year-old Caucasian male was admitted to our clinic with atypical chest pain. He had no coronary risk factors and prior history of cardiac disease. The blood pressure was 120/80 mmHg and there was no pathological finding in his physical examination. The electrocardiogram demonstrated giant T wave with depth up to 10 mm (Fig. 1). Two-dimensional echocardiography showed hypertrophy of the ventricular septum and posterior walls below the papillary muscles. Apical 4-chamber and modified cross-sectional views showed hypertrophy of the apex, extending to apical lateral wall of the ventricle (Fig. 2a-c). Systolic function of the left ventricle was found to be normal in two-dimensional echocardigraphy. The ratio of apical to basal anterior and posterior wall thickness was found greater than 1.5 on M-mode scanning. There was no systolic anterior motion of anterior mitral leaflet. There was no significant pressure gradient between the left ventricular cavity and the left ventricular outflow tract. The left atrium was enlarged (43mm) and the pulse wave Doppler of mitral inflow showed pseudonormalization. Ventriculography showed the systolic obliteration of the apex and 30 mmHg gradient determined between apex and base of the ventricle (Fig. 3a). The left coronary angiogram showed 90 % systolic narrowing at the middle third of left anterior descending artery (Fig. 3b). Circumflex and right coronary arteries were evaluated as normal by coronary angiography. This myocardial bridge was not associated with any ischemia by stress Thallium 201 perfusion scanning. A diagnosis of apical (Japanese) hypertrophic cardiomyopathy (HCM) with muscular bridge was established, and the patient was treated with calcium channel antagonists and aspirin. The prevalence of myocardial bridging in HCM is about 22,2 %, and it usually occurs in the middle and distal portions of the left anterior descending artery (1). Although the association of HCM

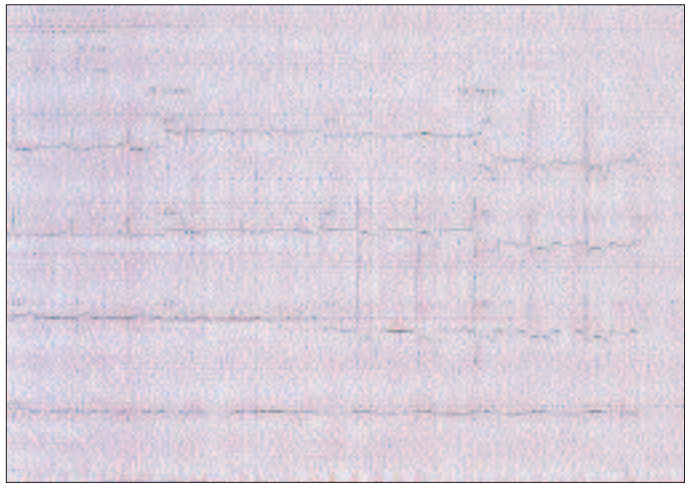

Figure 1. Giant T waves on electrocardiogram

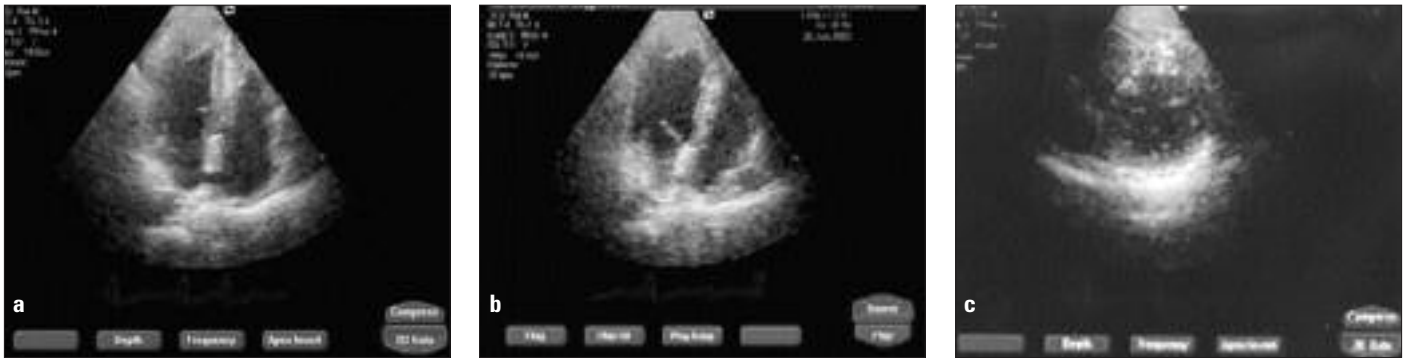

Figure 2. The hypertrophy of the apex on the apical 4-chamber (a,b) and modified short-axis (c) left ventricular views.

