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IMAGES IN PAEDIATRICS

Bronchial compression secondary to idiopathic pulmonary artery dilation

Compresión bronquial secundaria a dilatación idiopática de la arteria pulmonar

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We present the case of a girl aged 7 years with pulmonary valve stenosis, diagnosed in her country of origin (Colombia), and a history of recurrent respiratory infections associated with severe respiratory distress; during an evaluation at the pediatric cardiology department of our hospital, an ultrasound scan revealed marked dilation of the main pulmonary artery (MPA) (Fig. 1), prompting performance of a contrast-enhanced computed tomography (CT) scan of the lungs. The scan showed dilatation of the pulmonary artery and its branches (MPA, 35.6 mm; z score, +8.29), with a proximal right pulmonary artery diameter of 14.7 mm (z score, +2.79), a very elongated left pulmonary artery at an angle to the origin with a 12.7 mm distal diameter (z score, +1.44),[1] reduced caliber of the left upper lobe bronchus (LULB), and reduced volume of the upper left lobe parenchyma with hyperlucency and decreased vascularity (Fig. 2). The evaluation was completed with flexible bronchoscopy, confirming stenosis of the bronchial orifice and lingula (Fig. 3; Appendix A Video 1). The therapeutic approach to idiopathic pulmonary artery dilatation is watchful waiting in asymptomatic patients, with surgery (aneurysm plication, reconstruction with a pericardial patch and interposition grafts, or arteriopexy of the anterior pulmonary artery) reserved for cases with symptoms resulting from extrinsic compression of the adjacent bronchi,[2,3] as was the case of our patient.

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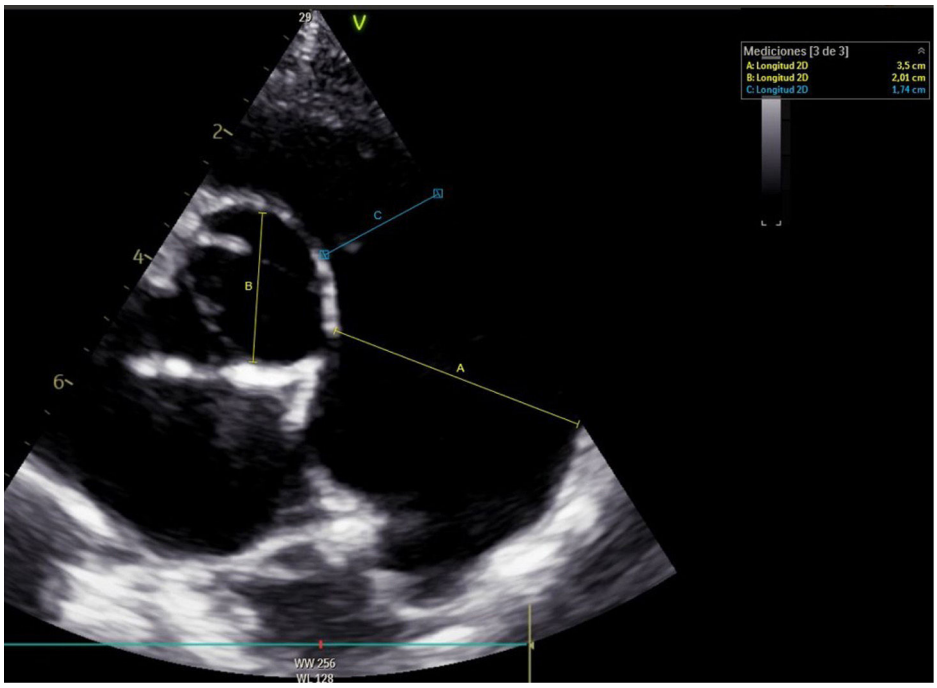

Figure 1 Echocardiogram, parasternal short axis view. Line A: diameter of the main pulmonary artery (3.5 cm); Line B: diameter of the aorta (2.01 cm); Line C: diameter of the pulmonary valve annulus (1.74 cm).

