Dear Readers,

In this issue of the Journal, I would like to call your attention to an excellent article submitted by Dr. Civello and colleagues entitled “Combined Endocardial and Epicardial Ablation for Symptomatic Atrial Fibrillation: Single Center Experience in 100+ Consecutive Patients”. This study represents one of the largest studies to date reporting the efficacy of the Convergent or Hybrid Procedure for treating atrial fibrillation.

The Convergent or Hybrid Procedure is an increasingly popular approach to the treatment of persistent atrial fibrillation. The goal with this approach is to develop a close collaboration between the surgeon and electrophysiologist in a combined procedure that relies on the strength of both the endocardial and epicardial approach to ablating atrial fibrillation. This procedure can be done simultaneously in a hybrid EP lab or in two separate staged procedures.

In this article, Dr. Civello and colleagues report that with this combined approach 72 percent of their patients were still in sinus rhythm without antiarrhythmics at one year. These numbers are impressive given that 76 percent had persistent atrial fibrillation and only 5 percent of their patients required a redo procedure. Moreover, their reported complication rate was very respectable.

This article certainly raises the question of how should we manage patients with persistent atrial fibrillation. Unfortunately, we have learned that in at least half of these patients, pulmonary vein isolation alone is insufficient in treating their persistent atrial fibrillation. For those electrophysiologists in centers with strong surgical programs for atrial fibrillation management, this could be an attractive option particularly for patients with long-standing persistent atrial fibrillation and severe left atrial enlargement.

An added benefit of the surgical approach is that, if done properly, left atrial appendage excision can be very beneficial in not just preventing strokes but also in helping to maintain normal rhythm in these patients with advanced atrial fibrillation. With close collaboration, electrophysiologists can help surgeons in ensuring that their left atrial appendage excision is complete without leaving a stump for the appendage.

The next question is whether this combined EP/surgical procedure is any better than what can be done with a catheter alone for the treatment of persistent atrial fibrillation?

Certainly, one criticism surgeons have of electrophysiologists is that EP’s often require more than one procedure to obtain the goal of sinus rhythm. Hopefully, newer catheters and technologies will help us to achieve a more durable atrial fibrillation lesion set. In the meantime, while repeat procedures often happen, one could also easily argue that the Convergent or Hybrid Procedure exposes the patient to “two” procedures from the beginning.

If persistent atrial fibrillation is managed exclusively in the EP lab, what approach should be undertaken? Depending on the extent of atrial disease, one could just perform pulmonary vein isolation or perform extensive additional ablations as part of the first procedure. These additional ablations could include linear lesions, atrial “debulking” approaches, and ablations targeting complex fractionated electrograms. Unfortunately, none of these approaches have been shown to be dramatically effective at managing persistent atrial fibrillation long-term.

In reviewing the literature, the data are mixed on the efficacy of linear lesions for persistent atrial fibrillation. Perhaps linear increase the one-year success rate by about 10 percent depending on which study you look at, however, this comes at the cost of more atrial flutters from gaps in the lines.

A debulking approach, whether it be the posterior wall of the left atrium, or a step-wise ablation approach targeting other atrial areas, may also somewhat increase the one-year success rate. However, this also comes at the cost of post-AF ablation atrial flutters and the risk of potentially decreasing atrial mechanical transport function. At the end of the day, how much benefit have you given then patient with sinus rhythm if atrial mechanical transport is significantly compromised?
While the complex fractionated electrogram (CFE) guided ablation approach has enjoyed significant popularity over the years, this popularity now seems to be waning, as most operators have not been impressed with the outcomes. At our center, when we have mapped these areas of complex fractionated electrogram activity, we have consistently seen that these areas correspond to areas of significant atrial voltage or healthy tissue. Moreover, our atrial fibrillation wavefront mapping has shown that these CFE areas are simply areas of colliding wave fronts and really do not identify the sources of atrial fibrillation. Indeed, MRI studies have shown that CFE’s are often seen in areas of healthy atrial tissue. Could the potential benefit seen in some studies from this CFE approach merely be just another atrial debulking approach?

The real future of atrial fibrillation ablation management will be the ability to see the actual source of atrial fibrillation. With the advancement of these technologies we are now able to see the atrial fibrillation rotors, drivers, and other sources of atrial fibrillation. With a targeted ablation approach, we can significantly improve success rates and minimize unnecessary ablation thereby maximizing atrial transport function. Indeed, this has been our experience as we have performed these types of ablation approaches.

What is your approach to ablating persistent atrial fibrillation? Please send me an email and let me know what approach you are using at your center.

We hope you enjoy the articles in this issue of the Journal and that this Journal will continue to be of benefit to you and your patients.

Warm regards,

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