

Device-associated thrombus after left atrial appendage occlusion

Skrzeplina związana z urządzeniem zamykającym uszko lewego przedsionka

Catarina Ruivo¹, Lino Santos², Vasco Gama², Ricardo Fontes-Carvalho²

¹Cardiology Department, Leiria Hospitalar Centre, Leiria, Portugal

²Cardiology Department, Vila Nova de Gaia/Espinho Hospital Centre, Vila Nova de Gaia, Portugal

We report the case of an 81-year-old woman with permanent atrial fibrillation, diabetes mellitus, and atrial hypertension. She was eligible for oral anticoagulation (OAC) therapy because she had a high thromboembolic risk (CHA₂DS₂-VASc risk score = 4). Her bleeding risk was also high (HAS-BLED risk score = 3). Additionally, she had severe chronic kidney disease (creatinine clearance of 14 mL/min) precluding the use of non-vitamin K antagonist oral anticoagulants. After one year on warfarin, we documented labile international normalised ratio (INR) and one episode of major gastrointestinal bleeding with severe anaemia requiring blood transfusion. Left atrial appendage (LAA) occlusion was considered. A 22-mm Amplatzer Cardiac Plug device (St. Jude Medical, St. Paul, MN, USA) was successfully implanted through a right femoral venous access (sheath size of 10 F inner diameter). The correct positioning of device was confirmed intraprocedurally by two-dimensional and real-time, three-dimensional transoesophageal echocardiography (TEE), without residual leaks (Fig. 1). The patient was discharged on acetylsalicylic acid 100 mg for one month and clopidogrel 75 mg for six months. She remained asymptomatic without major ischaemic or bleeding events. Routine TEE imaging performed at one-year follow-up depicted a mobile, pedunculated thrombus on the atrial surface of the device despite correct device position and no residual leak (Fig. 2). Regardless of the high bleeding risk, antithrombotic therapy with warfarin was restarted and another TEE was scheduled after eight weeks. Unfortunately, one month later the patient died with severe urosepsis, a non-cardiovascular event. This case highlights the antithrombotic therapeutic dilemma in a high-bleeding-risk patient, in whom a device-associated thrombus occurred after successful LAA occluder implantation. After LAA percutaneous occlusion and before endothelialisation is completed, antithrombotic therapy minimises device-associated thrombogenicity. Consensus documents have been published suggesting antithrombotic regimen, timing to withhold the therapy, and an adequate imaging approach in routine follow-up. However, it depends on individual bleeding risk, the type of device, and the occurrence of complications. In patients with device-associated thrombus, even with high bleeding risk, restart anticoagulation should be considered. Further studies are warranted in order to establish a clear consensus about the adequate approach to this uncommon complication.

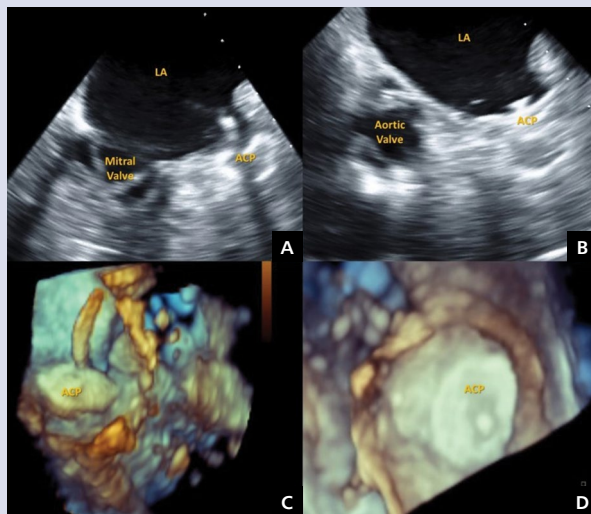


Figure 1. Transoesophageal echocardiography (TEE) performed during left atrial appendage (LAA) occlusion procedure, guiding all the steps of the procedure and confirmation of the optimal positioning of the device; **A, B.** Two-dimensional TEE view during device-positioning; **C, D.** Real-time, three-dimensional TEE to confirm the adequate positioning of the device with higher accuracy; ACP — Amplatzer Cardiac Plug device; LA — left atrium

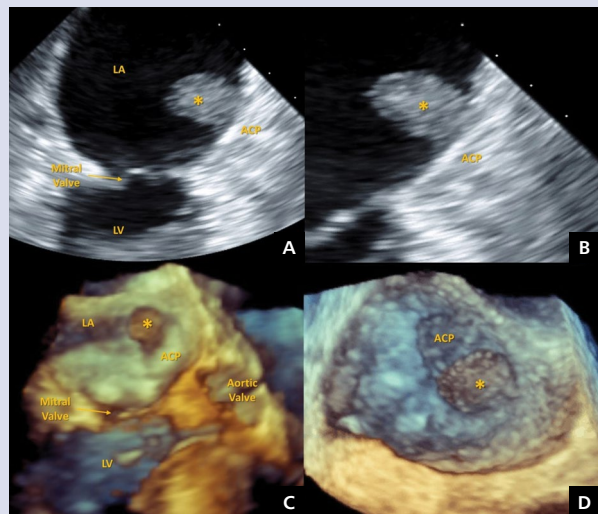


Figure 2. Transoesophageal echocardiography (TEE) showing a mobile, pedunculated thrombus (asterisks) in the atrial surface of the Amplatzer Cardiac Plug device. Thrombus dimensions and its relation with device and surrounding structures is shown; **A, B.** Two-dimensional TEE displaying the device-associated thrombus; **C, D.** Real-time, three-dimensional TEE allows complete spatial visualisation of the thrombus and its surrounding structures; ACP — Amplatzer Cardiac Plug device; LA — left atrium; LV — left ventricle

Address for correspondence:

Catarina Ruivo, MD, Cardiology Department, Leiria Hospitalar Centre, Rua das Olhalvas, 2410-197, Leiria, Portugal, e-mail: catarina.ruivo.cardio@gmail.com

Conflict of interest: none declared

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