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Commentary: A small incision to cut in half postoperative atrial fibrillation

David Chadow, MD,
Roberto Perezgrovas-Olaria, MD, and
Mario Gaudino, MD, MSCE, PhD

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CENTRAL MESSAGE

Posterior pericardiotomy reduces the incidence of postoperative atrial fibrillation. Due to the favorable risk/benefit ratio, this technique should probably be routinely adopted in cardiac surgery.

Postoperative atrial fibrillation (POAF) is the most frequent complication of cardiac surgery and carries an increased risk of mortality and morbidity.[1] Due to its frequency and increased risk of adverse events, prevention of this condition is paramount.

The Posterior left pericardiotomy for the prevention of AtriaL fibrillation After Cardiac Surgery (PALACS) trial showed how performing a posterior pericardiotomy at the time of cardiac surgery significantly decreases the risk of developing postoperative atrial fibrillation by more than 50% (odds ratio, 0.44; 95% confidence interval, 0.27-0.70; $P = .0005$).[2] In addition, there were no complications attributable to posterior pericardiotomy, and performing it did not add significant time to the duration of surgery. Furthermore, a meta-analysis of nearly 3500 patients from 19 clinical trials found that posterior pericardiotomy decreased the odds of POAF by 58% ($P < .001$), reduced the risk of cardiac tamponade by 90% ($P < .001$), and was associated with shorter hospital stays ($P < .001$).[3]

In a small randomized trial, Kaleda and colleagues[4] looked at 100 patients undergoing primary isolated aortic valve replacement and found no significant difference in the incidence of POAF between patients who received a posterior pericardiotomy and those who did not (16% in intervention group vs 14% in the control group; $P = .71$). In addition, postoperative outcomes were similar between the 2 groups. However, the trial was designed to test a very large treatment effect (a reduction in POAF from 35% to 11%, ie, a 68% absolute reduction) and, as the event rate in the control group was 40% of what assumed for sample size calculation, it was also very largely underpowered to detect even large differences between groups. The lack of treatment effect was likely due to the limited power and a classic Type II error.

In this issue of the *Journal*,[5] the same authors maintain in fact that, despite the findings in their trial, posterior pericardiotomy should be performed in all patients undergoing cardiac surgery via a median sternotomy.

In view of the limitations of the small trial by Kaleda and colleagues and the consistent results of several other trials and meta-analysis, as well as the very favorable risk to benefit ratio of the intervention, we agree with the authors that a posterior pericardiotomy should be performed in most patients undergoing cardiac surgery via a median sternotomy, although a large, multicenter, randomized clinical trial is warranted to further understand the complete spectrum of benefits conferred by the procedure and to potentially trigger the pertinent changes in clinical practice guidelines.

From the Department of Cardiothoracic Surgery, Weill Cornell Medicine, New York, NY.

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Address for reprints: Mario Gaudino, MD, MSCE, PhD, Department of Cardiothoracic Surgery, Weill Cornell Medicine, 525 E 68th St, New York, NY 10065 (E-mail: mfg9004@med.cornell.edu).

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