

MISCONNECTED: VALVE FAILURE FROM AN UNEXPECTED CHORDAL INSERTION

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A 64-year-old woman with no significant past medical history presented with heart failure symptoms secondary to severe mitral regurgitation. She was referred for mitral valve repair with the intention of valve preservation. Initial transthoracic echocardiography (TTE) suggested that the regurgitation was caused by a ruptured chord resulting in prolapse of the A2 segment.

However, intraoperative inspection revealed the true mechanism: an aberrant chordae tendineae inserting anomalously into the anterior wall of the left atrium. Rather than attaching to a papillary muscle, the aberrant chord originated from the A2 scallop and extended abnormally forward and upward toward the anterior atrial wall.

Although the leaflet appeared “prolapsed” on preoperative imaging, the underlying mechanism was actually a paradoxical tethering phenomenon. The aberrant chord restricted the systolic motion of A2 and distorted its normal

vector of movement, pulling the leaflet anteriorly and away from the posterior leaflet. This abnormal tension created a persistent coaptation defect and resulted in a central jet of mitral regurgitation.

Excision of the aberrant chord immediately relieved the abnormal tethering. Reconstruction with polytetrafluoroethylene (Gore-Tex) neochords restored physiologic leaflet support, and annuloplasty re-established normal annular geometry, together achieving durable systolic coaptation.

Intraoperative transesophageal echocardiography confirmed excellent valve function with only minimal residual regurgitation. The patient had an uneventful recovery and was discharged on postoperative day four.

Aberrantly inserted chordae tendineae are an exceedingly rare cause of mitral valve dysfunction. Prompt surgical recognition and correction can allow successful valve preservation with excellent clinical outcomes.

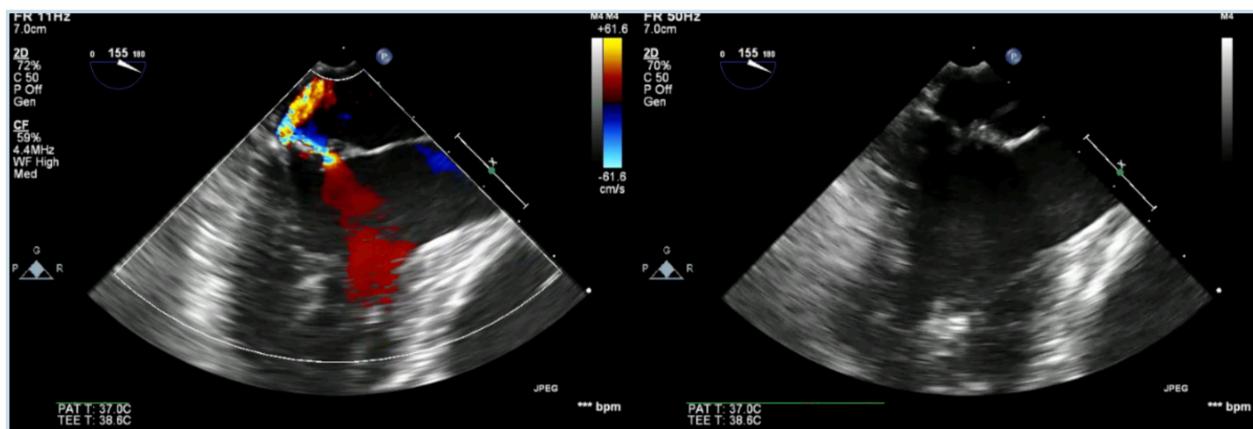


Figure 1

Pre-operative TEE with eccentric mitral regurgitation, previously attributed to a chordal rupture.

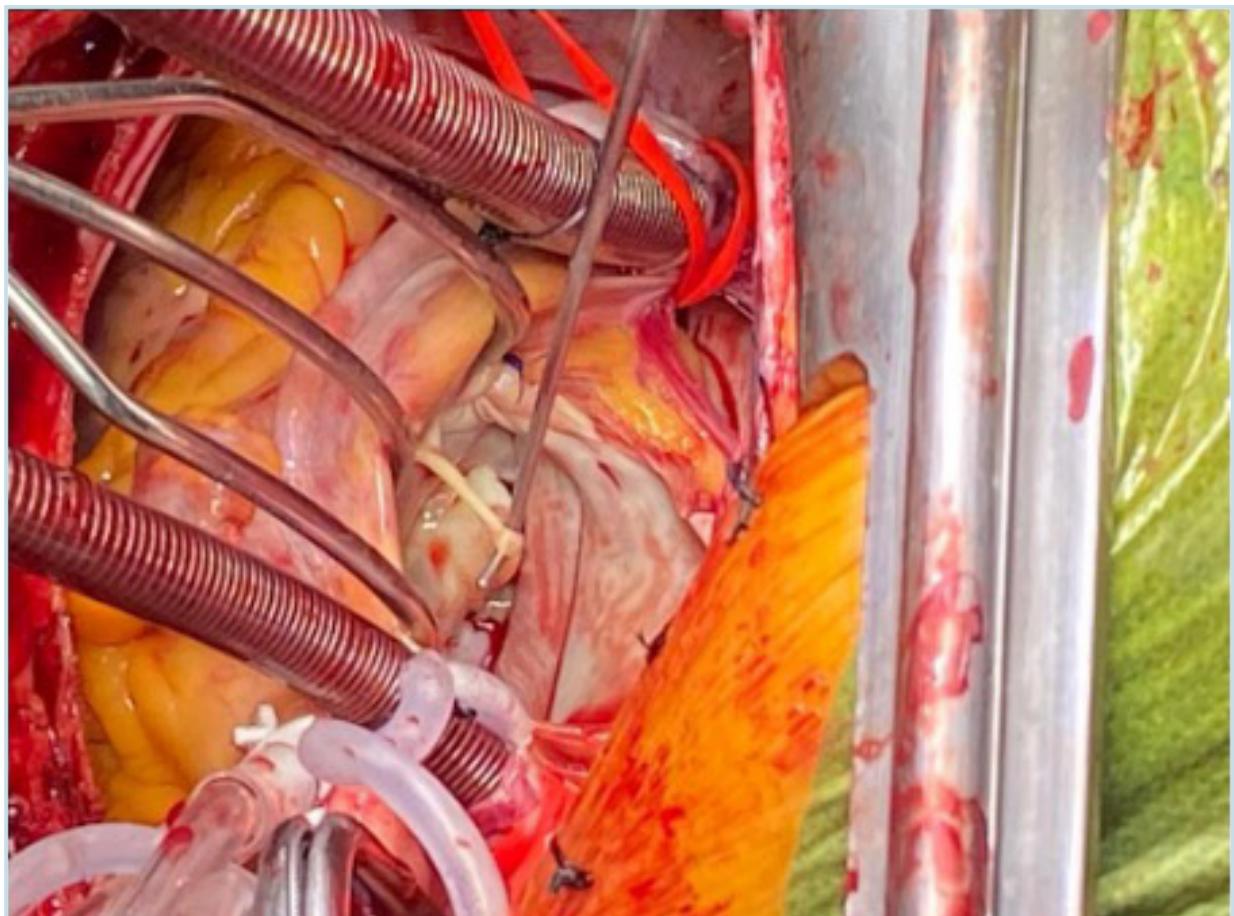


Figure 2

Intra-operative finding of anomalous chordae insertion in left atrial wall.

