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Unfortunately, the LAA literature is akin to the maze data, with incredible heterogeneity making data analysis extremely challenging. Although signals exist that surgical treatment may benefit select populations, this remains speculative. Naturally, a prospective, randomized trial that uses a standard technique may ultimately answer the question. Until then, and for the time being, debates will continue online, at meetings, and in the literature.

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WE MUST AMPUTATE!?

Reply to the Editor:

Controversy remains regarding the fate of the left atrial appendage (LAA). Multiple forms of open and closed ligation exist, apparently with low morbidity and mortality.

Unfortunately, the jury is still out. Proponents of a “no-touch technique” cite high failure rates and equivalent outcomes. Surgical studies, on the other hand, have generally been underpowered and nonprospective.

In their recent article in the *Journal*, Juo and colleagues¹ made a valiant effort to resolve the LAA dilemma. In 2 separate responses, one by us and the other by Gupta and colleagues,² several design flaws and statistical limitations were highlighted. Nevertheless, their message resonated with us. The Left Atrial Appendage Occlusion Study II (LAAOS II), a randomized, controlled trial, evaluated LAA occlusion in patients undergoing cardiac surgery.³ No difference in stroke rate was seen. Similarly, the PREVAIL (Watchman LAA Closure Device in Patients With Atrial Fibrillation Versus Long Term Warfarin Therapy) trial also failed to demonstrate superiority of mechanical closure of the LAA for stroke prevention.⁴ Furthermore, surveillance echocardiograms have found unexpectedly high failure rates (40%-60%) for surgical occlusion of the LAA.^{5,6} On the other hand, a well-designed retrospective study by Caliskan and colleagues⁷ looking at a surgical closure device in patients undergoing cardiac surgery showed a significant neurologic benefit in patients who discontinued oral anticoagulation.

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“APPENDING” ONTO LEFT-SIDED THORACOSCOPIC OPERATIONS: AN OBVIOUS TWO-FOR-ONE BARGAIN?

Reply to the Editor:

Since the left atrial appendage (LAA) was identified as the thromboembolic source in at least 90% of nonvalvular atrial fibrillation-related strokes,¹ excluding this appendage has been the subject of a seemingly endless number of clinical trials, surgical techniques, and occlusive devices.

Author has nothing to disclose with regard to commercial support.

Inoue and Suematsu² contribute a technical corollary in exploiting the surgical access afforded by video-assisted thoracoscopic left lobectomy to perform concomitant epicardial occlusion of the LAA for patients with atrial fibrillation. As the authors note, the concept of thoracoscopic LAA occlusion is not new and has been successfully performed as a stand-alone procedure with excellent results.³ Thus, the conceptual novelty of this letter lies not in the technique, but rather in the potential of “appending” epicardial LAA occlusion, when indicated, to other left-sided thoracoscopic operations besides pulmonary lobectomy. Such operations might include pleurodesis, resection of mediastinal or pleural-based masses, and diaphragmatic hernia repair. Reducing the risk of cardioembolic stroke and obviating the need for lifelong oral anticoagulation with nominal incremental procedural risk would significantly add to the benefits of the primary operation.

However, of some concern with this concept, as it is described in this report, is the fact that the thoracoscopic port sites are understandably placed in optimal position for performance of the lobectomy and not the LAA occlusion. Thoracoscopic, laparoscopic, and robotic surgeons know that suboptimal port placement can render an otherwise straightforward operation difficult and even dangerous. The variability in the morphology, basal width, orientation, and friability of the LAA along with its proximity to critical structures (eg, circumflex coronary artery) necessitate proper angles of attack of manipulating instruments and stapler/cutting devices that may not be afforded by ports positioned to conduct the primary procedure. Moreover, ideal spatial orientation and application of the occluding device are important in avoiding gaps in the staple line or excessive stumps of residual appendage tissue (ie, >1 cm). In fact, the authors acknowledge, illustrate, and ligate a residual stump in their report. Even with a sternotomy approach, LAA exclusion failure rates as high as 57% were observed in a randomized, prospective comparison of several different conventional surgical exclusion techniques performed concomitantly with mitral and ablative operations.⁴ Of course, adjustments can be made to some degree with instrument articulations

and additional port placements, but this may add to the complexity and potential risk of the procedure.

Newer, less traumatic, and more completely occlusive epicardial occluding devices may address some of these issues. For example, trials of the AtriClip device (Atricure Inc, Westchester, Ohio) have demonstrated high rates of complete, durable LAA exclusion with no adverse events leading to current trials of stand-alone thoracoscopic deployment of this device.^{5,6} Of course, endocardial LAA occlusion devices, particularly the Watchman device (Boston Scientific, Maple Grove, Minn),^{7,8} represent potential alternatives to surgical LAA exclusion, although head-to-head comparisons have not been (and may never be) made.

The authors’ combinatorial approach is certainly worth considering in selected cases, but might be further improved with newer, more effective, and safer epicardial occluding devices.

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