An unusual cause of subaortic stenosis

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A 63-year old man with a significant left ventricular outflow obstruction due to an aberrant sub-valvular mitral tissue (not characteristic of a classical subaortic web; Fig. 1a and b), underwent resection of the mass and septal myectomy through a trans-aortic approach (Fig. 1c). Postoperative echocardiography demonstrated a reduction in the subaortic resting gradient of 70%, with no evidence of an outflow tract obstruction (Fig. 2).

Figure 1: Echocardiogram images illustrating: an aberrant mitral valve subvalvular tissue (red arrow) extending from the left ventricle and attaching to the ventricular aspect of the anterior mitral valve leaflet at its annular extent (A), and tricuspid leaflets with an area of 2.48 cm² across the aortic valve, with mild calcification and mild aortic regurgitation, but no evidence of aortic stenosis (B). Perioperative image of left ventricular outflow tract (yellow dotted line) and accessory mitral valve tissue (red dotted line) (C).

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Figure 2: Pulse wave and continuous wave Doppler images depicting the velocity of the jet at the sub-valvular level, revealing an improvement of the left ventricular outflow tract gradient from 50 mmHg preoperatively (A and C) to 6 mmHg postoperatively (B and D), respectively. Pressure gradient was calculated using the modified Bernoulli equation.