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### Authors

Shekar, Chandana  
Cherukuri, Lavanya  
Dailing, Christopher  
et al.

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## A case of isolated right coronary ostial atresia

Chandana Shekar, Lavanya Cherukuri, Christopher Dailing, Matthew J. Budoff and Sion K. Roy, Los Angeles Biomedical Research Institute, Torrance, CA, USA

Correspondence to Chandana C. Shekar, MD, Los Angeles Biomedical Research Institute, 1124 W Carson Street, Dept. of Cardiology, CDCRC 2nd floor, Torrance, CA 90502, USA  
Tel: +31 0974 9335; fax: +31 0533 1616; e-mails: cshekar987@gmail.com, chandana.shekar@labiomed.org

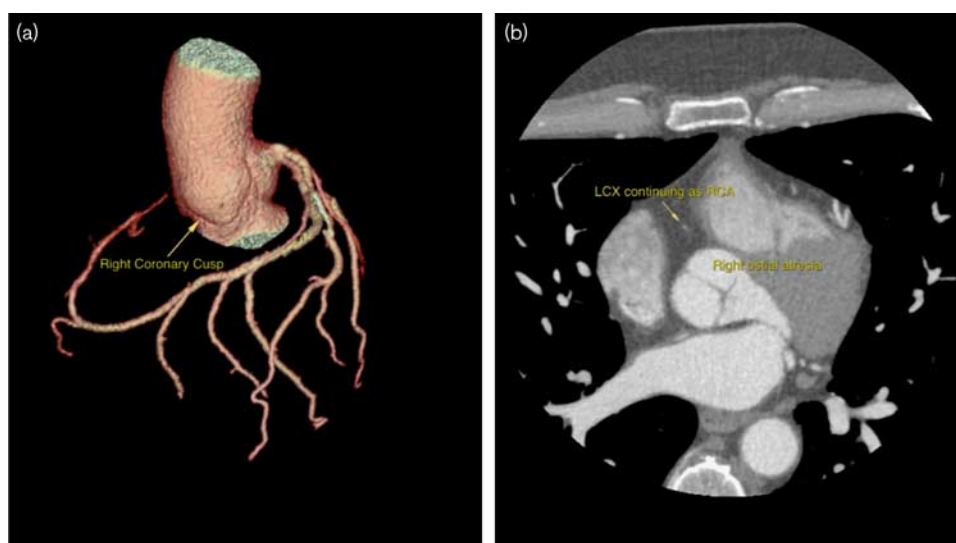
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A 58-year-old male firefighter with hypertension, hyperlipidemia, family history of coronary artery disease, and a current smoker, underwent coronary artery calcium scanning as part of a screening program. He was asymptomatic and physical examination was within normal limits. With coronary artery calcium score of 210, he underwent a coronary computed tomography angiography (CCTA). On the CCTA, no right coronary artery (RCA) was seen, and no ostial stump was noted at the right coronary cusp. The left circumflex artery (LCX) continued through the left atrioventricular groove to the right atrioventricular groove, tapering off just before the

right ostium. Origin of the vessel could not be shown from the right coronary cusp (Figs 1 and 2). A diagnosis of right coronary ostial atresia was made.

Coronary ostial atresia is uncommon, with right-sided atresia being exceedingly rare. To the best of our knowledge, there have been less than five cases of right coronary ostial atresia without accompanying structural defects reported in the literature [1]. The absence of right coronary ostial stump, filling of the RCA by the LCX, absence of typical clinical angina, and absence of myocardial scarring are suggestive of coronary ostial atresia [2]. RCA arising from the LCX, without ostial atresia has also been reported. It is a benign congenital anomaly with an incidence of ~0.035%. It can be hypothesized that the LCX, which carries the entire burden of the coronary circulation, could be more prone to shear stress and therefore more atherosclerosis. The small caliber of the artery supplying the right, delay in blood delivery to the right-sided myocardium could also be reasons for ischemia to develop. CCTA not only helps delineate the coronary artery anatomy, course, and stenosis, but also helps evaluate for

Fig. 1



(a) Volume rendering image of left circumflex (LCX) artery continuing as right coronary artery (RCA), tapering near the right coronary cusp. No vessel origin or stump noted at the right coronary cusp. (b) Axial view showing left circumflex artery ending as the RCA. No RCA origin is seen from the right coronary cusp.

Fig. 2



(a) Long course of left circumflex (LCX) artery. (b) Angiographic view of the long left circumflex artery. RCA, right coronary artery.

coexistent congenital abnormalities. The noninvasive nature and lower radiation dose are an added advantage.

### Acknowledgements

### Conflicts of interest

There are no conflicts of interest.

### References

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