Rare Cause of Left Ventricular Dysfunction in Adulthood
Causa Rara de Disfunção Ventricular Esquerda em Adultos

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Palavras-chave: Anomalias dos Vasos Coronários; Artéria Pulmonar/anomalias congénitas; Disfunção Ventricular Esquerda.

A 61-year-old female patient with no significant medical history presented to our hospital with a slight limitation of physical activity (New York Heart Association class II) and increased edema of the lower limbs. Analytically, the N-terminal pro b-type natriuretic peptide of 5364 pg/mL was notable. A transthoracic echocardiogram revealed mild dilation of the left ventricle and moderate dilation of the left atrium, along with moderate to severe rheumatic involvement of the mitral valve, pulmonary arterial systolic pressure of 63 mmHg, and moderate depression of the global systolic function of the left ventricle with an ejection fraction of 35%.

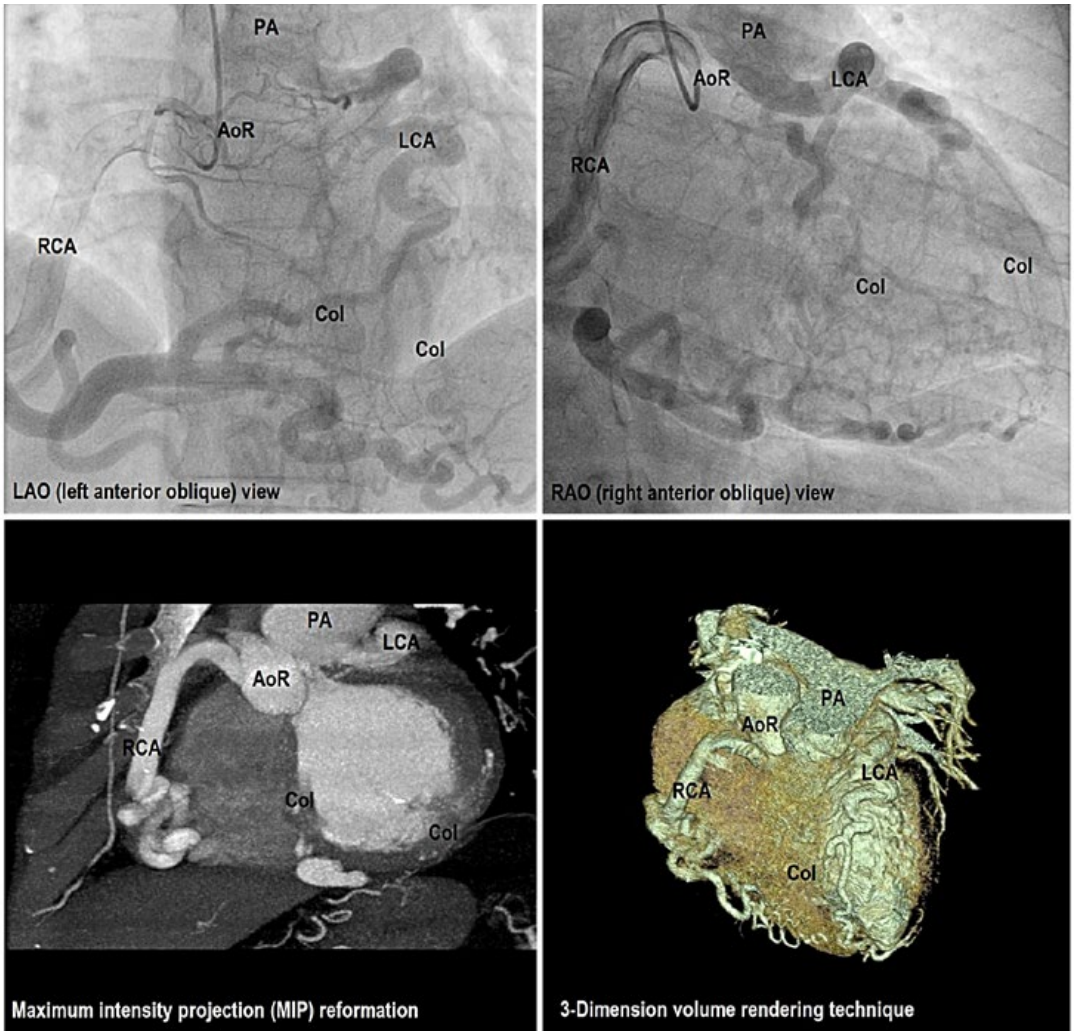

Figure 1: Invasive coronary angiogram (**panels A-B**: right coronary artery (RCA), views) and coronary computed tomography angiogram (**panels C-D**) presenting dilation of both coronary arteries and normal origin of the RCA from the aortic root (AoR) which gives extensive collateralization (Col) to the left coronary artery (LCA) arising from the (main) pulmonary artery (PA).

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An etiological investigation was conducted, and it is noteworthy that cardiac scintigraphy exhibited left ventricular dilation and moderate anteroseptal attenuation at rest, with no modification after adenosine stress perfusion. Coronary angiography (Fig. 1) was performed and demonstrated the origin of the left coronary artery from the pulmonary artery. No significant stenosis is visualized throughout the coronary tree. That's why, anomalous origin of the left coronary artery from the pulmonary artery (ALCAPA) syndrome was diagnosed. Coronary computed tomography (CT) angiography confirmed the origin of the left coronary artery from the pulmonary artery trunk, calcium score zero.

ALCAPA syndrome is a rare congenital coronary artery anomaly. ALCAPA is divided into infant and adult types. Infants experience myocardial infarction and congestive heart failure, and approximately 90% die within the first year of life. Rarely, ALCAPA syndrome manifests in adults. However, even with the compensatory mechanism in adult patients, there is an estimated 80% to 90% incidence of sudden death at the mean age of 35 years.[1,2] ■

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DA - Research, writing and final approval of the article
IAM - Clinical follow-up, literature review and final approval of article
BS - Clinical follow-up and literature review
CMP - Final review of article
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Declaração de Contribuição

DA – Pesquisa, redação e aprovação final do artigo
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REFERENCES

1. Peña E, Nguyen ET, Merchant N, Dennie C. ALCAPA syndrome: not just a pediatric disease. Radiographics. 2009;29:553-65. doi: 10.1148/rg.292085059.
2. Akgun V, Battal B, Karaman B, Ors F, Saglam M, Tasar M. A case of anomalous left coronary artery arising from the pulmonary artery in adulthood: multidetector computed tomography coronary angiography findings. Eurasian J Med. 2010;42:100-2. doi: 10.5152/eajm.2010.28.