Not all mitral stenosis are due to valve disease

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A normally fit and well 43-year-old Chinese woman presented with a month’s history of dyspnoea on exertion and orthopnoea. Physical examination revealed a raised jugular venous pressure, a mid-diastolic low-pitched rumbling murmur at the apex and bibasal crackles. N-terminal-pro hormone B-type natriuretic peptide (NT-proBNP) and C-reactive protein were elevated at 552pmol/L (normal <35) and 56mg/L (normal 0–5), respectively at presentation. Transthoracic echocardiography showed a large mobile left atrial mass measuring 7.0cmx2.5cm, protruding during

Figure 1: A. Apical four-chamber view on transthoracic echocardiography showed a large left atrial mass (asterisk) prolapsing through the mitral valve into the left ventricle; B. Parasternal short-axis view at mitral valve level on transthoracic echocardiography showed the atrial mass (asterisk) causing almost complete obstruction of the mitral valve orifice, and there was diastolic septal flattening (red arrows) consistent with right ventricular volume overload; C. Continuous wave Doppler through the mitral valve demonstrated elevated mean pressure gradient in keeping with severe obstruction of the mitral valve; D. A gelatinous cream/brown haemorrhagic mass measuring 70x40x22mm was resected.

LV, left ventricle; RV, right ventricle; LA, left atrium; RA, right atrium; AMVL, anterior mitral valve leaflet.
diastole through the mitral valve into the left ventricle (Figures A and B). This caused mitral pseudostenosis with a mean pressure gradient of 11mmHg (Figure C), suggesting severe mitral stenosis. Given the increased risk of embolisation, she underwent urgent excision of the mass. The histopathology report confirmed the diagnosis of a myxoma (Figure D) and the patient had an uneventful recovery.

Rheumatic heart disease is the most common cause of mitral stenosis. Our patient's mitral valve leaflets were unremarkable on imaging. The most common differential diagnosis of an atrial mass is atrial thrombus. However, our patient was in sinus rhythm and her left ventricular function was normal which made atrial thrombus unlikely. Vegetation on the mitral valve can present as mitral stenosis but her blood cultures were normal at presentation. Other causes of impaired left ventricular filling can mimic mitral stenosis. Myxomas are the most common benign cardiac primary tumours, accounting for about 50% of cardiac tumours, and their clinical features are determined by their size, location and mobility. Our patient's symptoms were caused by obstruction of the mitral valve from the myxoma during diastole, resulting in 'pseudostenosis' of a structurally normal mitral valve. Surgery should, therefore, be performed promptly after the diagnosis is made to avoid potential complications such as peripheral embolisation or cardiac valvular obstruction.

Competing interests:
Nil.

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