Clinical vignette

Prominent posterior mitral annular calcification causing embolic stroke and mimicking left atrial fibroma

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A 74-year-old woman status post-resection for hypertrophic cardiomyopathy was found to have a left atrial mass in the posterior mitral annulus encroaching upon and causing mitral stenosis. The differential diagnosis on transthoracic echocardiogram was a mitral annular fibroma or dense posterior mitral annular calcification (Panel A). Cardiac CT showed areas of calcification in the mass (Panel B). While awaiting further evaluation, she presented with embolic stroke. MRI of the brain showed large acute infarction in the right posterior cerebral and multiple other small acute infarcts. MRA of the circle of Willis showed cutoff at the right posterior cerebral artery, consistent with the appearance of embolus.

Repeated echocardiogram showed a decrease in the left atrial mass size, flattening with an echolucent centre (Panel C). There was no other intra-cardiac source of embolism on transesophageal echocardiography. Cardiac MRI showed contiguity of the tubular intra-cardiac mass with the left atrium and the posterior mitral leaflet. Signal seen within the mass centre is of the same intensity as the blood pool in the cine steady-state free precession images, with some peripheral areas of signal voids suggesting calcifications (Panel D). Cardiac catheterization revealed no evidence of significant coronary artery disease and no evidence of tumour blush.

She underwent surgery. Upon opening the mitral valve, there was a mass in the posterior annulus, which was firm, and upon incision, a cavity containing calcium and caseous material was cleared and irrigated. Post-operatively, she was anticoagulated. Follow-up echocardiography showed further reduction in the size of the posterior mitral annular calcification.