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Partial Anomalous Left Pulmonary Artery: Pseudo-Pulmonary Sling

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Authors declared no funding for this work. Conflicts of interest are listed at the end of this article.

Radiology: Cardiothoracic Imaging 2021; 3(3):e210065 • <https://doi.org/10.1148/ryct.2021210065> • Content code: **VA** • © RSNA, 2021

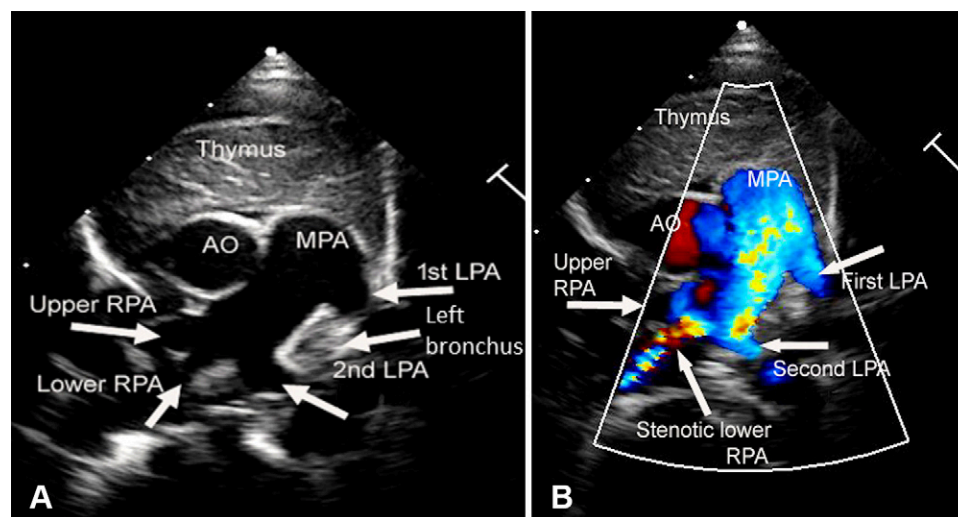


Figure 1: Pediatric echocardiogram of partial anomalous left pulmonary artery (PALPA) in a 4-month-old patient. **(A)** Grayscale and **(B)** color Doppler images demonstrate a second left pulmonary artery (LPA) (the PALPA) arising from the right pulmonary artery (RPA). Color aliasing is noted at the stenotic lower RPA. AO = aorta, MPA = main pulmonary artery.

A 4-month-old patient with 3p36.3 chromosomal duplication underwent echocardiography for cardiac abnormality screening, which revealed abnormal pulmonary arteries and a perimembranous ventricular septal defect (Fig 1A, 1B). A thoracic CT angiogram confirmed a partial anomalous left pulmonary artery (PALPA) arising from the right pulmonary artery (RPA) and supplying the left lower lobe (Fig 2A–2C). PALPA is an exceedingly rare diagnosis whereby an accessory left pulmonary artery (LPA) arises from the RPA in the presence of a normal LPA arising from the main pulmonary artery trunk bifurcation (1). This case demonstrates one of two PALPA variations: pseudo-pulmonary sling, where the PALPA does not course between

the trachea and esophagus (1). In the second variation, partial sling, the PALPA courses between the trachea and esophagus (1). When PALPA is encountered, investigation for cardiac abnormalities and features of Kabuki syndrome is warranted as these have been reported previously (1–3). This patient did not have findings of Kabuki syndrome.

Acknowledgment: Gavin M. McCullough is acknowledged for US image acquisition and annotations.

Disclosures of Conflicts of Interest: J.W.R. disclosed no relevant relationships. S.S.W. Activities related to the present article: disclosed no relevant relationships. Activities not related to the present article: author receives book royalties from Elsevier. Other relationships: disclosed no relevant relationships. M.A.G. disclosed no relevant relationships. A.A.R. disclosed no relevant relationships.

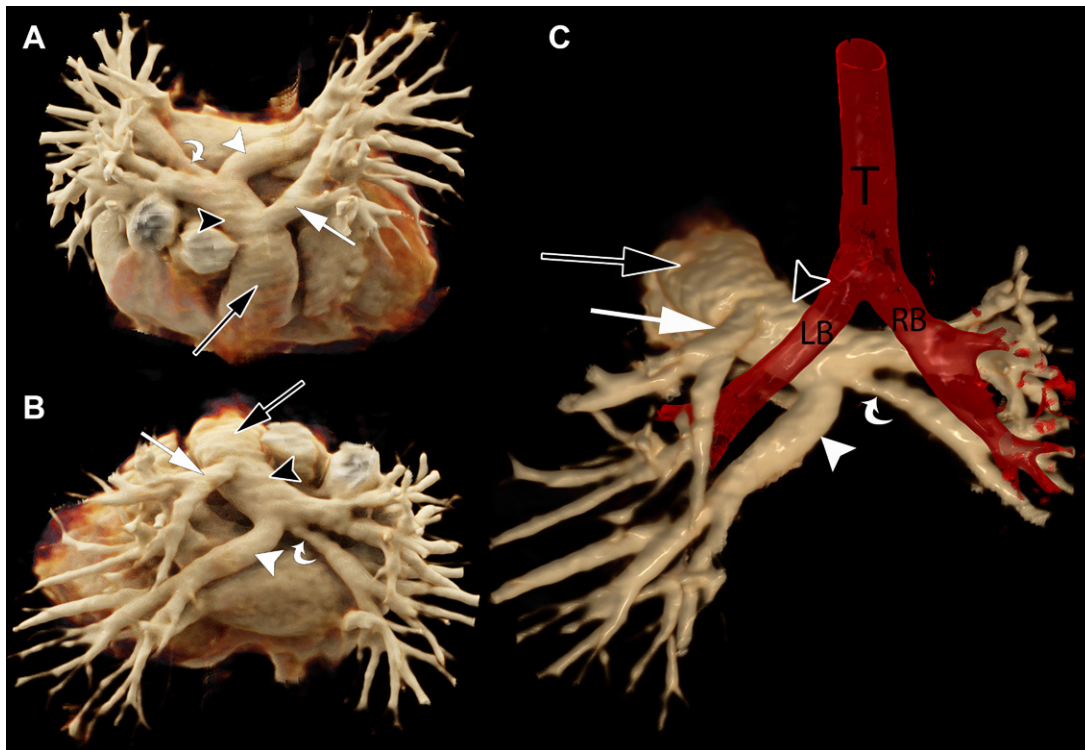


Figure 2: (A, B) Contrast-enhanced CT angiographic chest three-dimensional volume-rendered images obtained using cinematic rendering in the (A) anterosuperior and (B) posterosuperior views. The main pulmonary artery trunk (black arrow) bifurcation gives rise to the left upper lobe pulmonary artery (white arrow) and right pulmonary artery (RPA) (black arrowhead). The stenotic lower RPA is again demonstrated (curved white arrow). The partial anomalous left pulmonary artery (PALPA) (white arrowhead) is seen arising from the RPA. (C) Three-dimensional volume-rendered image of the pulmonary arteries with superimposed airways demonstrates the PALPA coursing posterior to the left mainstem bronchus (LB). RB = right mainstem bronchus, T = trachea.

Keywords

Pediatrics, CT-Angiography, Image Postprocessing, Ultrasound

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