Commentary: Obesity and cardiac surgery—Double trouble for the surgeon and arrhythmologist

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Disclosures: Authors have nothing to disclose with regard to commercial support.

Received for publication April 7, 2019; accepted for publication April 8, 2019; available ahead of print May 21, 2019.

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J Thorac Cardiovasc Surg 2020;159:939-40

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2019.04.019>

Postoperative atrial fibrillation (PoAF) is a common arrhythmia that may complicate the clinical course of patients undergoing cardiac surgery. It has been associated with adverse outcomes including a significant increase in hospitalization stay, readmissions, and mortality.¹

Obesity is a growing global health problem with negative impact on the cardiovascular system and an increased incidence of atrial fibrillation (AF). The etiology of atrial fibrillation “vulnerability” in obese subjects is still not completely elucidated, but probably multifactorial. Among proposed mechanisms are associated cardiovascular disease, metabolic syndrome, obstructive sleep apnea, increased adipose epicardial tissue, and inflammatory process leading to atrial remodeling and fibrosis.²

In this issue of the *Journal*, Serban and colleagues³ analyze the role of obesity in the development of new-onset PoAF early after cardiac surgery. As part of prospective observational projects, Serban and colleagues³ included 156 patients (67 of whom were obese) who had new-onset PoAF early after surgery for coronary or valvular heart disease. During the first 5 days after the procedure, continuous cardiac rhythm was assessed in all patients and by 2 blinded operators by means of bedside monitors and additional evaluation of available patient records. Obese patients had a higher PoAF burden and more episodes lasting longer than 1 hour than did nonobese patients, with an occurrence peak on the third day.

Although previous data have shown that obesity is a predictor of PoAF,⁴ the study by Serban and colleagues³ may be the first to analyze systemically the impact of obesity on the real burden of PoAF by defining episodes in terms of number and duration during the early days after cardiac surgery. This finding is clinically relevant, because a higher atrial fibrillation burden may correlate to the stroke risk in these patients, necessitating anticoagulation therapy. Furthermore, the obesity degree, as estimated by the body mass index, seems to be a determinant factor, because even a small increase in the body mass index of 0.13 units

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Central Message

Obesity is associated with a higher AF burden after cardiac surgery, requiring a multidisciplinary approach, and the potential preventive role of weight-reduction strategies needs future studies.

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(kg/m²) was related to a significant increase in early PoAF burden, indicating a strict correlation between the conditions.

Despite the remarkable progress in surgical techniques and pharmacologic treatments, PoAF after cardiac surgery is still a current clinical challenge in terms of prevention and management. As outlined in this study, obese patients are more susceptible to encounter a higher burden and prolonged episodes of PoAF, which may require antiarrhythmic and anticoagulation therapies or early cardioversion. This observation underscores the importance of programming a multidisciplinary approach to manage these high-risk patients.

In spite of the limitations represented by the relatively small sample size of patients and the lack of follow-up data, the study of Serban and colleagues³ provides an accurate report of the temporal course and burden of PoAF. Future studies are needed to define the real impact of obesity on PoAF and long-term outcomes, and to determine whether weight reduction strategies before surgery may have a preventive role.

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