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Image in cardiology

Closure of coronary artery fistula using Piccolo occluder

Cierre de fístula coronaria con un oclusor vascular Piccolo

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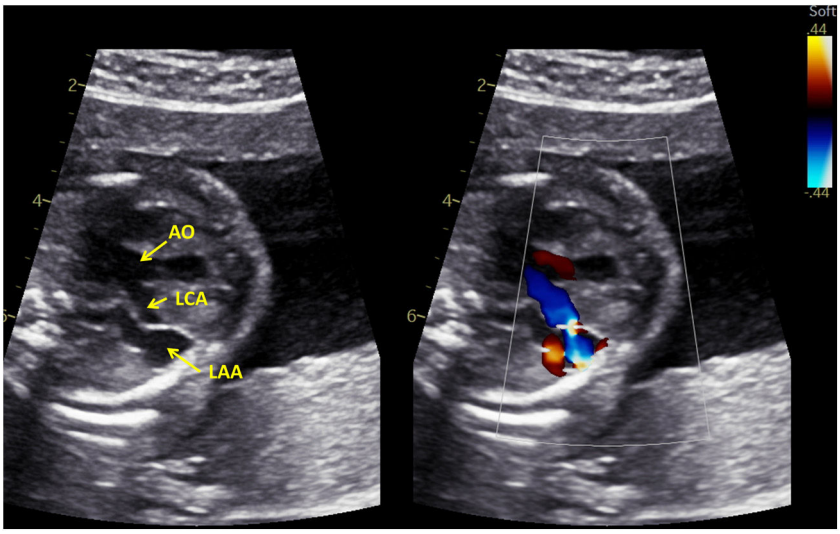

Figure 1.

A left coronary artery fistula was diagnosed prenatally at 22 weeks of gestation. An enlarged main left coronary artery (LCA) was connected to the left atrial appendage (LAA) at the site of branching to the left anterior descending (LAD) and circumflex (CX) arteries (figure 1; AO, aortic root). The newborn (birthweight 2510 g) had a loud murmur, sinus tachycardia, and significant cardiomegaly (figure 2A). Transthoracic echocardiography confirmed the above-described anatomy (figure 2B). Closure of the fistula was indicated after 15 days due to persisting clinical signs of a significant shunt. Informed consent was obtained from the parents. Retrograde access through the femoral artery was obtained, and angiography of the aortic root was performed (figure 3A, video 1 of the supplementary data). A 4-Fr Amplatzer TorqVue LP catheter (Abbott, USA) was inserted into the LAA using the coronary wire as a rail, and an Amplatzer Piccolo Occluder 9-PDAP-04-02-L (Abbott, USA) was delivered through the catheter. The distal retention disc was kept in the LAA while the central and proximal discs were opened in the LCA. The position of the occluder and patency of the LAD and CX were confirmed by a 10T-D Micro Multiplane Transesophageal Probe (GE Ultrasound, USA) (figure 2C) and by angiography (figure 3B, OC, occluder; video 2 of the supplementary data). Complete occlusion of the fistula and stable position of the occluder were confirmed on the following day by echocardiography (figure 2D). The Piccolo Occluder was originally designed for occlusion of patent arterial duct in premature newborns weighing more than 700 g; therefore, it could be used off-label for the occlusion of a coronary fistula in a newborn.

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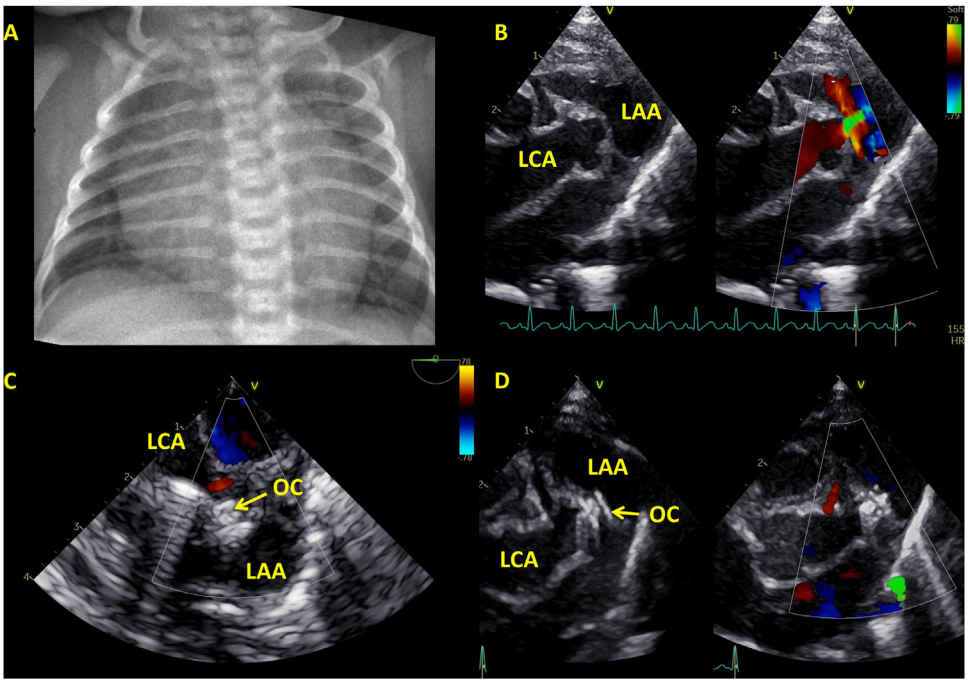

Figure 2.

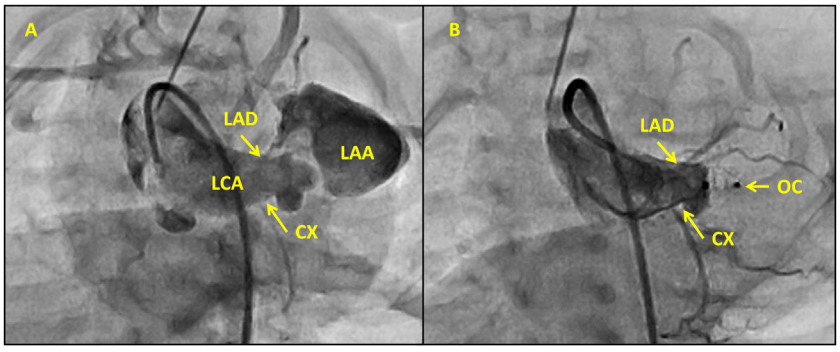

Figure 3.

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AUTHORS' CONTRIBUTIONS

O. Materna: first author, interventional catheterization procedure. J. Kovanda: transthoracic and transoesophageal echocardiography, article revision. V. Tomek: fetal echocardiography, article revision.

CONFLICTS OF INTEREST

None.

APPENDIX. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version, at https://doi.org/10.1016/j.rec.2022.02.007