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## IMAGE FOCUS

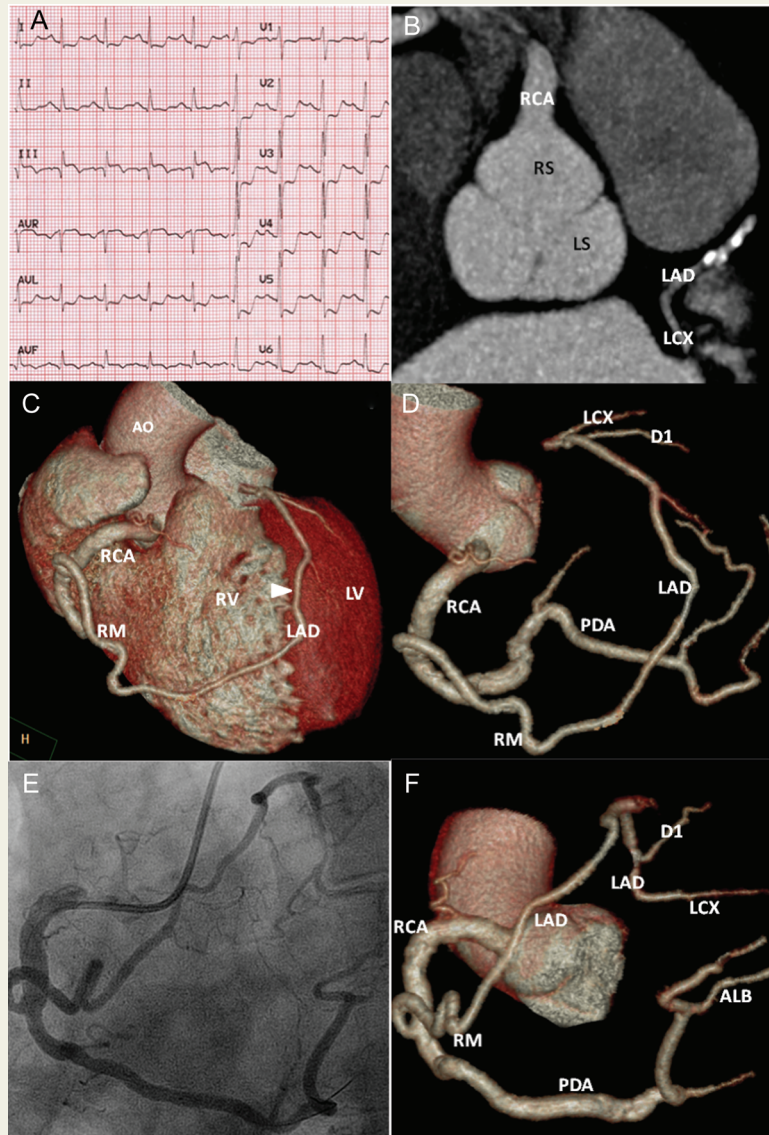
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## STEMI revealing an exceptional variant of single right coronary artery

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A 58-year-old man with hypercholesterolaemia was admitted for acute coronary syndrome with ST-segment elevation in inferior ECG derivations and ST-segment depression in antero-lateral ECG derivations (Panel A). The patient underwent emergency coronary catheterization. Subtotal occlusion of the third segment of the right coronary artery (RCA) (Supplementary data online, *Movie S1*) was successfully treated by stenting. No ostium for the left coronary artery (LCA) was found. Interestingly, the left ascending (LAD) and left circumflex arteries (LCX) angiograms were obtained through RCA opacification. Retrospective ECG-gated 256 detector-row coronary CT angiography (Philips ICT, Cleveland, USA, radiation dose: 14 mSv) demonstrated no LCA originating from the left sinus of Valsalva (LS) but a dominant RCA arising from the right sinus (Panel B). A large right marginal artery (RM) arising from the second part of RCA reached the inferior part of the anterior interventricular sulcus and supplied LAD by 'retrograde flow' (arrow Panels C and D). In its posterior part, LAD supplied LCX (Panels E and F and Supplementary data online, *Movie S2*). The lateral left ventricular wall was almost exclusively supplied by ascending lateral branches originating from posterior descending artery, explaining the ECG abnormalities. A single coronary artery is rare (incidence: 0.04%). To the best of our knowledge single RCA with LAD and LCX originating from RM has never been reported. Multidetector CT is the optimal imaging technology for detection and characterization of congenital coronary anomalies and is a useful complementary tool for coronary angiography.

Supplementary data are available at *European Heart Journal – Cardiovascular Imaging* online.

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