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Images in Congenital Heart Disease

Crossed pulmonary arteries in tetralogy of Fallot

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ONE OF THE MORE UNUSUAL POSITIONAL anomalies of the pulmonary arteries is that entity designated "crossed pulmonary arteries".[1] This anomaly has also been called anomalous origins of the pulmonary arteries from the pulmonary trunk, malposition of the pulmonary arteries with or without crossing, and criss-cross pulmonary arteries. Such crossed pulmonary arteries are to be distinguished from the left pulmonary arterial sling; anomalous origin of one or both pulmonary arteries from the ascending aorta (AO); and the abnormal course of the left pulmonary artery in the setting of a horseshoe lung, a malformation frequently associated with the scimitar or hypogenetic right lung syndrome. In patients with crossed pulmonary arteries, the origin of the left pulmonary artery (LPA) from the pulmonary trunk lies to the right, and usually above, that of the right pulmonary artery (RPA). From these abnormal positions, the pulmonary arteries cross each other as they proceed to their respective lungs (Fig. 1). The pulmonary trunk (PT) itself in this situation is short, which could make difficult external banding, should it be necessary to attempt such a maneuver. Such crossed pulmonary arteries are identified most frequently in patients with abnormalities of the ventricular outflow tracts, including common arterial trunk with or without aortic interruption, and tetralogy of Fallot, as in our case. Some patients have also been described with dysmorphism and/or chromosomal anomalies, including 22q11 deletions. The diagnosis can be, and has been, made using angiography, cross-sectional echocardiography, or magnetic resonance imaging. Its aetiology remains uncertain. According to our search of the literature, fewer than 20 cases had been reported up to 2005. Other abbreviation – RV: right ventricle.

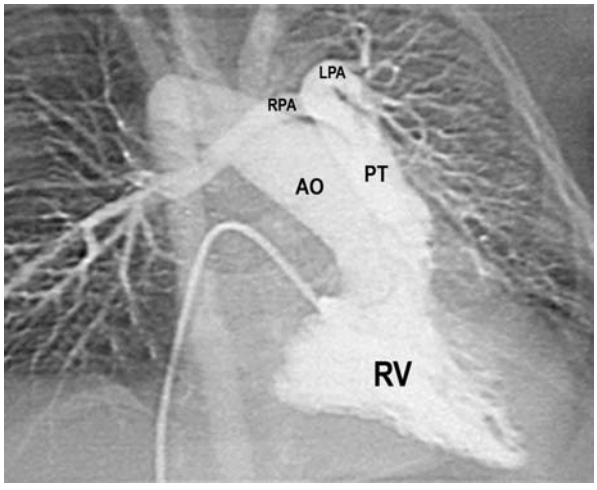

Figure 1.

Reference

1. Zimmerman FJ, Berdusis K, Wright K, Albolaris ET. Echocardiographic diagnosis of anomalous origins of the pulmonary arteries from the pulmonary trunk (crossed pulmonary arteries). Am Heart J 1997; 133: 257–262.

[*]Robert Freedom sadly died after the submission of this "Image", and was unable to see the final product. We dedicate this publication in his memory.

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