One sinus, three arteries: An unexpected coronary anomaly

A 50-year-old male smoker was admitted to our hospital for chest pain at rest. Echocardiography showed apico-lateral hypokinesis and normal global left ventricular ejection fraction. Coronary angiography was performed and an unexpected double coronary anomaly (CA) was found. The right coronary (RCA), left circumflex (Cx) and left anterior descending (LAD) arteries originated from the right aortic sinus. Interestingly, a common sinus was shared, with the LAD and the RCA and the Cx originating independently, with a retroaortic course. A proximal Cx obstruction (90%) was treated with a drug-eluting stent. A computed tomography (CT) scan was performed and confirmed the absence of left coronary ostia and the above-reported findings (Figures).

It has been estimated that the incidence of CA ranges between 0.6 - 1.3% in coronary angiographies, and 0.3% in major autopsy series. The incidence of LAD anomalies (related to origin and distribution) has usually been reported as quite low. The authors found that angiographic incidence of these anomalies was close to 0.017%. There’s no evidence in the literature describing the CA that we describe. Recognition of CA is difficult because angiogram is a 2-D technique, and when a coronary artery anomaly is found, it is reasonable to perform another imaging technique such as CT.