Total relief of severe left ventricular outflow obstruction after spontaneous rupture of chordae tendineae in a patient with hypertrophic cardiomyopathy

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In hypertrophic cardiomyopathy (HCM), rupture of mitral chordae tendineae is infrequent and causes acute haemodynamic deterioration. A 38 year old male patient had chordae rupture leading to prolapse of both mitral leaflets and severe regurgitation, without change in symptomatic status. One year before, he had had mild mitral regurgitation and a resting left ventricle outflow tract of 105 mm Hg that disappeared in the present evaluation. In this unique case, worsening of mitral regurgitation was counterbalanced by total relief of the severe obstruction. This case report highlights the role of the mitral valve apparatus in the genesis of obstruction in HCM, further stimulating surgical techniques in which mitral repair can be the main procedure.

FIGURE 1 Transthoracic two dimensional parasternal short axis view. The medial portions of the mitral leaflets (arrows) are abnormally positioned during diastole. IVS, interventricular septum; LV, left ventricle; RV, right ventricle.

FIGURE 2 Transoesophageal echocardiogram in systole. In this view, part of the anterior mitral leaflet is normally positioned and part is prolapsed (arrows). AML, anterior mitral leaflet; LA, left atrium.

Abbreviations: HCM, hypertrophic cardiomyopathy; LVOT, left ventricular outflow tract
Leaflets and abnormal papillary muscle insertions. Coexistence of mitral valve prolapse and HCM is considered infrequent (3%).

The best surgical procedure to alleviate obstruction in HCM has been the subject of debate. Septal myectomy (Morrow’s surgery), combined myectomy and mitral surgery (repair or replacement), and mitral surgery alone have been the most commonly performed. The choice of the appropriate technique is based on careful preoperative and transoperative morphological evaluation, in addition to the surgeon’s preference.

In view of the present case, in which the mitral valve seemed to be the principal and perhaps the only mechanism of obstruction, surgeons must keep in mind the possibility of relieving the obstruction through a single valve repair in selected cases of obstructive HCM.

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