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


Keywords: 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.
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.
Left Atrial Thrombus After Appendage Closure Using LARIAT
Evaldas Giedrimas, Albert C. Lin and Bradley P. Knight

_Circ Arrhythm Electrophysiol_. 2013;6:e52-e53
doi: 10.1161/CIRCEP.113.000532
_Circulation: Arrhythmia and Electrophysiology_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2013 American Heart Association, Inc. All rights reserved.
Print ISSN: 1941-3149. Online ISSN: 1941-3084

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circep.ahajournals.org/content/6/4/e52

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation: Arrhythmia and Electrophysiology_ can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to _Circulation: Arrhythmia and Electrophysiology_ is online at:
http://circep.ahajournals.org/subscriptions/