[NM-156] Anomalous Origin of the Left Coronary Artery from the Pulmonary Artery: A Novel Use of the Hybrid OR for Intraoperative Assessment after Surgical Repair

Ofosu N, Ohliger S, Savarese A
University of Maryland Medical Center , Baltimore , MD, United states of america

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Anomalous origin of the left coronary artery from the pulmonary artery (ALCAPA) is a rare congenital cardiac anomaly. Also known as Bland-White-Garland syndrome, it is associated with increased infant mortality, up to 90% if untreated, and sudden cardiac death in those who do reach adulthood. As a result of the left coronary artery rising from the pulmonary artery, patients often present with signs and symptoms of myocardial ischemia and/or infarction, ventricular arrhythmias, congestive heart failure, and heart murmurs. Diagnosis is made with multiple modalities including cardiac CT, MRI or coronary angiography. The definitive treatment for ALCAPA is surgical correction, whereby the left coronary artery is reimplanted into the ascending aorta. Prognosis of corrected ALCAPA is generally good; however, it heavily depends on the extent of myocardial tissue revascularization and improvement of left ventricular and mitral valve function. Despite repair, patients are still at risk for left ventricular dysfunction and mitral valve insufficiency. Such complications can be detected early by using intraoperative transesophageal echocardiogram (TEE). Additionally, angiographic images immediately after repair might also be useful. In this review, we report a case of a 2-year-old girl who underwent surgical repair for newly diagnosed ALCAPA. After cardiopulmonary bypass, hybrid OR capabilities were utilized to perform intraoperative cardiac catheterization to visualize coronary anatomy and patency and further confirm successful surgical repair.
