Invited Commentary

Atrial flutter: A smoking gun for atrial fibrillation

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Most cases of clinical atrial flutter (AFL), in the absence of prior ablation for atrial fibrillation (AF), correspond to typical isthmus-dependent AFL. The success of catheter ablation for typical AFL is very high.¹ In the absence of atrioventricular conduction disease, rate control for patients with AFL is difficult. AFL frequently conducts in a 2:1 fashion, resulting in a persistent ventricular rate of 150 beats per minute. Patients with AFL are often symptomatic or otherwise at high risk of developing tachycardia-induced cardiomyopathy. The optimal treatment of choice for AFL is catheter ablation.

There are few greater satisfactions in medicine than delivering the news of “cure” and success to patients and their family after a medical procedure. Blinded by optimism, the electrophysiologist who performs an ablation for AFL may be tempted to declare the patient “cured” from the arrhythmia. Though this may be true for AFL itself, it has been increasingly reported that a high percentage of patients with AFL will later present with AF during follow-up.^{2–6} This is not surprising, because AFL and AF frequently coexist and share a similar substrate and triggers.^{7,8} Dr. Vasudevan and colleagues describe the incidence of atrial arrhythmias among 188 patients who underwent AFL ablation in their institution.⁹ The incidence of atrial arrhythmias 1 year after ablation was 15.4%, with a nonstatistically significant trend toward a higher incidence among patients presenting for ablation in sinus rhythm when compared with those presenting in AFL (17% vs 13.8%). Patients presenting for ablation in sinus rhythm were more likely to have inducible AF during the baseline electrophysiology study and had smaller left atriums.⁹ The explanations for those differences are hypothetical. More arrhythmia substrate may lead to both spontaneous terminations of AFL and a higher likelihood of AF but, unexpectedly and likely just an incidental finding, patients with inducible AF had smaller atriums.

The relationship between AFL and AF has been the subject of study for many years.^{2–10} Initiation of AFL may require at least premature atrial beats or runs of AF as a trigger.^{7,8,10} What to do in clinical practice about the interplay between AFL and AF remains a clinical challenge. Ablation for AF aimed at electrical pulmonary vein isolation (PVI) has demonstrated a decreased recurrence of AFL.¹¹ Small clinical trials have demonstrated the benefit of PVI in patients undergoing AFL ablation.^{12,13} This strategy has not been widely adopted. Even among patients with the documentation of only clinical AFL who are found to have AF during their ablation procedure, PVI is not routinely performed. If we could predict with a reasonable level of certainty which patients presenting with AFL will develop clinical AF on follow-up, those patients could be offered and consented for PVI at the same time as AFL ablation.

Until we have the right predictive tools, education, counseling, close monitoring, and conservative management of anticoagulation for stroke prevention are probably best practice. Education and counseling on the possibility of AF and risk factor modification (hypertension, diabetes, alcohol, tobacco, sleep apnea, obesity, sedentary lifestyle) may help prevent its occurrence on follow-up.¹⁴ Close monitoring with daily pulse checks, wearable devices, or implantable loop recorders will aid in the early diagnosis of AF and guide decisions on the appropriate prescription of anticoagulation. Continuation of anticoagulation should be recommended until a proper monitoring strategy is established and education on the subsequent risk of AF is completed.

Patients with AFL are better treated with catheter-based ablation to create a complete line of conduction block across the cavotricuspid isthmus. Ablation effectively prevents the recurrence of AFL. Only after providers and patients understand that AFL may be a smoking gun for AF, engage in aggressive risk factor modification, and adopt an effective monitoring strategy for early detection of AF can we properly celebrate the success of AFL ablation and its promise of “cure.” The work of Dr. Vasudevan

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Received April 10, 2018; Accepted April 12, 2018.

and colleagues offers yet another consistent and thought-provoking piece of evidence.

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