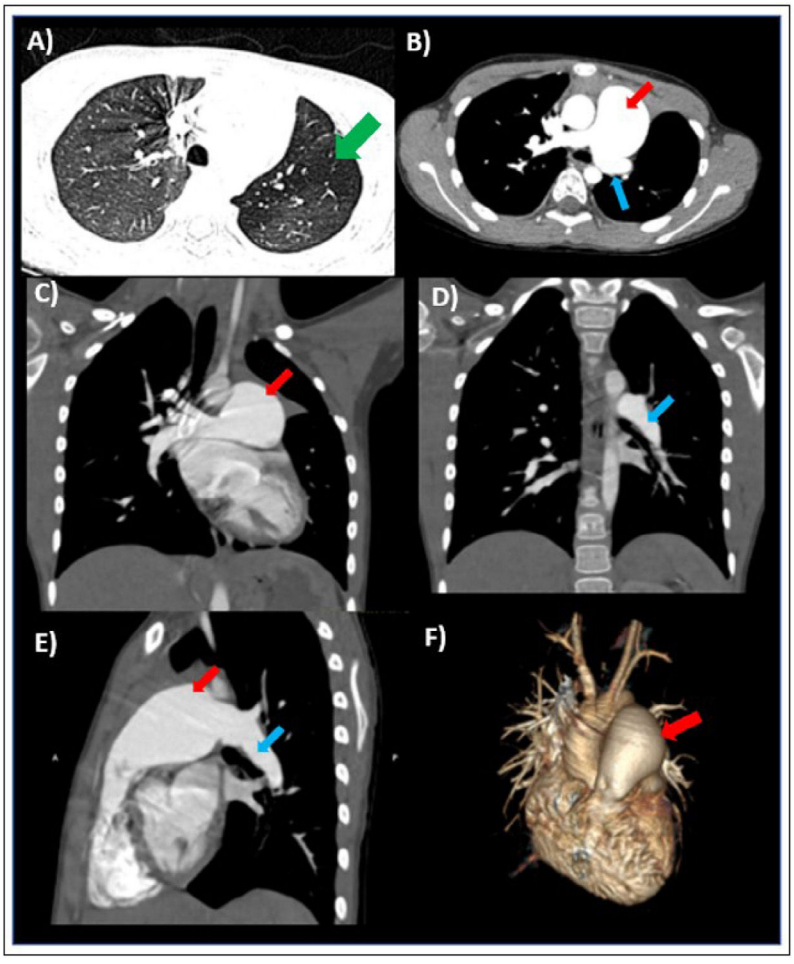

Figure 2 Contrast-enhanced computed tomography of the lung. (A) Axial view showing air trapping in the left upper lobe (green arrow). (B) Axial view. (C) and (D) Coronal views. (E) Sagittal view. (F) 3D cardiac reconstruction. Red arrows: main pulmonary artery; blue arrows: left pulmonary artery.

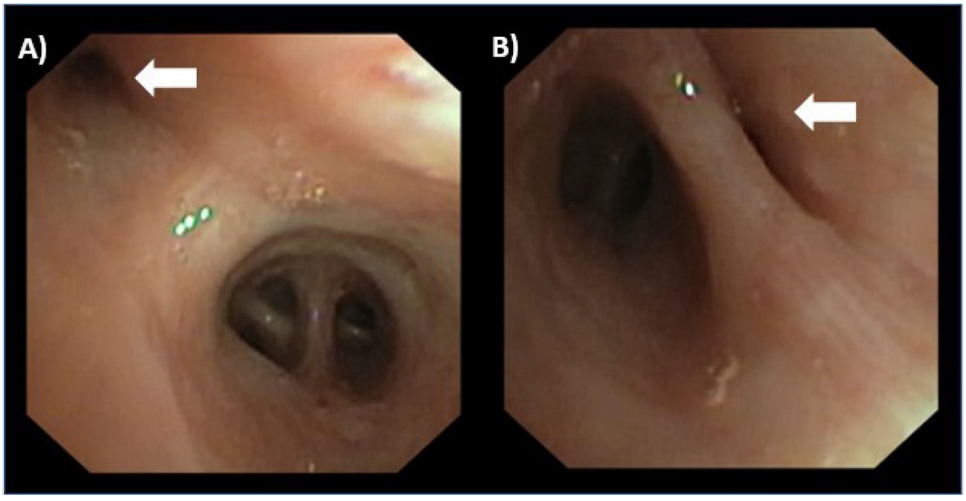

Figure 3 Flexible bronchoscopy. (A) View from the left main bronchus. Luminal stenosis of the upper lobe bronchus (white arrow). B) View from the entrance to the left upper lobe. Bronchial stenosis (or decreased bronchial caliber) of the lingula due to extrinsic compression (white arrow). For a better understanding of the bronchoscopy findings, refer to the supplementary material (Video).

Declaration of competing interest

The authors have no conflicts of interest to declare.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.anpede.2026.504244.

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