

Thoracoscopic Left Atrial Appendage Exclusion for Atrial Fibrillation Patients Intolerant to Anti-Coagulation

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Purpose

- The Left Atrial Appendage Occlusion Study (LAAOS) III trial showed benefit of left atrial appendage exclusion with concomitant cardiac surgery.
- However, most patients in LAAOS III remained on anticoagulation.
- Outcomes with isolated thoracoscopic epicardial left atrial appendage (LAA) exclusion in atrial fibrillation (AF) patients with a contraindication to anticoagulation are not clearly defined, especially in patients with prior stroke.

Materials and Methods

- Single-center retrospective study of adults (≥ 18 years) undergoing isolated thoracoscopic LAA exclusion with an epicardial exclusion device without a concomitant surgical procedure between 1/1/2010 and 6/30/2022.
- Intraoperative postprocedural transesophageal echocardiography was performed to confirm flush occlusion of the LAA, with technical success defined as LAA stump length of < 10 mm.
- Continuous data are presented as mean $\pm$ standard deviation or median (interquartile range). Categorical variables are presented as % (N).

Results

- N=25 Patients**
 - Baseline Characteristics
 - Mean age 76.4 ± 6.5 years / 68% male
 - Preop CHA₂DS₂-VASc score 4.2 ± 1.4**
 - Preop HAS-BLED score 2.68 ± 1.03**
 - 68% (n=17) had non-paroxysmal AF
 - Indications
 - N= 22 (88%) Intolerance to anticoagulation: Intracranial Bleed** (50%, n=11), **GI Bleed** (27%, n=6), **GU Bleed** (18%, n=4), and **Skin reaction** (4.5%, n=1)
 - N=2 (8.0%) patient preference desired to stop anticoagulation
 - N=1 (4.0%) had a contraindication to anticoagulation due to a study drug
 - Procedural Details
 - 100% technical success (LAA stump length < 10 mm)
 - Mean operative duration of **58.7 ± 42.2 minutes**
 - Follow-Up
 - Mean follow-up time of **566.9 ± 506.1 days**
 - 100% off anticoagulation**
 - 0 postoperative strokes**

Table 1. Intraoperative Data.

Variable	All patients (N = 25)
Minimally invasive thoracoscopic approach	100 (25)
Technical success	100 (25)
LAA stump length, mm	-----
Mean $\pm$ SD	5.45 ± 2.25
Median (IQR)	5.3 (4, 6.5)
Operative duration, minutes	-----
Mean $\pm$ SD	58.7 ± 42.2
Median (IQR)	48 (38, 58)

Table 2. Postoperative Outcomes and Follow-Up Data.

Variable	All patients (N = 25)
Morbidity within 30 days	8.0 (2)
Pleural effusion	4.0 (1)
Cardiac enzyme elevation	4.0 (1)
CVA/TIA within 30 days	0 (0)
Systemic embolism within 30 days	0 (0)
Any systemic embolism	0 (0)
Hospital LOS, days	-----
Mean $\pm$ SD	4.16 ± 4.59
Median (IQR)	2 (1, 6.5)
Postoperative LOS, days	-----
Mean $\pm$ SD	3.84 ± 3.61
Median (IQR)	2 (1, 6.5)
Follow-up time, days	-----
Mean $\pm$ SD	566.9 ± 506.1
Median (IQR)	430 (125, 972)
30-day mortality	8.0 (2)

