

Physician - Pediatric Cardiac and Vascular Surgery/Adult Congenital Heart Diseases

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Unusual Origin of Anomalous Left Main Coronary Artery From the Pulmonary Artery

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Herein, we presented a case of an anomaly in which the left main coronary artery (LMCA) originates from the right pulmonary artery (RPA). A six-year-old female patient presented for a cardiology follow-up due to the mother's history of sudden cardiac death. On transthoracic echocardiography, the right coronary artery (RCA) was dilated, and the LMCA was not identified. There was no LMCA ostium on the aorta. The computed tomography and the coronary angiography revealed the wide and tortuous RCA originating from the aorta. Following primary median sternotomy, proximal visualization of the coronary ostium was challenging. Cardioplegia was given via the aortic root, revealing leakage from the RPA. For better visualization of the RPA, the aorta was transected above the RCA ostium. Subsequently, the MPA incision was extended towards the RPA, facilitating the coronary ostium visualization. Afterward, the left coronary ostium was freed from the RPA and implanted at its anatomical location on the ascending aorta. Subsequently, the RPA and MPA incisions were reconstructed with 7-0 Prolene sutures. The aortotomy was closed with a bovine patch, and warming was recommenced. The postoperative course was uneventful, and the patient was discharged on the seventh postoperative day. Complex cases of anomalous left main coronary artery from the pulmonary artery are surgically challenging. In rare instances where the LMCA originates from the RPA, ostial identification can be difficult. Detailed imaging is crucial for surgical planning. Conventional translocation is the gold standard method for these cases. This rare anomaly, also scarcely reported in the literature, is a variation that should be carefully considered in congenital heart surgery and coronary artery disease diagnosis.

Keywords: Anomalous left main coronary artery from the pulmonary artery, Bland-White-Garland syndrome, left main coronary artery, right pulmonary artery.



Figure 1. Computed tomography images (A, C) illustrating a dilated and tortuous right coronary artery arising from the aorta. The coronary angiography (B) confirms the anomalous right coronary artery, highlighting its enlarged and convoluted structure.

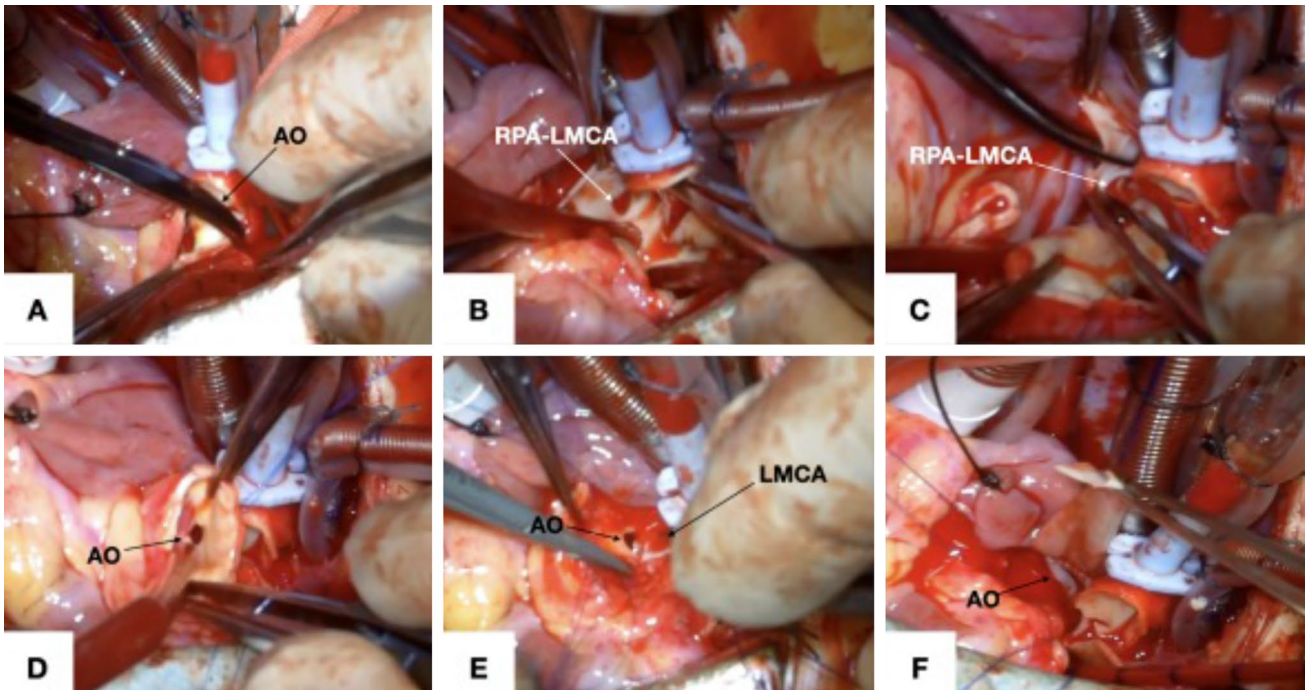


Figure 2. Step by step description of the operative procedure.

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