Left ventricular myxoma originating from the interventricular septum and obstructing the left ventricular outflow tract

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In a 60-year-old woman with episodic exertional faintness, a large left ventricular (LV) myxoma attached by a pedicle to the apical interventricular septum and prolapsing through the LV outflow tract and the aortic valve causing a severe obstruction was found by echocardiography. Early surgical excision was successfully performed using the transaortic approach.

Case report

A 60-year-old woman presented with a history of exertional faintness. She had a harsh systolic murmur in the third and fourth intercostal spaces, left sternal edge, and in the second right intercostal space. Transthoracic echocardiography demonstrated a large pedunculated pear-shaped mass (75 × 45 mm in diameter) in the left ventricular (LV) cavity, attached to the apical portion of the interventricular septum, extending into the outflow tract with a systolic prolapse through the aortic valve (Figure 1A–D). A severe outflow obstruction, with peak and mean systolic pressure gradients equal to 120 and 69 mmHg, respectively, was found (Figure 1E). LV function was normal. The other cardiac valves and cavities were free of lesions. Angiographic study showed normal coronary arteries.

Surgical excision of the LV myxoma was performed under normothermic cardiopulmonary bypass by way of a median sternotomy. After oblique aortotomy a huge fragile jelly-like myxoma became visible in the LV cavity through the aortic cusps. The gelatinous tissue appeared as yellow-brownish myxoid stroma. The tumor was attached by a pedicle, with a square centimeter insertion area, to the apical interventricular septum next to the base of the anterolateral papillary muscle. The LV myxoma was completely removed by fragmentation and careful suction.

The pedicle was finally detached from the distal septum by accurate excision under direct vision. Figure 2 shows the reconstruction of the tumor with the fibrous pedicle. The postoperative course of the patient was uneventful. Histopathologic examination was consistent with the diagnosis of a myxoma.

Discussion

LV localization of a myxoma is extremely rare, accounting for 2.5–4% of all cases.1 To the authors’ knowledge this is the first case of severe LV outflow tract obstruction due to a LV myxoma originating from the interventricular septum. Only a few cases have been reported in myxomas originating from the mitral valve.2–4 The shape, the extension, the site of attachment, the involvement of valve leaflets and the functional obstruction to LV outflow tract could promptly and easily be assessed by echocardiography. This myxoma required urgent resection.

The patient was at an increased risk of sudden death and systemic embolization due to the systolic prolapse of the mass through the aortic valve with severe obstruction, the characteristics of the myxoma, and the high pressure within the left ventricle during systole.2 The mass was removed by using the transaortic approach in order to avoid a left ventriculotomy and its potential complications. This approach allowed the complete resection of the LV myxoma.

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References


Figure 1 Echocardiography in the apical four-chamber view (A, diastole; B, systole) demonstrated a large mass in the left ventricular cavity attached to the distal septum by a pedicle (arrow). The tumor protruded through the aortic valve in systole (D) with a severe obstruction, as shown in the apical five-chamber view (C, diastole; D, systole) and in the continuous-wave Doppler recording of the left ventricular outflow tract (E).

Figure 2 Reconstruction of the left ventricular myxoma with the fibrous pedicle (arrow).