



IMAGE IN CARDIOLOGY

Catheter-based closure of multiple residual leaks after percutaneous left atrial appendage occlusion with the Watchman® device



Encerramento por cateter de *leaks* residuais múltiplos após oclusão percutânea do apêndice auricular esquerdo com dispositivo Watchman®

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We present the case of an 85-year-old male patient with a history of digestive hemorrhage with hypovolemic shock and hemorrhagic stroke with ad integrum restitution. He had permanent atrial fibrillation (CHA2DS1-VASc: 6 and HAS-BLED: 5) and was receiving indefinite oral anticoagulation with Apixaban®. After the last episode of bleeding, the patient was referred for left atrial appendage closure and underwent a successful 24 mm Watchman device implantation (Boston Scientific, MN, USA), with the presence of a small leak <3 mm that was managed conservatively. Two years after the implant, he suffered a new episode of ischemic stroke in the frontal lobe. Transesophageal echocardiography (TEE) revealed the presence of two

significant leaks >5 mm, one on the posterosuperior side and the other on the anteroinferior side (Figure 1, Video 1-2). Due to high hemorrhagic risk, the patient underwent percutaneous closure of the leaks.

Via right femoral venous access and guided by TEE, transeptal puncture and introduction of a deflectable sheath Agilis 8.5 F Medium Curl (Abbott, IL, USA) in the left atrium were performed. A multipurpose guiding catheter 5F and straight hydrophilic guide (Terumo Europe, Leuven, BE) were introduced through it. Both defects were crossed sequentially and two 12 mm Amplatzer Vascular Plug II (Abbott, IL, USA) devices were released (Figures 2 and 3A and Video 3-6).

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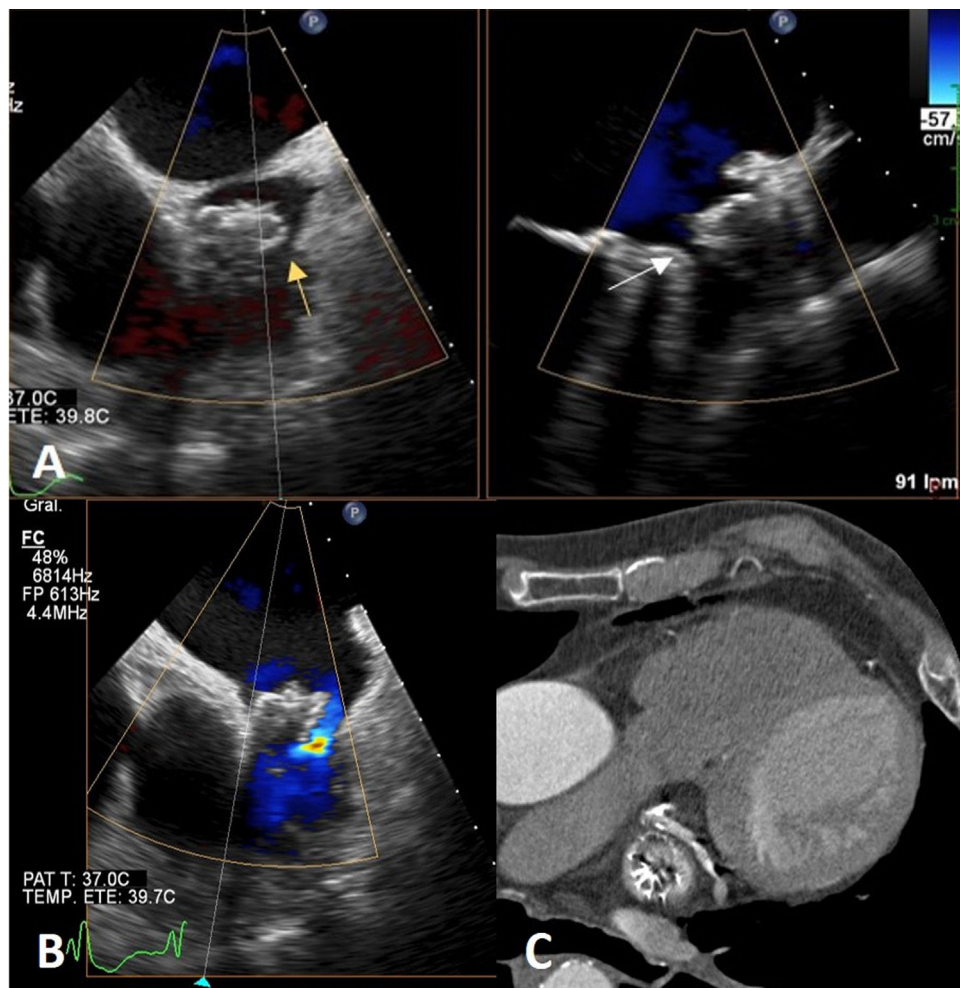


Figure 1 A: Transesophageal echocardiography (TEE) image showing anteroinferior leak (yellow arrow) and posterosuperior leak (white arrow). B: Transesophageal echocardiography with TEE image showing color flow Doppler through the posterosuperior leak. C: Computed tomography image showing leaks on both sides of the device.

