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Cardiovascular magnetic resonance imaging and computed tomography in patients with suspected coronary artery disease

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Addendum 2

One coronary artery, three abnormalities

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A 57-year-old man with atypical chest pain was referred for computed tomography coronary angiography (CTCA) (256 slice, Philips Brilliance iCT). CTCA showed three distinct abnormalities in the right coronary artery (RCA). First, the RCA had an anomalous origin from the ascending aorta, 3 cm distal to the right coronary sinus, with a proximal inter-arterial course between aorta and pulmonary trunk (figure 1, Panel A). Second, the proximal RCA was occluded by calcified atherosclerotic plaque (Panel B, black arrow). Third, distal of the occlusion, a thrombosed aneurysm (29x27 mm) was found (Panel B, white arrow). Invasive coronary angiography confirmed proximal occlusion of the aberrant RCA (Panel C) with collateral retrograde filling from the circumflex coronary artery. Additional adenosine stress first pass magnetic resonance myocardial perfusion imaging showed a reversible myocardial perfusion defect in the inferoseptal and inferior wall (Panel D). The patient received optimal medical therapy. This case illustrates how CTCA can visualize different features of coronary artery disease.

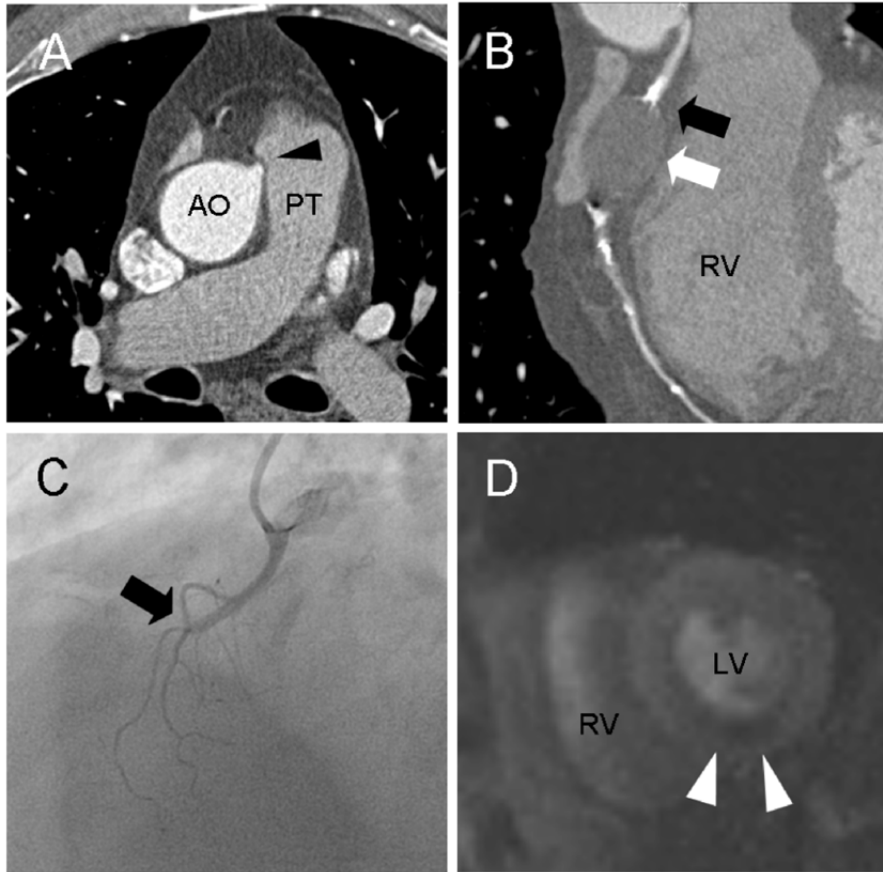


Figure 1. Panel A and B: Computed tomography coronary angiography images (A: axial orientation at the level of bifurcation of pulmonary trunk; B: Curved multiplanar reconstruction of anomalous right coronary artery); Panel C: Invasive coronary angiography image of right coronary artery; Panel D: First pass cardiovascular magnetic resonance image during adenosine stress in mid ventricular short axis orientation
RV: right ventricle; LV: left ventricle; AO: aorta; PT: pulmonary trunk