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Partial Unroofed Coronary Sinus as an Unusual Finding in a Young Patient Under Investigation of Progressive Fatigue

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Abstract:
A 25-year-old man, previously asymptomatic, presented to medical appointment with progressive fatigue on exertion. Physical exam and rest electrocardiogram were normal. Patient was sent for echocardiogram exam that revealed increased right atrial volume. Subsequently a cardiovascular magnetic resonance study was ordered and revealed dilatation of coronary sinus and pulmonary artery. Patient underwent coronary computed tomography angiography (Coronary CTA) for further investigation.
Coronary CTA was performed and showed absence of atherosclerotic disease in coronary arteries and normal origins of left main and right coronary. Nevertheless, the exam revealed a communication between coronary sinus and left atrium without persistent left superior vena cava (LSVC). This condition was classified as a partially unroofed coronary sinus in mid portion (type III). There were no other structural changes or malformations associated to the findings. Patient was uneventfully treated by surgical correction of the anomaly.
Unroofed coronary sinus is a rare congenital cardiac malformation first described in 1965. This condition is characterized by a communication between coronary sinus and left atrium, resultant from the partial or total absence of the coronary sinus roof. Ultimately, it may lead to left-to-right shunt and cause pulmonary hypertension and systemic emboli. Clinical manifestations may vary accordingly to the degree of shunt and associated abnormalities.

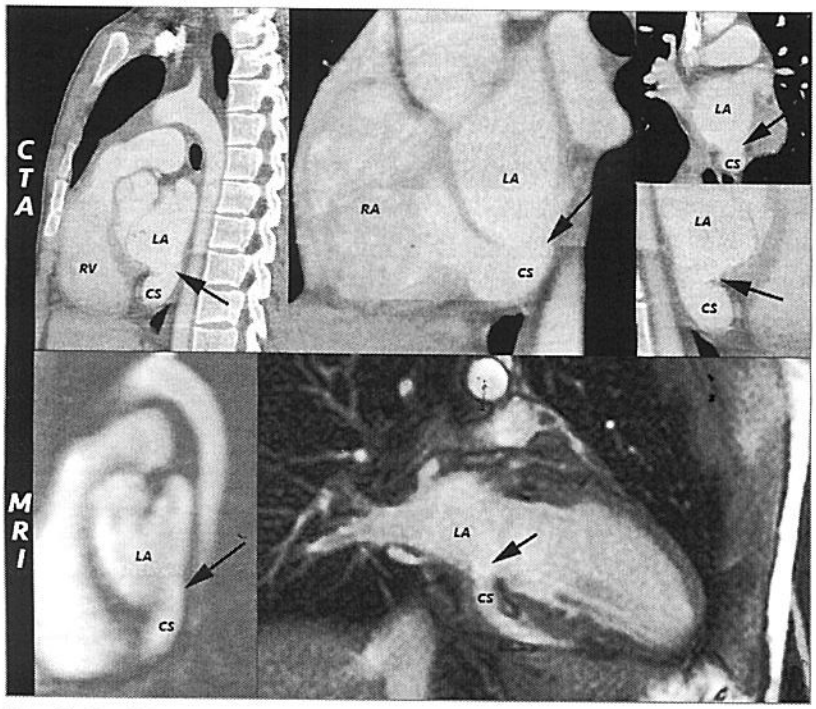

Fig. 1. Partial unroofed coronary sinus communicating with left atrium revealed in computed tomography angiography and magnetic resonance imaging. RV = right ventricle, LA = left atrium, CS = coronary sinus, RA = right atrium.