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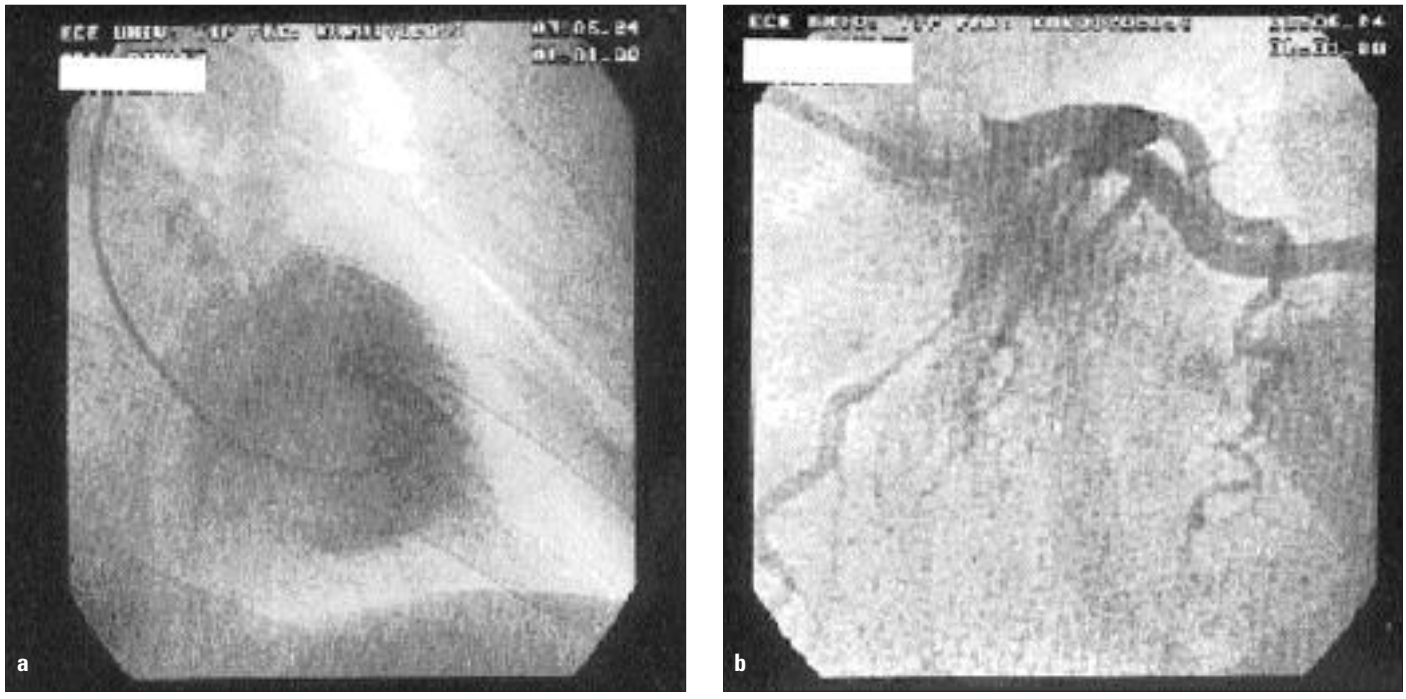

Figure 3. Systolic obliteration of the ventricular apex (a) and the systolic narrowing of the left anterior descending artery (b).

and myocardial bridging is common in literature, the association of apical HCM with myocardial bridging is rare. The combination of apical hypertrophic cardiomyopathy and myocardial bridging which is located in the anterior interventricular branch of the left coronary artery, has been recently demonstrated in only one Italian male patient (2). In our case the hypertrophy extended to the apical part of the lateral wall and its combination with myocardial bridge has not been reported before.

References

1. Navarro-Lopez F, Soler J, Magrino S, et al. Systolic compression of coronary artery in hypertrophic cardiomyopathy. Int J Cardiol 1986; 12:309-20.
2. Giannitsis E, Haase H, Schmucker G, et al. Apical hypertrophic cardiyomyopathy of the Japanese type coexistent with a coronary muscle bridge. A case report and review. Jpn Heart J 1997; 38: 741-8.