

Hypoplasia of the posterior mitral leaflet diagnosed in adulthood

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A 51-year-old woman with no relevant past medical history was referred for a transthoracic echocardiogram to investigate non-specific dizziness which subsequently resolved without intervention. The clinical examination was unremarkable, and she was in sinus rhythm.

Transthoracic echocardiogram revealed a hypoplastic posterior mitral valve leaflet (PMVL) (Figure 1) with no significant mitral regurgitation (Figure 2). The anterior mitral leaflet was elongated and sail-like in shape with complete coaptation of leaflets in ventricular systole and with no associated anterior leaflet prolapse. There was no concomitant valvular disease and her heart was otherwise structurally and functionally normal.

Presentations of PMVL hypoplasia rarely occur in adulthood. Generally, this pathology presents in childhood, most commonly

with symptomatic mitral regurgitation. Aplasia of the PMVL [true uni-leaflet mitral valve (ULMV)] is usually incompatible with life and leads to death intra-utero or in early infancy. However, recent literature suggests that the prevalence of hypoplastic PMVL in asymptomatic patients may be higher than previously expected, and cases have been diagnosed in formerly asymptomatic elderly patients.¹ A prospective study carried out in Germany containing 26 484 patients found the prevalence of hypoplastic PMVL to be 1:8800,² although this is acknowledged to be an overestimate as an echo cohort contains patients with suspected or known structural heart disease.

A recent literature review found that a total of 21 adult cases of PMVL hypoplasia ($n = 12$) and ULMV ($n = 9$) have been described. In

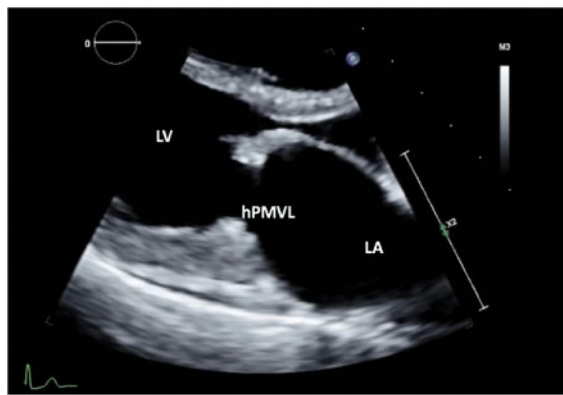


Figure 1 Parasternal long axis demonstrating hypoplastic posterior mitral valve leaflet stump during mitral valve opening. hPMVL, hypoplastic posterior mitral valve leaflet; LA, left atrium; LV, left ventricle.

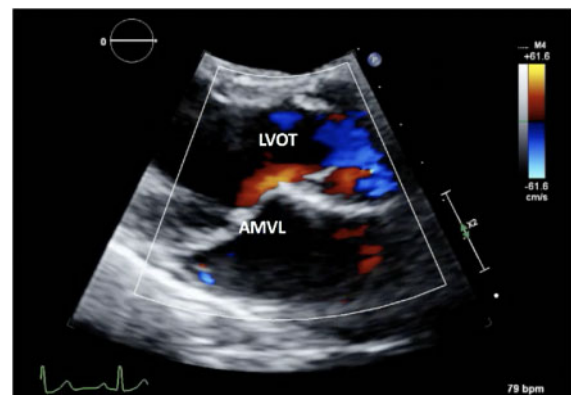


Figure 2 Parasternal long axis with colour Doppler during systole. Note there is no significant mitral regurgitation and there is complete coaptation of leaflets without anterior mitral valve leaflet prolapse. AMVL, anterior mitral valve leaflet; LVOT, left ventricular outflow tract.

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one-third of these cases, the patients were completely asymptomatic and the pathology was an incidental finding on routine, screening echocardiography, as was seen in this case.³

In symptomatic or decompensated patients, surgical mitral valve repair is considered the treatment of choice. Mitral valve replacement is performed where repair is not feasible. In asymptomatic and otherwise well cases, as in the case described, conservative management with serial echocardiography is sufficient.

Supplementary material

[Supplementary material](#) is available at *European Heart Journal - Case Reports* online.

Consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and associated text has been obtained from the patient in line with COPE guidance.

Conflict of interest: none declared.

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