Image in cardiology

Latest developments in 3D echocardiography. A novel tissue transparency tool

Novedades en ecocardiografía 3D: una nueva herramienta de transparencia tisular

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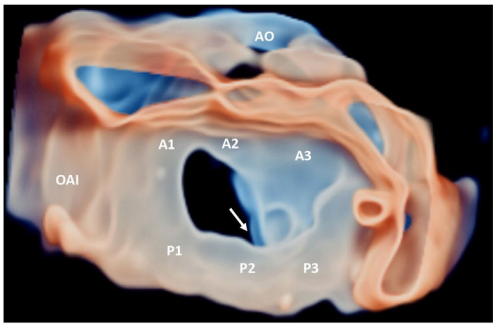

Figure 1.

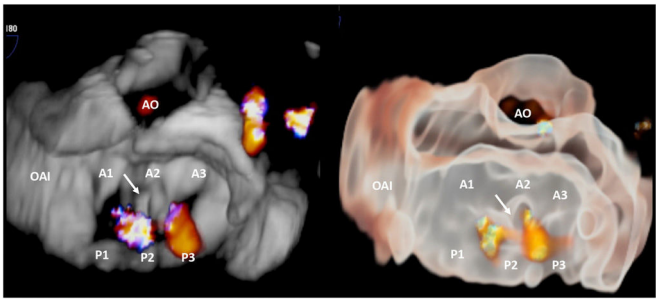

Figure 2.

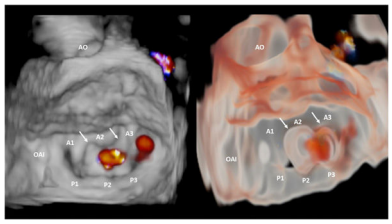

Figure 3.

Despite advances in 3D echocardiography, the technique still has some inherent limitations. New tools such as transillumination give images a more realistic appearance. This tool now includes the option of modifying tissue transparency and integrating color Doppler.

We present the case of a 75-year-old man with severe functional mitral regurgitation who underwent implantation of 2 mitral clip devices. The procedure was performed with 3D transesophageal echocardiographic guidance, using this new tissue transparency tool, which allowed identification (figure 1, video 1 of the supplementary data) of the first clip (white arrow) at A2-P2 in a somewhat medial position. With color Doppler, 2 residual regurgitation jets could be seen (figure 2, right; video 2 of the supplementary data). Note the difference in detail of valve and adjacent structure anatomy (LAA, left atrial appendage; Ao, aorta) between the tissue transparency tool (figure 2, right; video 2 of the supplementary data) and the conventional 3D reconstruction (figure 2, left; video 3 of the supplementary data). In fact, after the second clip was implanted, standard 3D reconstruction did not allow adequate identification of the devices (figure 3, left; video 4 of the supplementary data). This case illustrates how this new tissue transparency tool makes it possible (figure 3, right; video 5 of the supplementary data), for the first time, to identify structures that are difficult to visualize (mitral clips) even with other modern 3D-echo techniques

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APPENDIX A. APPENDIX. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version available at https://doi.org/10.1016/j.rec.2020.11.016

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