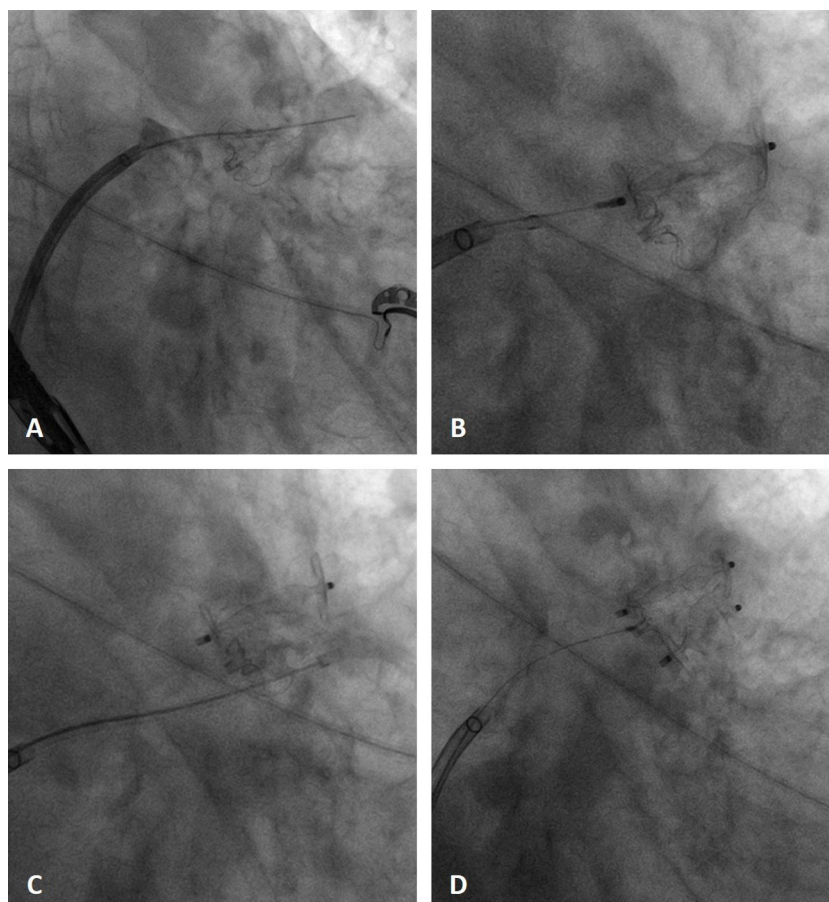


Figure 2 A: Fluoroscropy imaging showing how the guide catheter crossed the upper leak. B: Angiographic image showing the deployment of the first Amplatzer Vascular Plug II into the upper leak. C: Angiographic image showing how the guide catheter crossed the lower leak. D: Fluoroscropy image showing the release of the second Amplatzer Vascular Plug II into the lower leak.

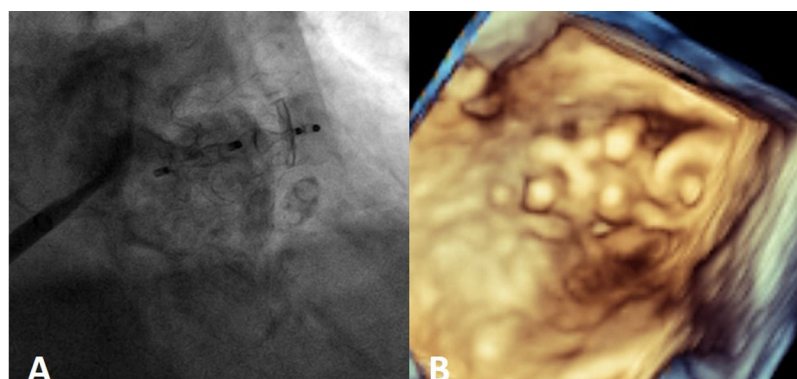


Figure 3 A: Final angiographic result after the release of both devices. B: Final result three-dimensional transesophageal echocardiography image, where we can see all devices.

The procedure was performed without complications, and the patient was discharged the following day with aspirin and clopidogrel. The four-week follow-up TEE showed the devices had been implanted appropriately (Figure 3B).

Conflicts of interest

The authors have no conflicts of interest to declare.