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Commentary: Concomitant surgical ablation of atrial fibrillation significantly improves late survival

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CENTRAL MESSAGE

Concomitant ablation of atrial fibrillation was associated with risk of acute kidney injury (AKI); however, the risks of AKI were offset by the significant survival benefit of concomitant ablation.

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I greatly enjoyed reading the article by Bakir and colleagues¹ published in this issue of the *Journal*. The authors found that concomitant ablation of atrial fibrillation (AF) was independently associated with an increased risk of acute kidney injury (AKI) in the postoperative period. However, the long-term risks of AKI were offset by the significant survival benefit of concomitant AF ablation. It is important to mention that the incidence of renal failure or dialysis was statistically similar in the groups with and without ablation. The finding of a significant survival benefit after surgical concomitant AF ablation is extremely important. Together with some other studies showing survival benefit after concomitant ablation,^{2,3} this article urges surgeons to perform ablation concomitantly with other heart surgeries in atrial fibrillation patients.

I wonder what can be done to reduce comorbidities and AKI early postoperatively after cardiac surgery with concomitant AF ablation. The authors mention that 90% of their ablation procedures were biatrial, and that patients with ablation had 68 additional minutes of cardiopulmonary bypass compared with the nonablation group (181 minutes vs 113 minutes; more than 50% longer). We all know that the group led by Dr Damiano has extensive modern and historical expertise in atrial fibrillation surgery,⁴ but there are papers showing that right atrial lesions do not add much and can cause some morbidity. Soni and colleagues⁵ noted that the addition of a right atrial lesion to an extended left atrial lesion set does not improve efficacy but does increase the rate of pacemaker placement for sinus dysfunction. Phan and colleagues⁶ also reported that left atrial ablation was associated with a significantly reduced permanent pacemaker implantation rate. They found that biatrial ablation appeared to be more efficacious than left atrial ablation in achieving sinus rhythm at 1 year, but, importantly, this difference was not maintained beyond 1 year.⁶ We know that Cox-Maze III was associated in some cases with postoperative oliguria and changes in atrial natriuretic peptide level. It was attributed to atrial appendage amputation, but ablation lines in right atria probably can interfere with atrial

natriuretic peptide level. In our practice with left atrial lesion sets, we do not observe oliguria in patients with normal hemodynamics and good preoperative kidney function. My personal opinion that a right atrial lesion set is not mandatory in many cases, and thus I suggest that opinion leaders in the field of atrial fibrillation may advise that in some cases (eg, an anatomically normal right atrium and no tricuspid problems) an extensive left atrial lesion set is sufficient.⁷ For many surgeons, the addition of 68 minutes of cardiopulmonary bypass time to perform biatrial AF ablation may seem like too much, as the authors report. I believe that if AF ablation could take less than 30 minutes extra time, more surgeons would perform it.

Again, a valuable contribution of this study is the finding that patients who undergo concomitant AF ablation have a significant survival benefit over patients without ablation. We all should thank Bakir and colleagues for this very important study.

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