A 27-year-old woman with a history of coarctation repair at 15 months of age presented with new-onset fatigue, intermittent palpitations, and shortness of breath. A loud pansystolic murmur was noted on clinical examination. Transthoracic (A, Online Video A) and transesophageal echocardiograms (B, Online Video B) showed accessory mitral valve tissue (red arrow) attached to the anterior leaflet, encroaching into the left ventricular outflow tract without obstruction. A cleft was noted in the lateral aspect of the anterior mitral valve leaflet with severe mitral regurgitation (C, D, E, green arrow; Online Videos C, D, and E), together with a bicuspid aortic valve with right-left cusp fusion without regurgitation or stenosis (F, Online Video F), and repaired coarctation (G, Online Video G). She underwent successful mitral valve repair with removal of the accessory mitral leaflet. The anterolateral commissure was indistinct, with a cleft in the A1 segment extending out to approximately one-half the height of the anterior leaflet.

Accessory mitral valve is rare in adults, with left ventricular outflow tract obstruction being the usual indication for surgery (1). This was an incidental finding in our patient who required surgery for the torrential mitral regurgitation from the atypical mitral cleft.

REFERENCE