

Image in cardiology

First experience with 3-dimensional pediatric transesophageal echocardiography



Experiencia inicial con ecocardiografía transesofágica pediátrica tridimensional

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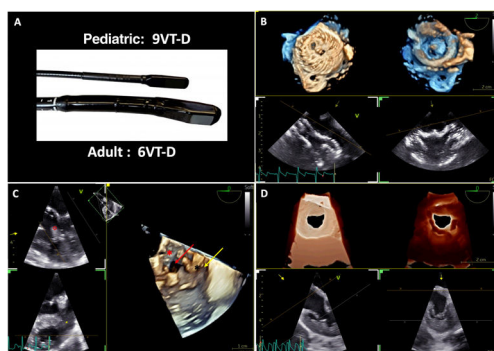


Figure 1.

While transesophageal echocardiography (TEE) is essential in the diagnosis and management of adults in cardiology, the excellent echogenicity in children allows management with transthoracic echocardiography without invasive TEE. Nevertheless, TEE remains essential in pediatrics to assist interventional catheter procedures and to assess residual lesions after cardiac surgery. However, until now, pediatric TEE probes have remained 2-dimensional (2D), thus limiting their use compared with that in adults. Several studies have demonstrated the added value of 3D in children with congenital heart disease. For the first time, we tested the new 3D pediatric TEE probe (GE 9VT-D compared with adult GE 6VT-D; figure 1A) which has recently received European Conformity approval. We show a dual cropping view of a 22-mm atrial septal occluder from the left atrium and the right atrium in a child (figure 1B and video 1 of the supplementary data). A tetralogy of Fallot was seen from the right ventricle showing the outlet ventricular septal defect (red arrow) close to the aortic valve (red asterix) with the conal septum (black asterix) leading to the right ventricular obstruction (yellow arrow) (figure 1C and video 2 of the supplementary data). A normal neonatal tricuspid valve could be seen with Flexilight™ from the right atrium and from the right ventricle (figure 1D and video 3 of the supplementary data). This series represents the first-in-human use of this novel probe providing precise details of all structures in a single 3D view, while 2D requires multiple views and mental reconstruction. This may enhance the confidence of imaging interpretation and may improve the accuracy and efficiency of the procedures. Informed consent was obtained from the parents of all patients.

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AUTHORS' CONTRIBUTIONS

Acquisition, analysis: C. Karsenty, K. Hadeed. Manuscript writing: all authors. Drafting the work: all authors. Revising intellectual content: all authors. Final approval of the version: all authors.

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.2022.11.003>

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