Anomalous Origin of the Left Coronary Artery in an Infant with Early Cardiac Failure

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Background / aims:

Anomalous Coronary Origin is a rare congenital heart anomaly, with clinical features of ischemia or heart failure.

Given the coronary complex embryology, it is expected that deviations in development may result in various ("abnormal") origins of the coronary arteries from the normal sinuses of Valsalva in the aorta or from the pulmonary artery. Some of these variations may have no clinical importance while others are clearly pathologic. These variations can be associated with underlying congenital heart defects.

The aim of this report is show the diagnostic challenge, because the presentation can be similar to other common pediatric conditions.

Methods: Case report

Results:

A 2,5 months old girl, with no significant past medical history, was admitted to the Pediatric Intensive Care Unit (PICU) for ventilatory support due to acute respiratory failure. At the Emergency Department, the child presented with respiratory symptoms for 3 days and an episode of fever. The child was intubated, put on mechanical ventilation, and transferred to the PICU.

A few hours after admission the patient presented hemodynamic instability with an enlarged heart area at the chest X-ray. Cardiac enzymes were elevated (troponin/BNP). Functional echocardiogram showed hypocontractility and dilatation of left chambers. Inotropic support was started with Milrinone and Epinephrine.

The standard two-dimensional echocardiography showed severe left ventricular dysfunction, with an ejection fraction of 20%. Ventricular wall hypokinesia and apical akinesia were also evident. Right ventricular performance was preserved. Viral screening was positive for Metapneumovirus.

The patient underwent a coronary angiotomography that showed a normal origin of the right coronary artery but couldn't determine the left coronary origin. With cardiac catheterization it was possible to confirm an anomalous left coronary originating from the pulmonary trunk. The baby was submitted to surgical correction and was discharged with good clinical evolution.

Conclusions:

We have shown the importance of complete diagnostic investigation in children with acute heart failure, with signs of left ventricular ischemia, emphasizing the need for a differential diagnosis between viral myocarditis and anomalous origin of the left coronary artery.

Bibliography:

[Brothers J, Gaynor JW, Paridon S, et al. Anomalous aortic origin of a coronary artery with an interarterial course: understanding current management strategies in children and young adults. *Pediatr Cardiol* 2009; 30:911.](#)