Diastolic gradient in hypertrophic cardiomyopathy of the apical type

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Received 7 May 2003; received in revised form 8 May 2003; accepted 8 May 2003

Abstract

Diastolic intracavitary gradient in the left ventricle is a common finding in patients with apical hypertrophy. We report the case of a patient with hypertrophic cardiomyopathy and midventricular obstruction. The paradoxical jet flow in this patient, during diastole, was directed towards the base away from the apex. © 2003 Published by Elsevier Ltd on behalf of The European Society of Cardiology.

KEYWORDS

diastolic paradoxical gradient; hypertrophic cardiomyopathy.

Figure 1 Surface ECG abnormalities.

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1525-2167/$30 © 2003 Published by Elsevier Ltd on behalf of The European Society of Cardiology. doi:10.1016/S1525-2167(03)00045-3
Case presentation

A 60-year-old male underwent cardiac evaluation in our department because of surface ECG abnormalities (Fig. 1).

His general history is unremarkable. On auscultation he had a systolic ejection murmur. A trans-thoracic echocardiogram revealed hypertrophy of the apex (both septal and lateral walls). Pulse doppler, in left ventricular cavity, detected an intracavitary gradient during systole with maximum velocity of 2.2 m/s and an early diastolic forward gradient with maximum velocity of 1.3 m/s (Figs. 2 and 3).

Discussion

Systolic intraventricular obstruction is described in patients with apical hypertrophic cardiomyopathy. Diastolic gradient has been reported and indicates impaired diastolic performance. It seems to be due to the delay of diastole at the apical level and transiently higher pressure at the apex. Identification of these gradients is important as they have been related to embolic events and ventricular arrhythmias.

Further Readings

Apical type hypertrophic cardiomyopathy


