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# Common origin of the coronary arteries from the right sinus with intramyocardial course of the anterior descent artery

Origem anômala comum coronariana do seio direito com trajeto intramiocárdico da artéria descendente anterior

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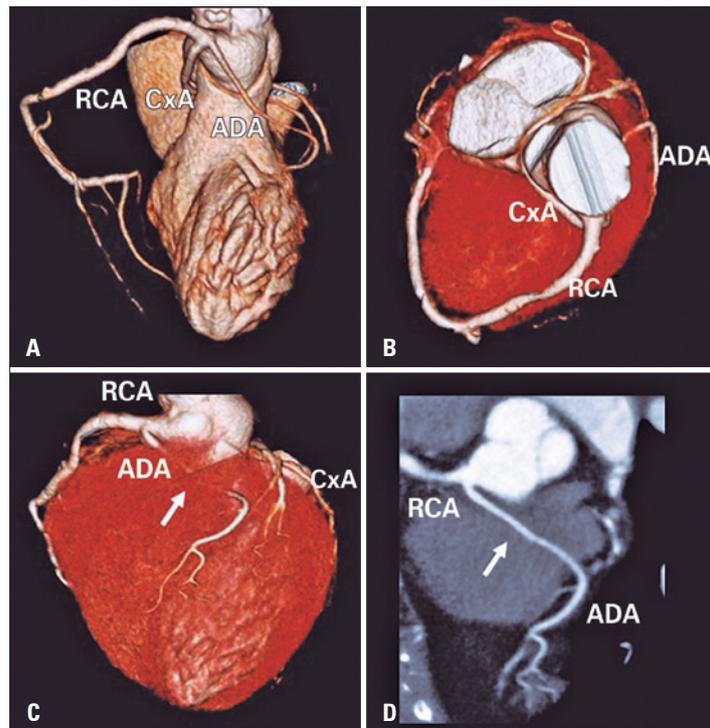
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RCA: right coronary artery; CxA: circumflex artery; ADA: anterior descending artery.

**Figure 1.** Tridimensional volumetric reconstruction. Right lateral view (A), cranial view (B), anterior view (C) and multiplanar reconstruction (D) of coronary angiogram showing the common origin of coronary arteries through a short common trunk, emerging from right Valsalva sinus and trifurcating into right coronary artery, circumflex artery, anterior descending artery, and highlighting both an intra-arterial course of anterior descending artery, between aorta and pulmonary trunk, and a long proximal intramyocardial course (arrow)

A 62-year-old patient referred to coronary angiogram due to ischemic changes detected in an exercise stress test. The patient reported hypertension and dyslipidemia, both controlled with drug treatment and regular physical exercise. She didn't have any cardiovascular complaints and her physical examination was unremarkable.

Coronary angiotomography showed common origin of coronary arteries through a short common trunk, emerging from the right Valsalva sinus and trifurcating into right coronary artery (RCA), circumflex artery (CxA) and anterior descending artery (ADA). The RCA had habitual course and gives rise to the posterior descending artery (right-dominance). The CxA had a small caliber and retroaortic course without luminal. The ADA had an important angulation in its origin, interarterial course in subvalvar plan and a long proximal intramyocardial segment, where it exhibited a reduction of its diameter, without plaques or parietal changes (Figure 1).

Anomalies of origin and coronary course are relatively common findings,<sup>(1)</sup> and they can generate ischemia or have no clinical significance. The coronary angiotomography is the goldstandard for anatomy assessment showing coronary courses and their myocardial relationship,<sup>(1-6)</sup> elegantly depicted by volumetric reconstructions. Among described anomalies, reports about common origin of the coronary arteries by single trunk from the right Valsalva sinus are rare.<sup>(2-4)</sup> To the best of our knowledge, the association of this set of findings with a long intramyocardial course of the anterior descending artery, determining local vessel compression in ideal conditions of exam (diastolic acquisition with vasodilation and heart rate

control) was not previous reported in the published literature, therefore, this is the first case to be reported.

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