

164. Initial Presentation of Severe Aortic Stenosis as ST Elevation Myocardial Infarction

Maggie He, William Tsai, Cheng He, Kuljit Singh, Gold Coast University Hospital, Gold Coast, Australia

Body

Background: A 75-year-old man presented with an acute anterolateral ST-elevation myocardial infarction (STEMI) and ongoing chest discomfort. He had no known medical background and was previously active with no exertional symptoms.

Case: An emergent invasive coronary angiogram demonstrated no obstructive coronary disease with TIMI III flow and no evidence of plaque rupture (Figure 1). A bedside transthoracic echocardiogram revealed severe calcific aortic stenosis (AS) with an aortic valve Vmax 4.5 m/s, mean transvalvular pressure gradient of 48 mmHg. Because of ongoing chest pain and ST-elevation he was taken for emergent aortic valve replacement surgery. The operative findings were of severe tri-leaflet AS, extremely calcific non-coronary leaflet and a mobile leaflet lesion pointing towards the left main coronary ostium (Figure 2). A 25 mm Carpentier-Edwards PERIMOUNT Magna Ease Bioprosthesis (Edwards Lifesciences, Irvine, CA, USA) valve was implanted, after resection of the diseased leaflets and careful annulus debridement of calcium. The patient had an uneventful recovery and was discharged home on postoperative day 7. Histopathology of the valve leaflets demonstrated findings consistent with calcific aortic stenosis; myxoid degeneration and nodular calcifications. Leaflet tissue microscopy and cultures were negative.

Discussion: Only few isolated case reports have described AS presenting with STEMI. It was interesting to note the unusual morphology of the focal coronary leaflet calcification, making possible that there was dynamic occlusion of the left coronary ostium, similar to a ball-valve effect, causing ongoing myocardial ischemia. The differentials for this case include global ischemia due to abnormal cardiac coronary coupling or associated calcium emboli. The unique initial presentation of severe AS presenting as an acute anterolateral STEMI, and the striking image taken by the surgeon highlights an uncommon complication of severe calcific AS.

Figure Legend:

Figure 1: Coronary angiography showing TIMI III flow

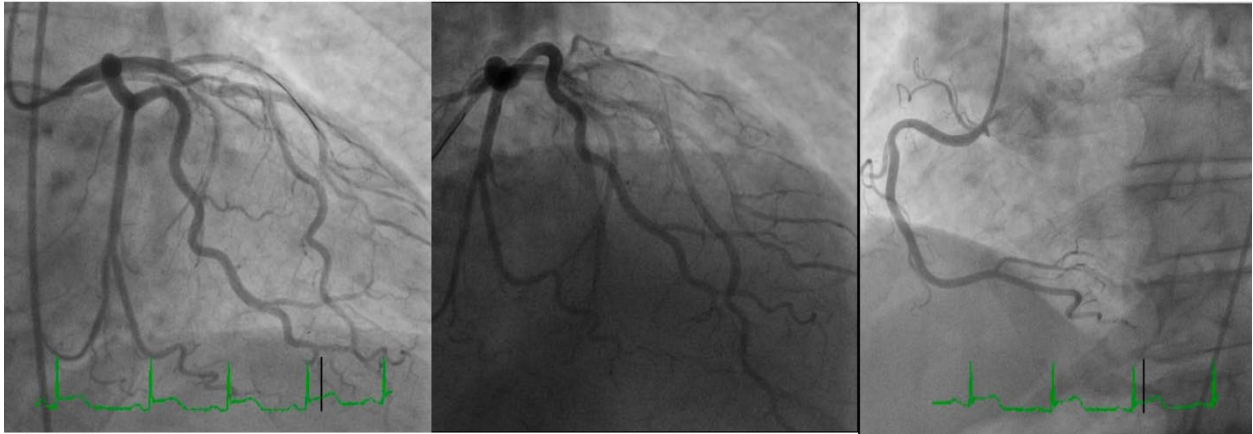


Figure 2: An extremely calcific non-coronary leaflet (black arrow) and a mobile leaflet lesion (white arrow) pointing towards the left coronary ostium

