Anomalous Right Coronary Artery From Pulmonary Artery (ARCAPA) as an Incidental Finding in an Octogenarian Patient Under Investigation of Chest Pain

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Abstract:

An 87-year-old woman, with medical history of high blood pressure and smoking, presented to Emergency Department with acute chest pain. Electrocardiogram was normal and first blood sample delivered a normal ultra-sensitive troponin result. Subsequently, a coronary computed tomography angiography (Coronary CTA) study was ordered for further investigation.

Coronary CTA revealed numerous non-obstructive calcified plaques and a sub-occlusive stenosis of first marginal branch of circumflex artery as a single significant atherosclerotic lesion. Moreover, the exam showed right coronary artery anomalous origin from pulmonary artery with extensive dilatation and tortuosity of right coronary artery. There were no other structural changes or malformations associated to this findings. Patient underwent percutaneous coronary intervention at first marginal branch lesion and, after a joint decision (patient and referring physician), remained in optima medical therapy due to absence of ventricular dysfunction.

Anomalous right coronary artery from the pulmonary artery (ARCAPA) is a rare condition with incidence of 0.002% in live births and was first described in 1885. This congenital coronary anomaly results in retrograde flow in right coronary arter what may lead to myocardial ischemia or sudden death, although most patients are usually asymptomatic. Surgical correction might be needed in some cases that ischemia or ventricular dysfunction is associated.

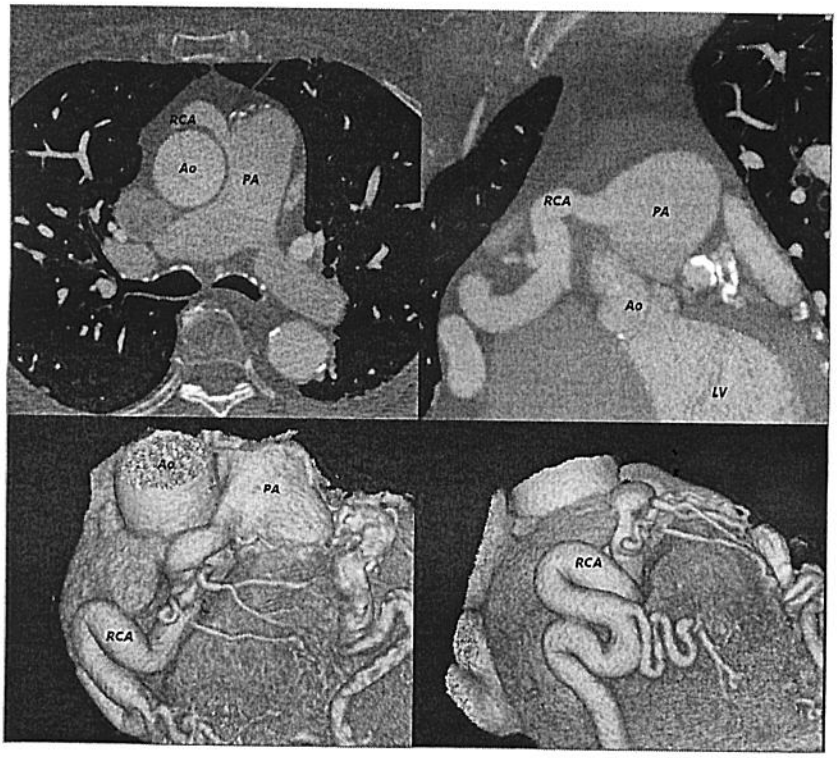

Fig. 1. Coronary computed tomography angiography with maximum intensity projection (MIP), multi-planar (MPR) and 3D volumetric reconstructions, revealing anomalous right coronary artery from pulmonary artery (ARCAPA) with extensive dilatation and tortuosity of right coronary artery. Ao = aorta, PA = pulmonary artery, RCA = right coronary artery, LV = left ventricle.