Tick tock. Tick tock. Tic-tic-tic-tic: If you watch the pot long enough, it boils

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Central Message

Despite there being a Class I recommendation to perform a concomitant ablation of atrial fibrillation, currently only 33% of patients with atrial fibrillation undergoing coronary artery bypass grafting receive surgical ablation.

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In this issue of the *Journal*, Damiano and colleagues¹ provide 5-year results of surgical ablation (SA) concomitant to coronary artery bypass grafting (CABG). Given the problems associated with following referral patients over 5 years, this is a laudable effort. In surgical and catheter ablation literature filled with glowing 1-year results, this type of long-term follow-up, reported according to the 2012 Consensus Statement,² is sorely needed. And the results are sobering: 70% of patients were free of atrial tachyarrhythmias and off antiarrhythmic drugs at 5 years. These results are similar to a previously reported larger group of 512 patients who had a 66% similar outcome.³ These papers, in the modern reporting era of continuous rhythm monitoring, contrast with their 2003 report of 98% freedom from AF at 5 years in patients undergoing CABG/maze.⁴ This real, honest follow-up tells us:

- the longer we look, the more we see;
- atrial fibrillation (AF) should be considered a progressive disease; and
- we need to use the word “cure” with great caution.

Despite these things, we need to be aggressively treating our operative patients who have AF. AF is present in 6% of patients undergoing CABG,⁵ yet only 33% of these patients receive SA.⁶ In a 2010 third-party survey, among reasons surgeons listed for not doing a maze procedure were as follows: results are not reproducible, adds too much risk, and no consensus on what works. Despite these being shown to be untrue,⁷ the percent of CABG patients with AF receiving SA increased only from 27.5% between 2005 and 2010 to 33% between 2011 and 2015.⁷ Certainly some of the undertreatment stems from a reluctance to open the atrium in an otherwise “closed atrium” procedure: whereas more than 68% of mitral patients with AF undergo concomitant SA, those numbers are 39.3% for aortic valve replacement ± CABG and 33% for isolated CABG.⁶ Clearly, despite the fact that there is now a Class 1

(strong, benefit >>> risk) recommendation⁸ to perform concomitant SA in these “closed atrium” patient groups, there is a treatment gap.

How can we begin to bridge this gap? Most of the lesions of the maze IV procedure can be approached epicardially (on the empty atrium) with cryotherapy or directional bipolar radiofrequency, or through purse strings using constrained bipolar (clamp) radiofrequency. It is the mitral annular connecting lesion that enjoins one to open the left atrium. Acknowledging that the maze IV is the desired treatment strategy, perhaps an alternate approach to the mitral connecting lesion would increase the adoption of concomitant ablation. Two such approaches exist. The Dallas lesion set^{9,10} connects to the anterior mitral annulus at the left fibrous trigone. The epicardial landmark for this is the junction of the left and noncoronary cusps of the aortic valve in the transverse sinus (Figure 1). Taking inspiration from the Dallas lesion set, Weimar and colleagues¹¹ have described performing this same lesion endocardially, through the opened aorta—most useful when performing SA concomitant to for aortic valve replacement.

When faced with evidence for the efficacy of new therapies such as the use of the internal mammary and mitral valve repair, surgeons have adopted new treatment paradigms. Will we rise to the challenge to perform concomitant SA?

FIGURE 1. The Dallas lesion set connects to the anterior mitral annulus at the central fibrous body. SVC, Superior vena cava; v, vein.

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