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IMAGES IN PAEDIATRICS

Percutaneous solution of post-cardiac surgery complications

Solución percutánea de complicaciones postcirugía cardiaca

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We present the case of an infant aged 2 months with dextrotransposition of the great arteries who had undergone arterial switch surgery. The patient could not be extubated due to left-side chylothorax[1] and haemoptysis, with radiological evidence of occlusive thrombosis of the left jugular-subclavian venous system and an aberrant right bronchial artery[2] originating from the right subclavian artery (Fig. 1). The chosen approach was percutaneous procedure in 2 steps. A dual femoral approach was used for venous recanalization, reaching the left jugular vein through the intracranial venous system, then advancing through the innominate vein to the origin of the left jugular vein, establishing a veno-venous shunt. This was followed by progressive balloon predilatation, in which the largest calibre corresponded to a Tyshak mini balloon (NuMED) measuring 6 × 20 mm, achieving recanalization of the innominate artery and the left jugular and subclavian arteries (Fig. 2; Appendix B, video 1).

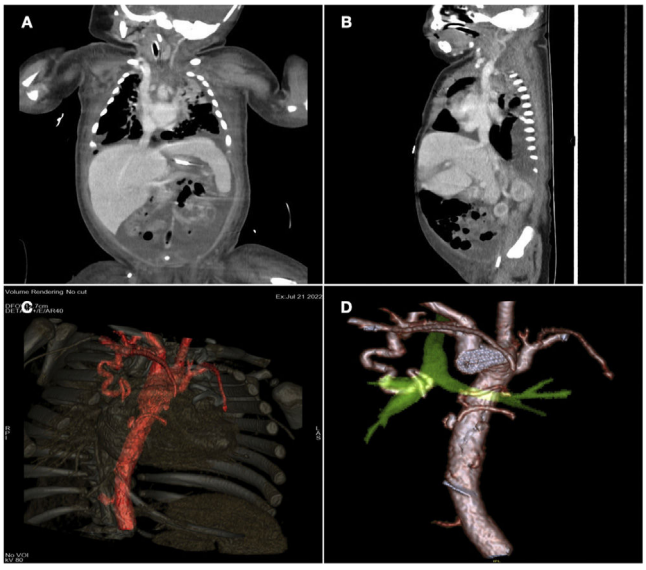

Figure 1 Computed tomography images. (A and B). Thrombosis of the left jugular-subclavian system. (C and D) Aberrant right bronchial artery originating from the right subclavian artery.

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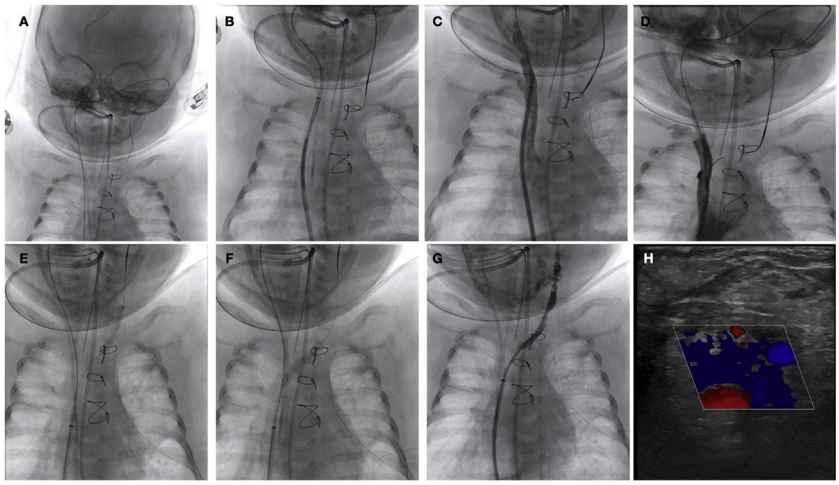

Figure 2 (A–C) Advance of the angioplasty guide wire and microcatheter from the right internal jugular vein through the intracranial venous system to the left jugular vein. (D) Crossing through the innominate vein to establish the veno-venous shunt. (E and F) Progressive balloon predilatation. (G) Final result with patency of the left jugular-subclavian venous system. (H) Follow-up Doppler ultrasound examination before discharge confirming the persistence of luminal patency.

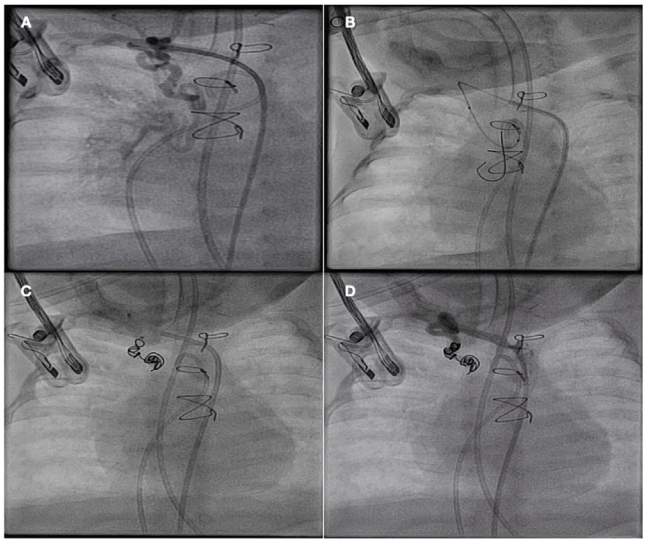

Figure 3 (A) Selective catheterization with multipurpose catheter from the left subclavian artery. (B) Coronary guidewire advanced over the microcatheter to the medial bronchial artery. (C and D) Release of coils, achieving effective embolization of the vessel.

A second procedure, via arterial access, involved selective catheterization of the bronchial artery, advancing a coronary guidewire and a Cantata microcatheter (Cook medical, USA) to the medial region, where 6 microcoils were delivered, achieving full embolization (Fig. 3; Appendix B, video 2). The outcome was favourable, and the patient could be extubated and discharged from hospital.

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.anpedi.2022.11.003.

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