

CARDIOVASCULAR FLASHLIGHT

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Three-dimensional echo guidance of percutaneous mitral paravalvular leak closure**Alessandra Quercioli^{1*}, Anna Clizia Capettini¹, Riccardo Gherli², and Gioel Gabrio Secco¹**¹Cardiology Unit, Department of Internal Medicine, SS Antonio e Biagio e Cesare Arrigo Hospital, Via Venezia 16, 15121 Alessandria, AL, Italy; and ²Cardiac Surgery Unit, Department of Cardiovascular and Thoracic Surgery, SS Antonio e Biagio e Cesare Arrigo Hospital, Via Venezia 16, 15121 Alessandria, AL, Italy*Corresponding author. Tel: 0039 3496902189, Email: alessandra.quercioli@libero.it

We present an 82-year-old woman admitted for severe haemolytic anaemia due to periprosthetic paravalvular mitral leak. The patient was successfully treated using an Occlutech PLD occluder under three-dimensional (3D) transoesophageal (TOE) echocardiography by a trans-apical approach.

A hypertensive 82-year-old woman with a recent previous history of both aortic and mitral replacement with bioprosthesis was admitted to our hospital for severe haemolysis requiring blood transfusion. Admission transthoracic echocardiography showed a limited dehiscence between the native valve annulus and the sewing ring of the prosthetic valve causing a significant paravalvular leak (PVL) (Panel A, see [Supplementary material online, Videos S1](#)). Due to the relatively poor results of medical management and the high surgical morbidity of PVL management, the patient underwent to a percutaneous attempt of PVL closure. She was proposed for a percutaneous closure of the leak by trans-apical access considering a redo surgical procedure with a too high risk and a too low success chance.

The procedure was performed under general anaesthesia. Under 3D TOE and angiographic guidance, the leak was crossed using a hydrophilic wire (Panel B, see [Supplementary material online, Video S2](#)). The hydrophilic wire was exchanged with a stiff guidewire used to insert a 55 cm long sheath (Flexor, Cook Medical, Bloomington, NJ, USA) through the apical sheath followed by the Occlutech PLD occluder (Occlutech GmbH, Germany) (Panels C and D, see [Supplementary material online, Videos S3 and S4](#)). After the position of the device, valve function and residual leaks were assessed prior and after the release of the Occlutech PLD occluder (Panels E and F, see [Supplementary material online, Videos S5 and S6](#)). Finally, the sheath was removed and the apical strings tied for the correct haemostasis of the apical site. Patient was discharged at Day 4 in stable haemodynamic conditions.

[Supplementary material](#) is available at *European Heart Journal* online.

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