

Images in Congenital Cardiac Disease

Anomalous origin of the right coronary artery from the pulmonary artery

Catarina Sousa,¹ Pedro Gonçalves,² Isabel Ribeiro³

¹Centro Hospitalar Lisboa Norte – Hospital Pulido Valente; ²Hospital Luz, Lisbon; ³Centro de Medicina Médico-Dentaria, Portalegre, Portugal

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Case report

A 57-YEAR-OLD WOMAN PRESENTED WITH ATYPICAL complaints of fatigue. Her past medical history and physical examination were unremarkable. Electrocardiogram and echocardiogram were normal.

Treadmill exercise testing was positive for ischaemia and myocardial perfusion scan was suggestive of mild anterior wall ischaemia, more pronounced in the apical segment. Cardiac catheterisation revealed a preserved ejection fraction (70%), no abnormal wall kinetics and no significant lesions in the left main, left descendant, and circumflex arteries. The right coronary artery was not catheterised, but contrast medium injection in the left main artery filled the right coronary artery retrogradely into (apparently) the left coronary sinus.

Computed tomographic coronary angiography was performed with a 64-slice scanner and the intravenous contrast medium injection showed the right coronary artery arising from the pulmonary trunk and being filled retrogradely from the left coronary circulation – no significant atherosclerotic lesions were identified (Fig 1). With a heart rate of 83 beats per minute and the use of electrocardiographic pulsing and 100 kilovolts, it was possible to perform low-radiation dose cardiac computed tomography at 4.1 millisievert.

A stress echocardiogram with dobutamine and atropine was negative for ischaemia.

The patient has been asymptomatic and is under beta-blocker; the decision not to intervene surgically was taken as no ischaemia from the right coronary artery territory is demonstrable.

Correspondence to: C. Sousa, Centro Hospitalar Lisboa Norte – Hospital Pulido Valente, Alameda Linhas Torres 117, 1769-001 Lisboa, Portugal. Tel: 00351-217548000; E-mail: sousa.cat@gmail.com

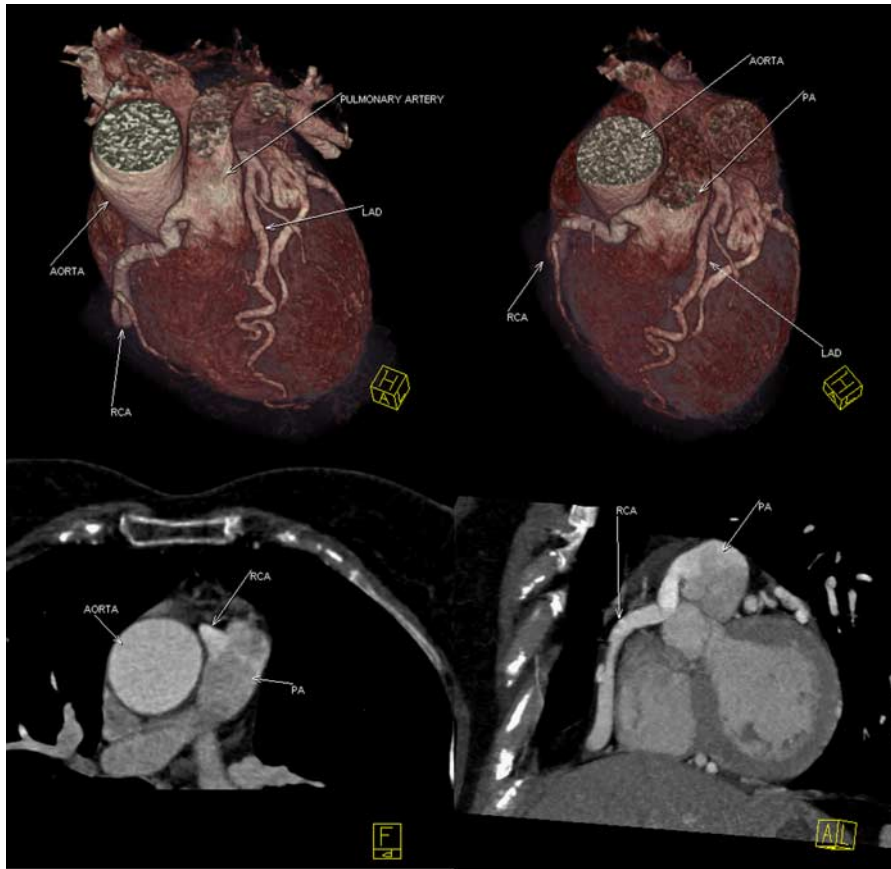


Figure 1.

The top two images represent volume-rendering technique reconstructions and the bottom two images are maximum intensity projection – the right coronary artery can be seen arising from the pulmonary trunk.