In patients with atrial fibrillation undergoing cardiac surgery, LAA closure should be performed. The excision of the appendage probably gets better results, providing that we do not leave a residual pouch.

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Commentary: Left atrial appendage excision reduces long-term stroke rates—is it the operation or the treatment of atrial fibrillation?

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Surgical management of the left atrial appendage (LAA) reduces the rate of cerebrovascular accidents (CVA).¹⁻⁸ In this edition of the *Journal*, Duan and colleagues⁹ present their findings on the incidence of CVA in 1136 patients with atrial fibrillation (AF) undergoing surgical LAA treatment over a 10-year period. Approximately one third underwent LAA excision, LAA extracardiac ligation, and LAA intracardiac suture, respectively. With an average follow-up of 48.7 months, there was no difference in long-term survival. Annual and calculated 10-year CVA

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CENTRAL MESSAGE

Surgical excision of the LAA in patients with AF can prevent long-term strokes, although the comparative effectiveness to other surgical techniques is still unclear.

rates in the LAA excision group were lower than in the other 2 groups.

Our first concern with this study is the lack of detail about the type and treatment of AF. In this cohort, all patients had AF, but there is no breakdown of the type of AF (paroxysmal vs persistent). Radiofrequency ablation (RFA) is listed as an operative variable that fails to tell us what ablation procedure was performed (Maze vs pulmonary vein isolation). Ninety-one percent of patients had their LAA surgically treated, yet only 29% of those underwent RFA. Why was there such a

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disparity between the treatment of the LAA and the treatment of AF? RFA was performed in 62.7% of the LAA excision group versus 20.5% and 6.3% in the other 2 groups (LAA extracardiac ligation and LAA intracardiac suture), making it difficult to tease out if the LAA excision or the RFA eliminating AF led to fewer postoperative strokes. Furthermore, postoperatively, there are no data about AF prophylaxis, AF treatment, and anticoagulation.

Another significant deficiency in this study is the lack of intraoperative and follow-up transesophageal echocardiography (TEE). We know from multiple studies that the failure rate of surgical treatment of the LAA is high.^{10,11} Lee and colleagues¹² demonstrated a 57% failure rate on late TEE. Without TEE, it is hard to draw any conclusions about the effectiveness of a surgical technique in reducing strokes.

Finally, it is hard to avoid the significant variability among the treatment groups. The excision group had smaller left atrial diameters; lower rates of intracardiac thrombus; higher rates of AVR, Morrow surgery, and “other” operations; higher rates of RFA; lower rates of postoperative AF; and lower rates of anticoagulation on follow up. Taking all of those factors together, is the lower rate of CVA in this group due to less postoperative AF rather than the surgical technique?

In this large, retrospective cohort study, the authors demonstrate a high rate of LAA surgical treatment in patients with AF. The long-term CVA rate was 3.3%, comparable to Lee and colleagues’ study¹³ comparing late neurologic events after AF surgery, although transient ischemic attacks were included in late neurologic events. Duan and colleagues⁹ are to be commended on a robust study, but ultimately it does not improve our understanding of the optimal surgical management of the LAA. We encourage the authors to look at the missing variables discussed to better understand which LAA surgical strategy is best at reducing long-term CVA.

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