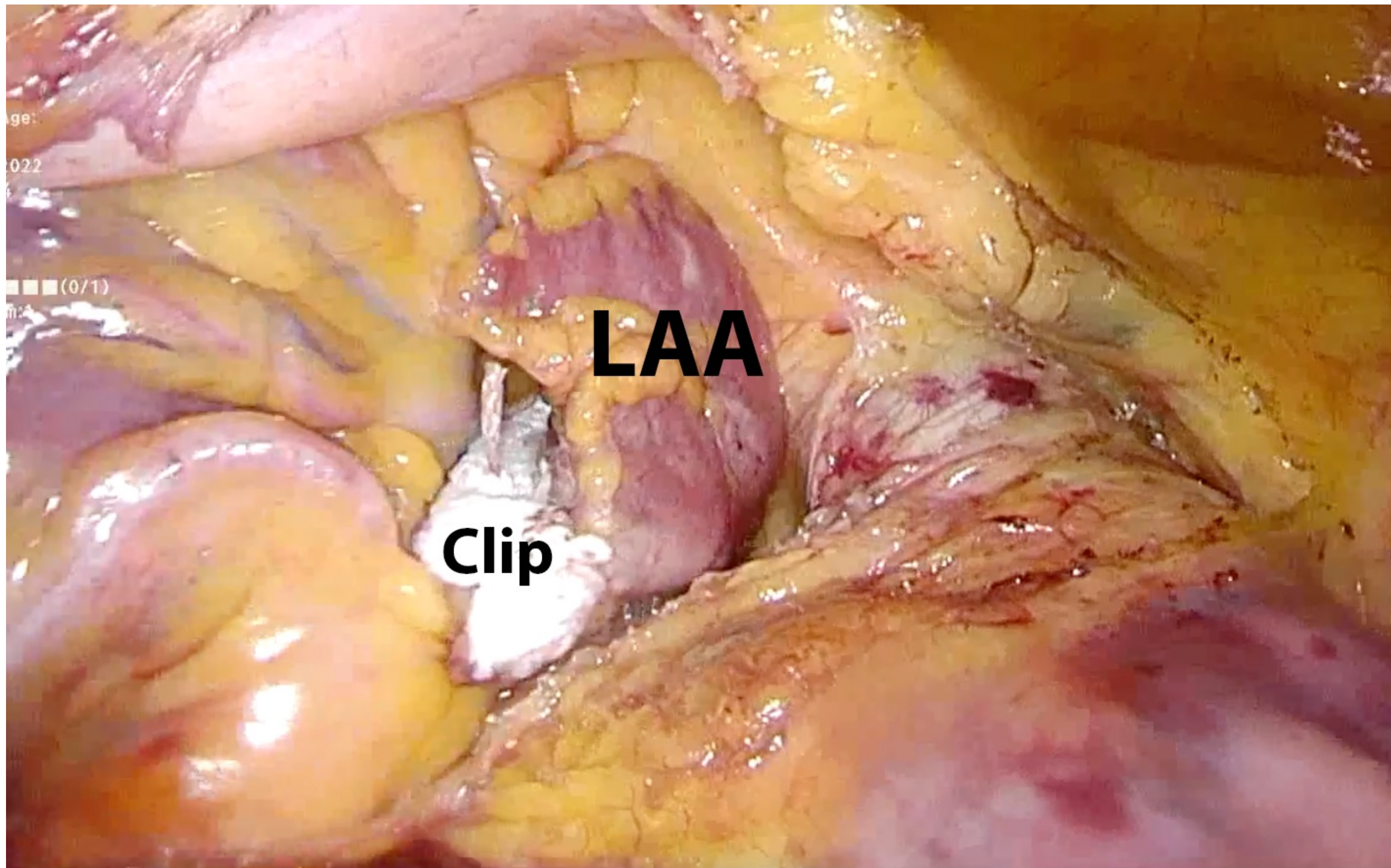


Figure 1. Intraoperative view of epicardially placed left atrial appendage AtriClip (AtriCure, Inc., Mason, OH, USA). LAA, left atrial appendage.

Conclusions

Examination of adult patients with AF, high stroke risk, and intolerance/contraindication to anticoagulation who underwent isolated thoracoscopic LAA exclusion reveals:

- Isolated epicardial LAA exclusion may be an appropriate alternative to anticoagulation and may be preferable to endocardial LAA occlusion.
- In this high-risk patient population, careful patient selection is necessary to avoid morbidity.