Images and Case Reports in Arrhythmia and Electrophysiology

Left Atrial Thrombus After Appendage Closure Using LARIAT

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The left atrial appendage (LAA) is the source of thromboembolism in the vast majority of patients with atrial fibrillation and stroke.[1] As a consequence, a newer paradigm of targeting the LAA has evolved, including the use of several percutaneous techniques, including the LARIAT snare device (SentreHEART).[2] This minimally invasive strategy involves pericardial suture ligation of the LAA base using a combined percutaneous endocardial and epicardial approach.

Case Report

A 75-year-old male with atrial fibrillation, hypertension, and end-stage liver disease complicated by esophageal varices was referred for LAA closure using the LARIAT device. The procedure was uneventful, and complete closure of the LAA was confirmed using intraoperative transesophageal echocardiography (Figures 1 and 2). The patient was discharged without oral anticoagulation. His postoperative course was complicated by an increase in the frequency of atrial fibrillation with rapid ventricular rates despite several antiarrhythmic drugs. Three weeks after the LAA closure procedure, the patient underwent atrioventricular nodal ablation and dual chamber permanent pacemaker implantation.

A follow-up transesophageal echocardiography, 3 months later, showed complete closure of LAA with no evidence of residual flow. However, there was a 0.8×0.8 cm oval, pedunculated, mobile left atrial thrombus attached to the endocardial site of LAA closure (Figure 3). He was also found to have 2 thrombi in the right atrium (1.1×1.0 cm; 0.9×1.0 cm). The patient was subsequently started on warfarin. A repeat transesophageal echocardiography 3 months later showed resolution of all thrombi and no clinical sequelae.

Discussion

This case raises the concern that LAA occlusion using an epicardial suture snare acutely increases local inflammation and, subsequently, left atrial thrombogenicity at the endocardial site of LAA closure. Further investigation about the need for anticoagulation after LAA closure is warranted.

Disclosures

None.

References

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KEY WORDS: closure device ■ LARIAT ■ left atrial appendage ■ stroke prevention ■ thrombosis

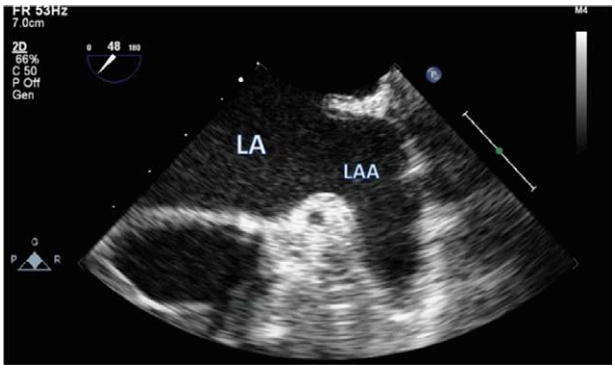

Figure 1. A baseline transesophageal image of the left atrial appendage before closure. LA indicates left atrium; and LAA, left atrial appendage.

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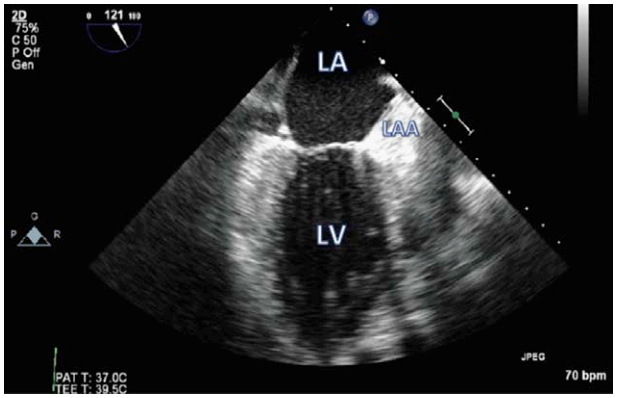

Figure 2. A transesophageal image of the left atrial appendage after closure using a suture snare LARIAT device. LA indicates left atrium; LAA, left atrial appendage; and LV, left ventricle.

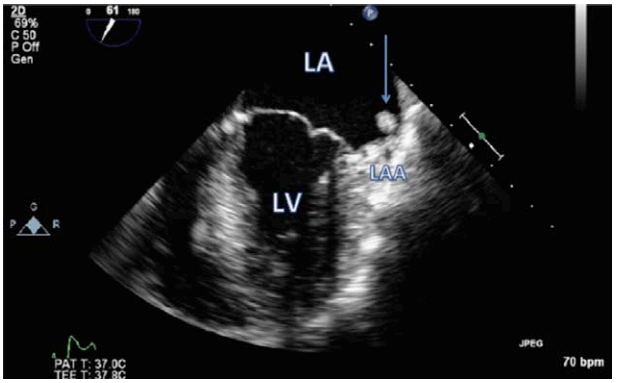

Figure 3. A transesophageal image of an endocardial left atrial pedunculated thrombus (arrow) seen 3 months after left atrial appendage closure. LA indicates left atrium; LAA, left atrial appendage; and LV, left ventricle.

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