

Unique anomaly of the left coronary system

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A 45-year-old man with prior history of cognitive, visual, and auditory deficits and a horseshoe kidney presented with tiredness, dyspnea on exertion, and atypical chest pain. Physical examination was unremarkable. His electrocardiogram showed sinus rhythm and left axis deviation while echocardiography demonstrated global hypokinesia of the left ventricle (LV) with mildly reduced ejection fraction. In this setting, computed tomog-

raphy coronary angiography (CTCA) was performed, showing an anomalous origin of the left main artery (LM) from a separate ostium located in the right aortic sinus of Valsalva. Immediately after its origin, the LM bifurcated into the left anterior descending artery (LAD) that presented a prepulmonic course and the circumflex artery (LCx) with a subpulmonic position (Figure 1). No compression or luminal narrowing was present.

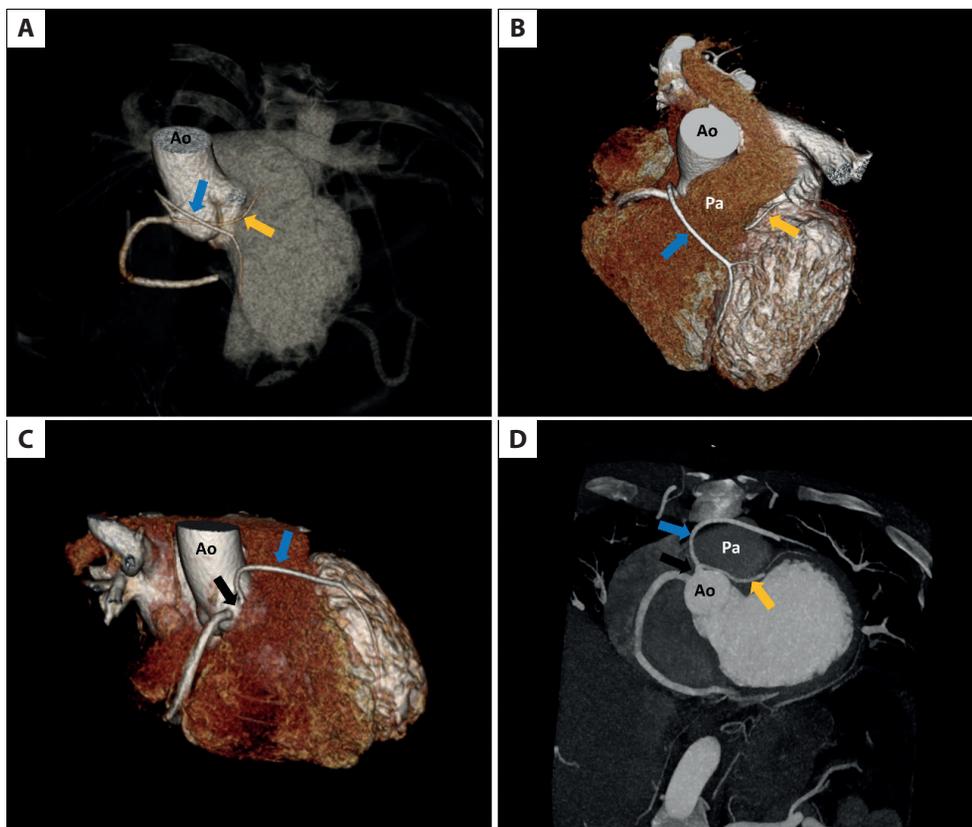


Figure 1. Three-dimensional computed tomography reconstruction (A–C) and MIP (D) images showing an anomalous origin of the left main artery from the right coronary sinus (black arrow), and prepulmonic course of the LAD (blue arrow) and subpulmonic course of the LCx (orange arrow)

Abbreviations: Ao, aorta; LAD, left anterior descending artery; LCx, left circumflex artery; MIP, maximum intensity projection; Pa, pulmonary artery

The right coronary artery had a normal origin and course. Cardiac magnetic resonance (CMR) showed a non-dilated LV with mild systolic dysfunction, with normal native T1 and no late gadolinium enhancement. There was no evidence of ischemia on adenosine stress-perfusion CMR. No clear etiology for LV dysfunction was identified. Given the benign course of the coronary arteries, the patient was kept under optimal medical management.

Anomalous origin of the coronary arteries is a rare finding [1]. When present, it is pivotal to rule out malignant courses and other high-risk anatomical features. CTCA can be particularly useful in depicting the course of the vessels and their relationships with surrounding structures [2, 3]. This is, to the best of our knowledge, the first case description of the LM originating in the right aortic sinus of Valsalva, with the LAD and LCx having two independent and different benign courses.

Article information

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