A rare cause of MINOCA: Embolism of a thrombus arising from accessory mitral valve tissue

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Conflict of Interest Statement

All authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

A 51-year-old lady with underlying hypertension presented with angina. Electrocardiogram showed no ischemic changes, but the highly sensitive Troponin I was 203.3ng/L (reference range≤26.2ng/L). Transthoracic echocardiogram demonstrated a left ventricular ejection fraction of 65% with no regional wall motion abnormality but suspicion of posterior mitral valve (MV) leaflet mass with trivial mitral regurgitation with no evidence of valve stenosis. (Panel A, *supplementary material online, video S1*). Coronary angiogram demonstrated 20% stenosis at the distal left anterior descending artery. Therefore, a diagnosis of myocardial infarction with non-obstructive coronary arteries (MINOCA) was made and was treated with dual antiplatelet therapy. The cardiovascular magnetic resonance (CMR) performed 3 weeks later demonstrated focal near transmural late gadolinium enhancement of the basal anterolateral segment, confirming the diagnosis of myocardial infarction (Panel B). Incidentally, a mobile mass on cine images was attached to the posterior MV leaflet (Panel C). A transesophageal echocardiogram demonstrated a mobile bilobed elongated mass measuring 17x6mm arising from the tip of the P2 leaflet of the MV on the atrial aspect with trivial mitral regurgitation. (Panel D and E *supplementary material online, video S2 and S3*). C-reactive protein and three sets of blood cultures were negative, excluding infective endocarditis.

She underwent minimally invasive excision of MV mass. Intraoperatively, the bilobed mass (2x1cm) was attached to the tip of the P2 MV leaflet (Panel F) and was excised en-block, preserving the MV. The mass appeared to have an irregular papillary surface (Panel G). Histopathology demonstrated normal accessory MV tissue with attached white thrombus (Panel H). The patient recovered well, and the echocardiogram showed a good MV function with trivial mitral regurgitation at follow-up. This case demonstrated the thrombus embolisation arising from accessory MV tissue causing MINOCA.

Legends

FIGURE 1*: **A**: Initial echocardiogram demonstrated suspicion of a MV leaflet mass. **B**: CMR demonstrated near-transmural late gadolinium enhancement of the basal anterolateral segment. **C**: Mobile mass attached to the posterior MV leaflet on CMR. **D and E**: Transesophageal echocardiogram demonstrated a mobile mass arising from the tip of the P2 leaflet of the MV. **F**: Intraoperative findings of the bilobed mass attached to the tip of the P2 MV leaflet. **G**: Gross appearance shows an irregular papillary surface. **H**: Histopathology demonstrated normal accessory MV tissue with attached white thrombus.*

Statement of consent:

The patient provided written informed consent for data collection and publication. This manuscript does not provide personal identifying information.

Data availability statement

The data underlying this article will be shared on reasonable request to the corresponding author.

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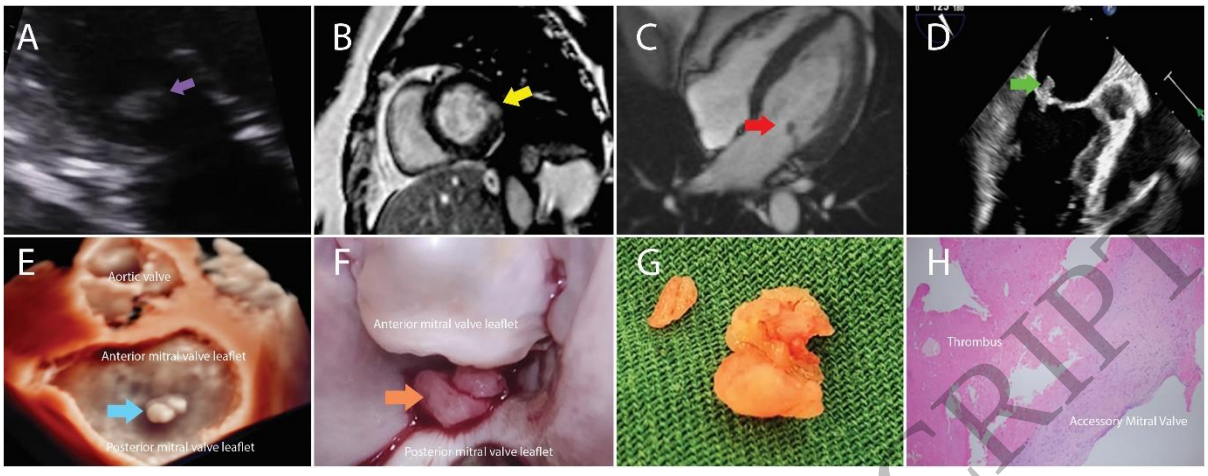

Figure 1
159x61 mm (x DPI)