


CLINICAL VIGNETTE

Unicuspid aortic valve: an interesting presentation

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A 52-year-old male presented with acute onset chest pain and ST-segment elevation myocardial infarction (Panel A). An urgent cardiac catheterization was performed which showed a filling defect in the left anterior descending (LAD) artery (Panel B). After failure at attempts to reperfuse the LAD, the patient underwent emergent cardiopulmonary bypass surgery with a left internal mammary graft to LAD. He was found to have clam shell-like severely calcified unicuspid aortic valve (Panels C and D) that was replaced with a porcine valve. Very hard, embolic material was found at the bifurcation of the diagonal LAD which was later determined to be calcium. The embolic calcium is thought to have originated from the calcified unicuspid aortic valve.

Patient was also found to have a dilated, calcified ascending aorta (5.8 cm in diameter) that was electively replaced 5 months later.

Unicuspid aortic valve is a rare, but well-described paediatric congenital anomaly. In a retrospective series, the incidence of unicuspid aortic valve on echocardiography was found to be 0.02% in adults.

This population was also shown to have significant ascending aortic dilatation requiring accompanying aortic transplant while replacing the valve. Another observation has been the abundance of calcification associated with unicuspid valve.

Dyspnoea on exertion, angina, and few cases of monocular blindness due to retinal artery emboli have been described as some presenting symptoms.

To our knowledge, this is the first case report of acute myocardial infarction with a calcium embolus from a unicuspid aortic valve. Panel A. A 12-lead ECG showing ST-segment elevation in leads V2–V4 (arrows). Panel B. A coronary angiography of the left anterior descending artery showing a filling defect (arrow) suggestive of an embolus. Panel C. Severe calcification demonstrated on the unicuspid aortic valve. Arrow indicates the possible source of embolus in this patient. Panel D. A post-aortic valve replacement operation specimen of a clam shell-like unicuspid aortic valve (arrow).