Images in cardiology

A case of dyspnoea evaluated by cardiac computed tomography angiography

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A 1-year-old boy presented with failure to thrive and dyspnoea of 4 months duration.

He was evaluated and found to be malnourished. His clinical examination revealed a pansystolic murmur at the left parasternal border with no jugular venous pressure (JVP) elevation or other features of heart failure.

Figure 1 Origin of the left pulmonary artery (LPA) from right pulmonary artery (RPA).

Figure 2 Complete course of the left pulmonary artery (LPA).

Two-dimensional echo revealed a small ventricular septal defect (VSD) with left-to-right shunt and absent left pulmonary artery (LPA).

Figure 3 Computed tomography angiography axial image showing the origin and posterior course of the left pulmonary artery (LPA).

Figure 4 Volume rendering technique image showing posterior view of the pulmonary arteries and the aorta. LPA: left pulmonary artery.

Figure 5 Volume rendering technique showing the MPA, RPA, and LPA origin. LPA: left pulmonary artery, MPA: main pulmonary artery, RPA: right pulmonary artery.

The cardiac computed tomography angiography imaging study showed all the characteristic features of an LPA sling with tracheal compression:

- A. Normal size of main pulmonary artery (MPA), right pulmonary artery (RPA) and LPA.
- B. Small perimembranous VSD.
- C. There is anomalous origin of LPA just above tracheal bifurcation with a course posterior to the trachea and supplying the left lung (Figures 1–5).
- D. There is mild tracheal compression between RPA anteriorly and LPA posteriorly.

Child underwent VSD closure and reimplantation of LPA to MPA anterior to trachea. Diffuse narrowing in proximal LPA improved as flow improved in LPA. There was gradual resolution of the dyspnoea.