

EP CASE REPORT

Thoracoscopic left atrial appendage clipping as novel treatment option for peri-device leakage

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Introduction

Atrial fibrillation (AF) has become the most common cardiac arrhythmia, with a worldwide prevalence of more than 30 million cases.¹ Some studies indicate that 20–30% of all ischaemic strokes are diagnosed in patients known with AF. Although oral anticoagulation therapy is recommended for patients with an increased risk for thromboembolic events, some patients at high-risk for bleeding events may benefit more from left atrial appendage (LAA) occlusion for stroke prevention.^{2,3,4} Trials have shown non-inferiority for percutaneous LAA closure compared with warfarin but also describe a significant amount of peri-device leaks.^{2,3,5} We describe two patients with peri-device leakage after transcatheter LAA-closure, treated by thoracoscopic clipping of the LAA.

Case report

Case 1

A 69-year-old woman with a medical history of symptomatic antiarrhythmic drug (AAD) refractory paroxysmal AF, stroke (CHA₂DS₂-VASc score 5), and therapy-resistant epilepsy resulting in frequent collapses with potential risk for head trauma and cerebral bleeding (HAS-BLED score 3), underwent catheter ablation and transcatheter LAA-occlusion (WATCHMANTM 24 mm device, Boston Scientific, Natick, MA, USA). Computed tomography (CT) scan revealed significant peri-device leakage (4–5 mm). Due to the absolute contra-indication for oral anticoagulation therapy, the patient was referred for thoracoscopic LAA-clipping (Atriclip PRO 145, AtriCure Inc., Dayton, OH, USA). Additionally, a totally thoracoscopic MAZE procedure (TT-MAZE) was performed, because of recurrent

AAD-refractory AF. The procedure and post-operative course were uneventful. Perioperative Transesophageal echocardiography (TEE) showed complete closure of the LAA, which was confirmed on CT-scan performed 2 months after surgery. Post-operatively the patient was free from AF symptoms.

Case 2

A 77-year-old male with a medical history of permanent AF (CHA₂DS₂-VASc score 4), prostate carcinoma, Alzheimer's disease, and gastrointestinal bleedings under coumadines (HAS-BLED score 3), underwent a WATCHMAN LAA-occlusion (24 mm). Computed tomography scan revealed significant peri-device leakage (9 mm). The patient was referred for thoracoscopic LAA-clipping (Atriclip PRO 150 device). Additionally, a TT-MAZE was performed for his symptomatic AAD-refractory permanent AF. Post-operative CT scan showed complete closure of the LAA as shown in *Figure 1*. The patient was free from AF symptoms and 48-h Holter showed sinus rhythm, 9 months after surgery.

Conclusion

Thoracoscopic LAA-clipping seems to be a novel and feasible treatment option for peri-device leakage after incomplete transcatheter LAA-closure.

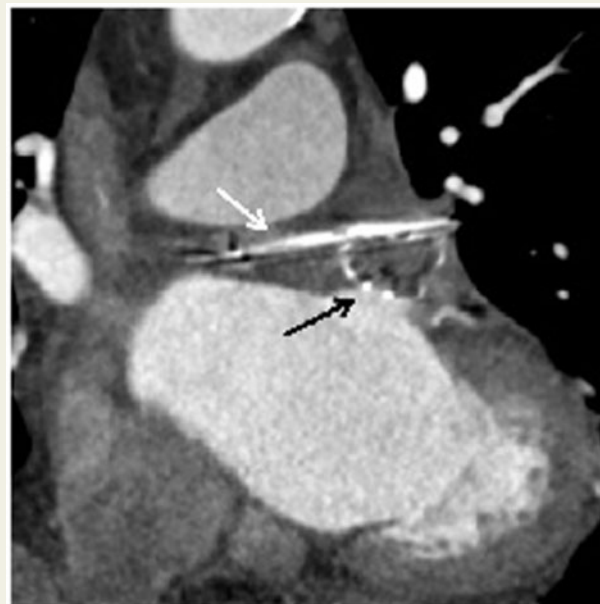


Figure 1 Post-operative CT-scan shows the WATCHMAN (black arrow) and Atriclip (white arrow) *in situ* with no contrast in the LAA.

Conflict of interest: L.V.A. Boersma and M.J. Swaans are consultants for Boston Scientific. B.P. van Putte is proctor and consultant for AtriCure Inc.

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