To thin or not to thin?

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Surgical ablation for atrial fibrillation remains an area of active investigation and interest for cardiac surgeons. Improved technology, high rhythm conversion rates, long-term success, and a growing interest in minimally invasive and hybrid approaches have resurrected arrhythmia surgery. Still, we are plagued by the lack of an appropriate anticoagulation regimen after surgical ablation. Existing recommendations and guidelines are extrapolations from catheter-based techniques and do not account for the complexities in dealing with a postoperative cardiac surgical patient.^{1,2} In addition, they emphasize variables such as the CHADS₂ (congestive heart failure, hypertension, age ≥ 75 years, diabetes mellitus, stroke [double weight]) score, which have been insufficient at guiding oral anticoagulation therapy (OAC) therapy in our patient population.³ We have therefore witnessed an extreme variability in practice patterns.

In this month's issue of the *Journal*, Murashita and colleagues⁴ help elucidate some of the enigma surrounding postoperative anticoagulation after surgical ablation. In a 4-year follow up, they compared patients discharged with and without OAC. All patients had undergone a Cox maze IV surgical ablation, most performed as a concomitant procedure. Murashita and colleagues⁴ are to be commended for constructing a well-executed study. They were incredibly successful at rhythm conversion. In fact, nearly 98% of their patients were discharged in normal sinus rhythm, with 77% remaining in normal sinus rhythm at 4 years. The rate of the primary end point, cerebrovascular accident, was lower than 1% per patient-year in both cohorts. As expected, major bleeding events were more prevalent in the OAC group; however, the difference was not statistically significant. The findings as a whole are intriguing, and they bolster the argument for withholding OAC after surgical ablation for atrial fibrillation.

Nevertheless, the Achilles' heel of atrial fibrillation remains the inherent variability in surgical and medical management. A "maze" procedure can vary anywhere from a simple pulmonary vein isolation to a full biatrial lesion set,

Kevin J. Koomalsingh, MD (left), and Nahush A. Mokadam, MD (right)

Central Message

Anticoagulation after a Cox maze IV procedure may not be necessary to prevent cardioembolic complications, but it is unlikely to disappear in the foreseeable future.

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and even a "full" biatrial lesion set is variable from surgeon to surgeon and center to center. Furthermore, the left atrial appendage can be managed in a variety of ways, each with its corresponding failure rate. Medical management adds yet another layer of complexity. For example, a recent Canadian study uncovered not only inconsistent anticoagulation prescribing patterns by referring cardiologists but also significant deviations from existing guidelines and recommendations for long-term management of atrial fibrillation.⁵ The multidimensional scope of this problem is therefore likely to be underappreciated. Another wrench in the works stems from recent changes in anticoagulation guidelines after valvular heart surgery.² Because the vast majority of Cox maze IV procedures are performed concomitantly, is it practical to withhold anticoagulation in just a mere handful of cases? Should more patients undergo a stand-alone Cox maze IV procedure? Would a randomized clinical trial help elucidate this issue?

Perhaps if all surgeons were able to generate a 9-month freedom from atrial fibrillation of 90%, a left atrial appendage failure rate of 0%, and a surgical ablation time of 16 minutes, unification and standardization would be within reach. We are certainly enthusiastic about the possibility of discontinuing anticoagulation in our patients undergoing surgical ablation. We, as a surgical society, need to recognize the tremendous opportunity in unifying this initiative. Until then, however, the warfarin prescriptions will likely continue.

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