

## RE: Anomalous Cardiac Venous Connection to the Left Atrium Associated with Coronary Sinus Atresia

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Dear Editor,

We read with interest the article of Chou et al. (1). The authors reviewed the multidetector computed tomography (CT) findings of congenital coronary sinus anomalies and reported two cases of coronary sinus anomaly. We would like to share our observations, with respect to coronary sinus anomalies, with our colleagues.

For better clinical outcomes, coronary venous variations should be recognized in the pre-operative planning of numerous cardiac surgical interventions (2). Thus, attention should be directed on the coronary venous anatomy as well as the coronary arterial system. We encountered coronary sinus anomaly in two patients who underwent coronary CT angiography. In the first case, the right atrial coronary sinus ostium was atresic (Fig. 1). Hypoplastic persistent left superior vena cava, great cardiac vein, median cardiac vein,

and small cardiac veins were joined to a connecting channel. This channel, probably the levoatriocardinal vein, was found to drain into the left atrium. This case was similar with the case 1 in the article of Chou et al. (1). In the second case, the right atrial ostium of the coronary sinus was again atresi and an abnormal tubular communication between the coronary sinus and the left atrium coexisted and drained into the left atrium. However this case was different from the first one in two ways. Firstly, there were two tortuous, connecting channels, instead of one draining into the left atrium. Secondly, there was a coexisting tortuous tubular connection between the small cardiac vein, which was also draining into the coronary sinus, and the right atrium (Fig. 2). We encountered only one report that was similar with our second case in the English literature (3). Coronary CT angiography provides reliable non-invasive information of cardiac venous anatomy and, since these anomalies are important, especially in cardiovascular surgical interventions, they should be recognized and indicated in the radiological reports.

