

Case Report

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Anomalous Right Coronary Artery Origin



Solomon W Bienstock¹, Haneen Ali² and Benjamin T Galen^{3*}

¹Internal Medicine Residency Program, Mount Sinai School of Medicine, USA

²Department of Radiology, Albert Einstein College of Medicine and Montefiore Medical Center, USA

³Department of Internal Medicine, Albert Einstein College of Medicine and Montefiore Medical Center, USA

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***Corresponding author:** Benjamin T Galen, Department of Internal Medicine, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York, USA, Tel: 718-904-2400; Fax: 718-904-2827; Email: BGalen@montefiore.org

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Case Report

A 59-year-old woman with a history of hypertension and mild asthma was brought to the emergency department complaining of acute onset chest pain. Electrocardiogram en-route by EMS showed ST-segment elevations in inferior leads, which normalized on arrival to the emergency department thirty minutes later. Initial serum troponin-T was 0.12ng/ml (reference range: 0.0-0.1ng/ml). Coronary angiography revealed a suspected culprit, apical “wrap-around” distal LAD stenosis with vasospasm and a difficult to engage right coronary artery (RCA) with 40% ostial stenosis. Her symptoms improved with intravenous nitroglycerin. Coronary computed tomography angiography showed an anomalous RCA arising from a separate origin in the left sinus of valsalva, with an “intramural” (within the wall of the aorta) and “inter-arterial” course (between the aorta and pulmonary artery) (Figure 1 & 2). Given that the patient’s EKG findings and presentation could also have been due to RCA compression and that the inter-arterial course of an anomalous RCA has historically been associated with a poor prognosis (even sudden cardiac death), she was referred for surgery [1,2]. The patient did well with a single vessel bypass of the RCA with a saphenous vein graft without recurrent chest symptoms.



Figure 1: 3D volume rendered reconstruction of the heart and coronary arteries (RCA at arrow). The right ventricular outflow tract has been partially removed for better visualization of the coronary arteries.

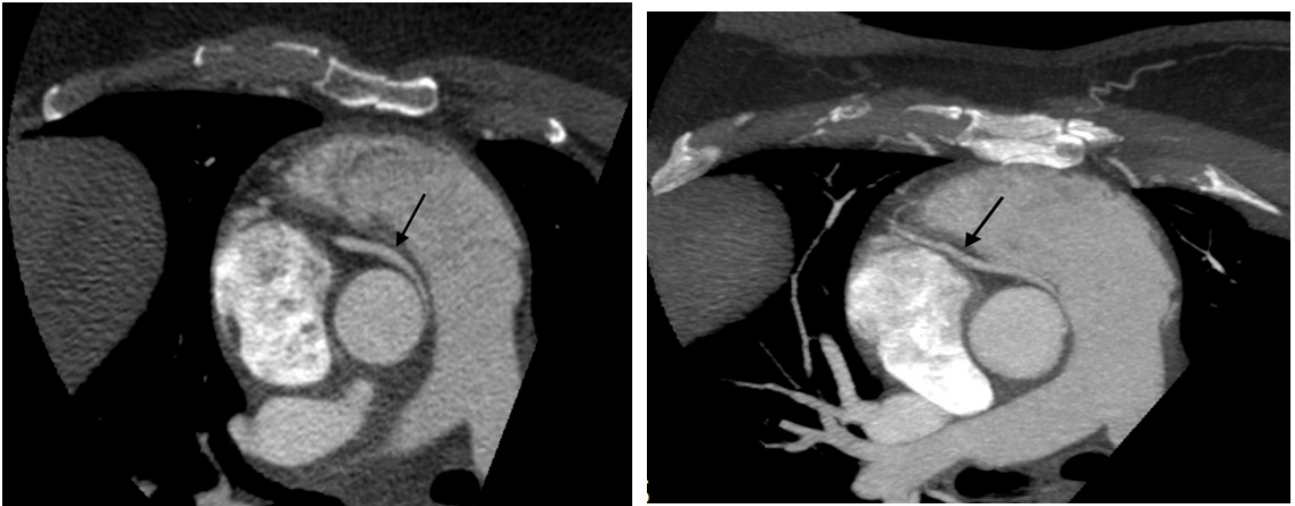


Figure 2: Corresponding axial images of the right coronary artery at two levels (black arrows).

References

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