



Invited Commentary | Cardiology

Rethinking a "Successful" Ablation

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Iwawaki et al¹ examined the consequences associated with stopping oral anticoagulation (OAC) in a study of 1821 patients with atrial fibrillation (AF) who underwent a first-time ablation that was deemed successful, defined as a 1-year postablation period without evidence of recurrent AF, exclusive of a 3-month blanking period. All patients underwent pulmonary vein isolation (PVI), primarily with radiofrequency ablation, and additional ablation was performed in patients with long-standing persistent AF or atrial flutter. The mean (SD) follow-up period was 4.8 (4.0) years. Compared with those who continued OAC (n = 922; mean [SD] CHA₂DS₂-VASc score, 2.56 [1.57]; mean HAS-BLED score, 1.65 [1.05]), those who discontinued OAC (n = 899; mean [SD] CHA₂DS₂-VASc score, 1.43 [1.32]; mean [SD] HAS-BLED score, 1.03 [0.97]) experienced a significantly higher rate of thromboembolic events (hazard ratio [HR], 2.43 [95% CI, 1.23-4.79]; *P* = .01) but also a significantly lower rate of major bleeding events (HR, 0.15 [95% CI, 0.06-0.39]; *P* < .001). The authors concluded that additional patient-specific characteristics should be incorporated in making a decision to discontinue OAC.

Iwawaki et al¹ investigated 2 popular ideas regarding the impact of AF ablation. The first is that AF ablation outcomes can be viewed in a binary manner as either successful or not successful. The second is that AF ablation can be curative. Both ideas appear to be prevalent among patients with AF, who are ever hopeful that a single ablation procedure can fully eliminate AF and the need to continue long-term OAC. Unfortunately, neither of these concepts has been validated. In fact, the recent trend among cardiac electrophysiologists is to quantify the effect of AF ablation in terms of a reduction in overall AF burden, instead of the presence or absence of recurrent AF. Furthermore, the 2023 American College of Cardiology, American Heart Association, American College of Clinical Pharmacy, and Heart Rhythm Society AF guidelines issued a class I recommendation for the continuation of long-term OAC after ablation based on patient stroke risk, namely for those with a CHA₂DS₂-VASc score of 2 or greater, and this sentiment was echoed in the 2024 European Society of Cardiology AF guidelines.^{2,3}

There are several explanations for why a single ablation attempt will fail to eliminate AF. The first reason is that AF triggers exist throughout the atria, even if largely confined to the pulmonary veins. The landmark 1998 study by Haïssaguerre et al⁴ revealed that ectopic atrial foci within the pulmonary veins initiated AF in 94% (but not 100%) of cases. A 2017 review by Santangeli and Marchlinski⁵ indicated that up to 11% of patients demonstrated AF initiating from non-pulmonary vein foci, including the left atrial posterior wall, left atrial appendage, crista terminalis, and Eustachian ridge. The second reason is that modern ablation techniques incorporating PVI can ensure acute, but not durable, electrical inactivity of the targeted atrial tissue. In a 2024 clinical evaluation of contemporary AF ablation practices, Osorio et al⁶ described acute electrical isolation of the pulmonary veins in all patients but only 81.6% were free from atrial arrhythmias at 1 year of follow-up. Finally, AF is now understood to be a progressive condition that can be stalled but not stopped despite the most aggressive interventions, similar to coronary artery disease and heart failure. It is possible, but not certain, that a single ablation performed today will prevent recurrent AF years later.

Given these circumstances, how should long-term OAC for patients with AF be managed after AF ablation? While the easy answer is to provide patients with realistic expectations of AF ablation outcomes based on data and guidelines, the challenge is having all clinicians involved in patients' AF care to promote the same expectation, from the primary care physician to the general cardiologist to the cardiac electrophysiologist. A 2017 survey, while outdated, provides a glimpse of the

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discordance between patients, noncardiologists, and cardiologists regarding the benefits of AF ablation and the need for long-term OAC after ablation.⁷ Until more compelling data are available, we should avoid promoting AF ablation as a means of ending long-term OAC regardless of how successful the ablation may be.

ARTICLE INFORMATION

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