## REFERENCES

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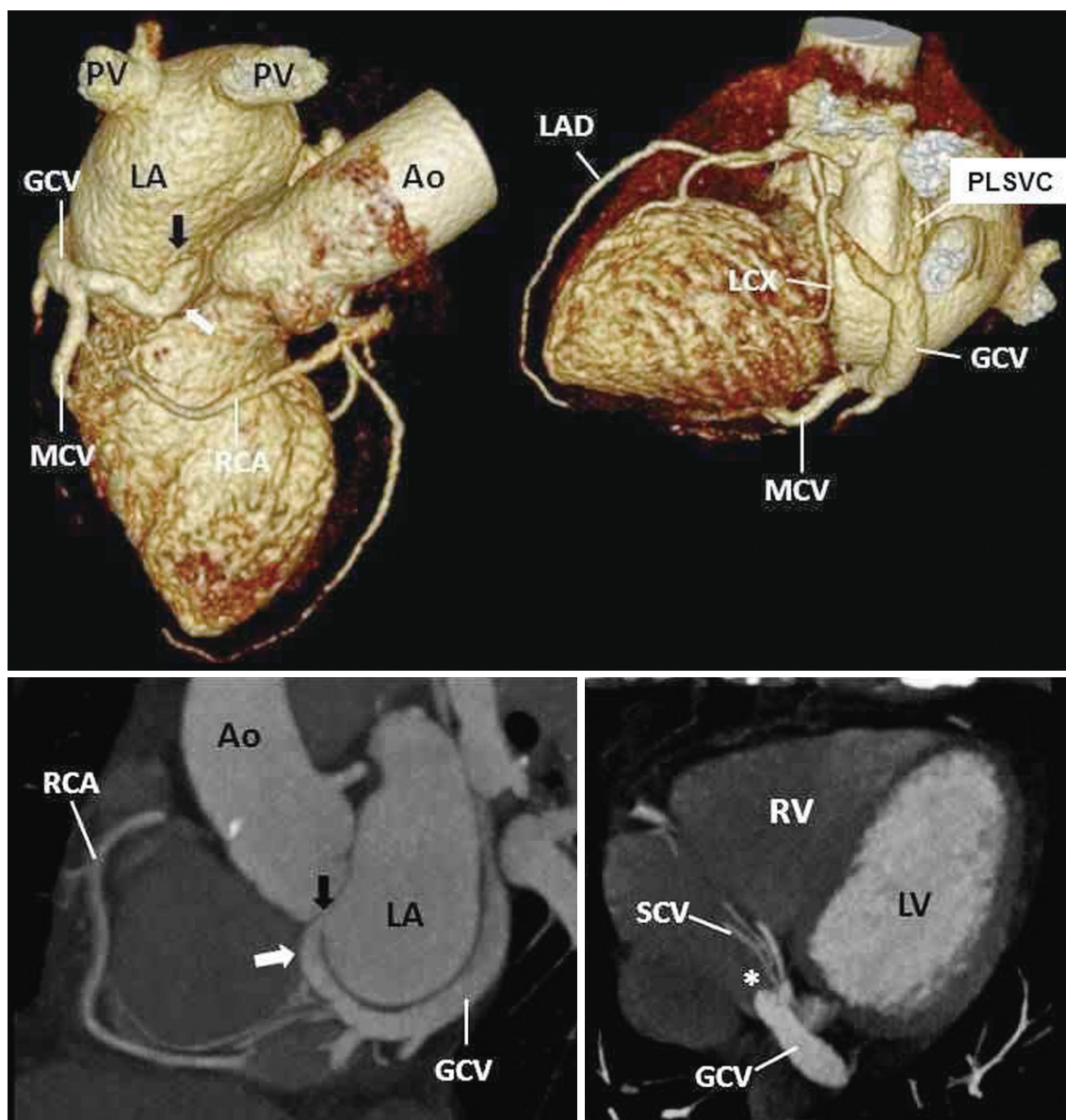
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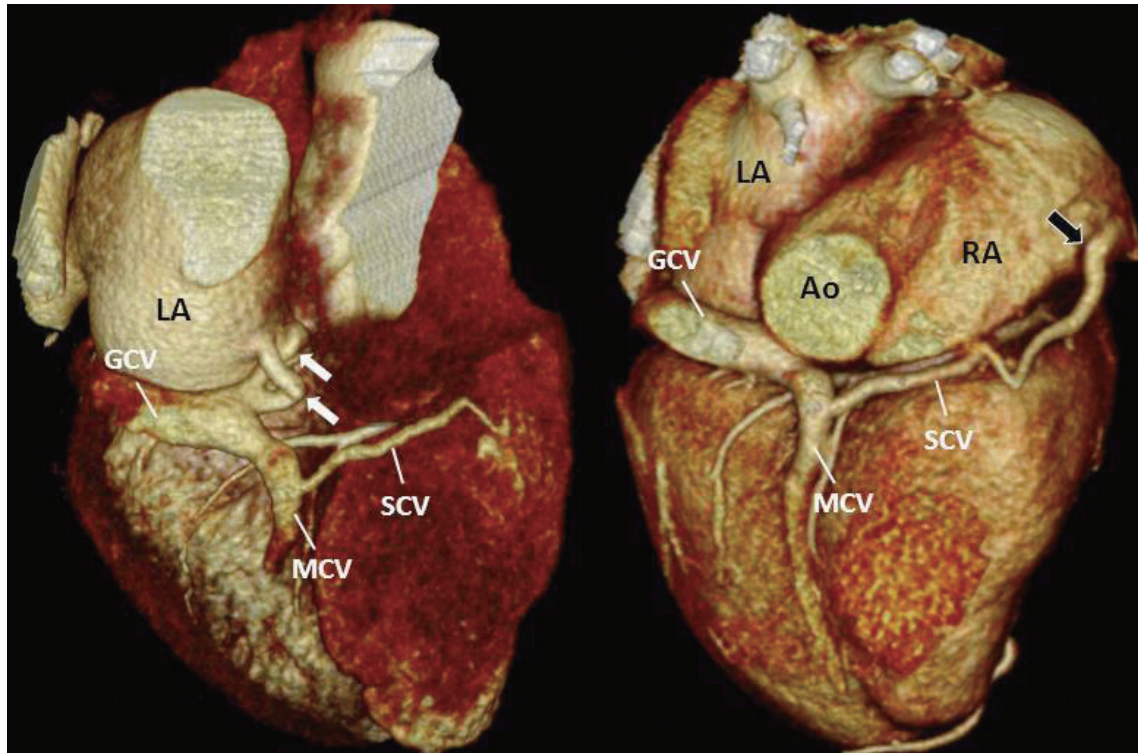
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**Fig. 1.** Volume-rendering and maximum intensity projection images show anomalous venous channel (white arrow) connecting coronary sinus (CS) and left atrium (LA). Opening site of anomalous channel (black arrow) and atretic ostium of CS (\*) could be seen. Ao = aorta, GCV = great coronary vein, LAD = left anterior descending artery, LCX = left circumflex artery, LV = left ventricle, MCV = middle coronary vein, PLSVC = persistent left superior vena cava, PV = pulmonary vein, RCA = right coronary artery, RV = right ventricle, SCV = small coronary vein



**Fig. 2.** Volume-rendering images show two anomalous venous channels (white arrows) connecting coronary sinus and left atrium (LA). Coexisting tortuous tubular connection (black arrow) between small cardiac vein and right atrium could be seen. Ao = aorta, GCV = great coronary vein, LA = left atrium, MCV = middle coronary vein, PV = pulmonary vein, RA = right atrium, SCV = small coronary vein