



Interesting Case 2

Courtesy Dr Christian Hamilton-Craig, Prince Charles Hospital

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A 39 year old man presents with chest pain on a background of cervicle spondylosis and depression.

Treadmill Nuclear SPECT is performed with a suboptimal result due to severe headache during stress-treadmill test, concluding "possible mild reversible defect in the apical myocardium at submaximal stress", at a radiation dose of 13 mSv.

He is reviewed by a cardiologist, who arranges a coronary CT angiogram to exclude significant obstructive coronary disease.

The patient weighed 85kg, with a resting heart rate of 88bpm sinus rhythm, normal conduction. A 'stat' dose of 200mg oral metoprolol was given by the attending cardiologist with appropriate heart rate reduction to 58bpm after 45mintues.

CCTA was performed on a dual-source Siemens SOMATON scanner using prospective gating, tube voltage of 100kV with bolus-tracking in the descending thoracic aorta at 150 HU. Effective dose 2 mSv.



DS_CorCTA 0.75 B26f BestDiast 74 %

SP A683.8

RAF

Manip VRT

LAO/RAO -21

CRAN/CAUD 18



HRP

LAD

RCA

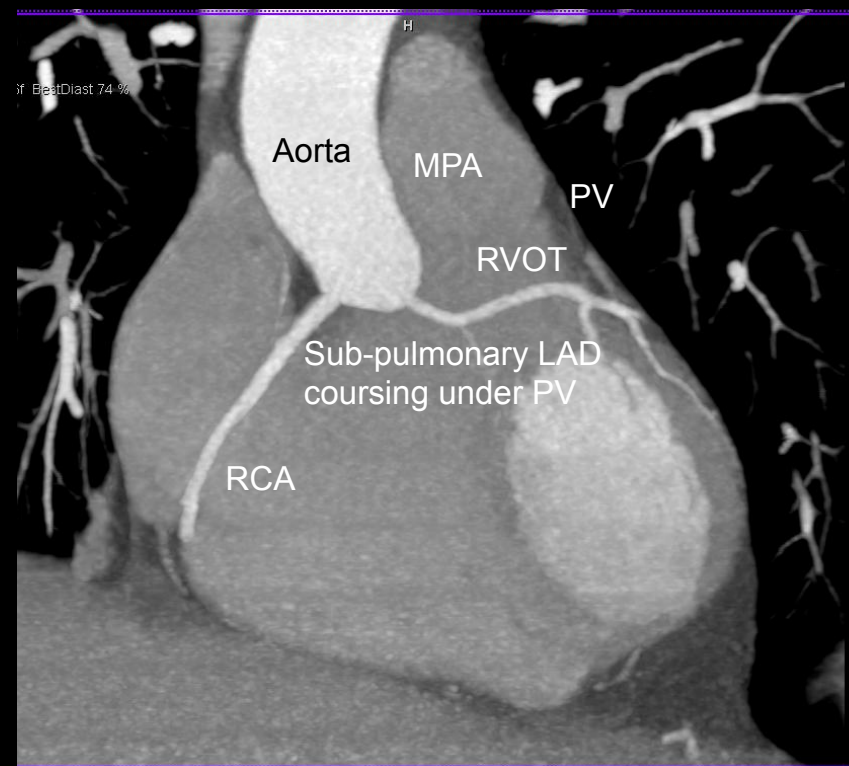
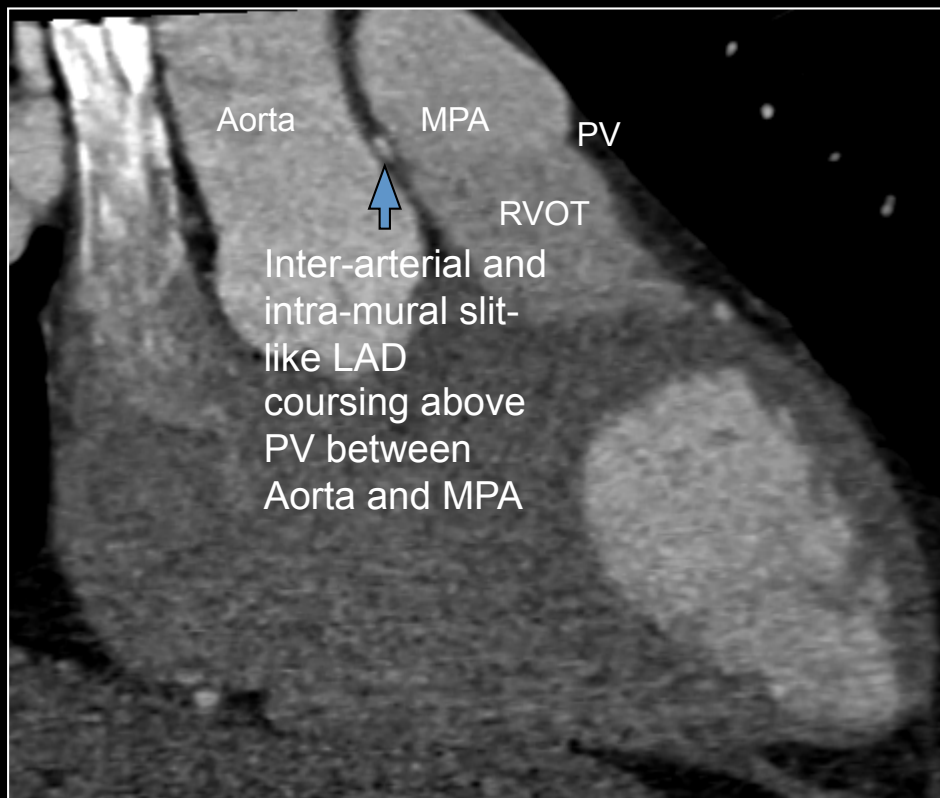
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5cm







Results

- The images demonstrate the rare coronary anomaly of a left anterior descending artery arising from the right coronary cusp, and following a non-malignant sub-pulmonary course. The RCA and LCx arise normally. There was no coronary artery disease. He was discharged with reassurance and a normal prognosis.

Abherent left coronary arteries fall into 4 groups, based on the origin and proximal course

1. Pre-pulmonary course over the RVOT and entering the inter-ventricular groove; benign
2. Sub-pulmonary (septal) course, running under the RVOT inferior to the pulmonary valve and entering the inter-ventricular groove; benign (not to be confused with inter-arterial course, see below)
3. Retro-aortic course, behind and inferior to the aortic root; benign
4. Inter-arterial course, often with a slit-like orifice running intra-murally within the aortic wall itself, then coursing between the MPA and aortic root (above the pulmonary valve level) and associated with sudden cardiac death; malignant.