



See Article page 254.

Commentary: A transcatheter challenge: Can you deploy a valve into a Big Mac?

Alvise Guariento, MD, Alessandro Fiocco, MD, and Vladimiro Vida, MD, PhD

Mitral annular calcification (MAC) can be a major problem during surgery for patients with mitral valve disease who require replacement solutions. MAC is frequently present in the aging mitral valve, and it has been estimated that within a few decades the increase in the average age of the population will translate into an increase in its prevalence.¹ Therefore, new approaches are needed to further expand the potential treatment of these patients.

In the current issue of the *Journal*, Hamid and colleagues² reviewed 1-year outcomes of open transcatheter mitral valve implantation (TMVI) for MAC with off-label use of the Edwards balloon-expandable SAPIEN 3 Bioprosthesis (Edwards Lifesciences, Irvine, Calif). The study includes an elegant description of technical considerations that need to be addressed when performing a TMVI in a MAC (Figure 1), based on the authors' institutional experience in managing complications, including paravalvular leaks, annular prosthesis mismatch, left ventricular outflow tract obstruction, and myocardial perforation due to calcific limbs. The authors described satisfactory results when compared with other transatrial TMVI registries and superior results when compared with TMVI registries for trans-septal or transapical approaches. In addition, an analysis of treated and untreated patients showed significant improvement in the New York Heart Association class in the implanted group, despite a greater mortality rate.

From the Pediatric and Congenital Cardiac Surgery Unit, Department of Cardiac, Thoracic and Vascular Sciences, University of Padua, Padua, Italy.

Disclosures: The authors reported no conflicts of interest.

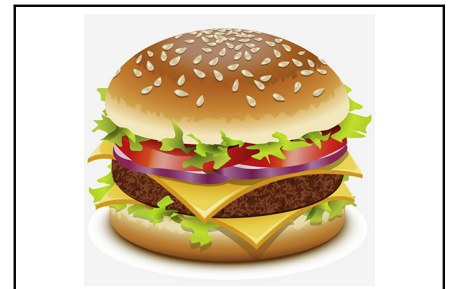
The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Aug 13, 2021; revisions received Aug 13, 2021; accepted for publication Aug 26, 2021; available ahead of print Sept 14, 2021.

Address for reprints: Alvise Guariento, MD, Pediatric and Congenital Cardiac Surgery Unit, Department of Cardiac, Thoracic, Vascular Sciences and Public Health, University of Padua, Via Giustiniani 2, 35100 Padua, Italy (E-mail: alvise.guariento@hotmail.com).

JTCVS Techniques 2021;10:262-3
2666-2507

Copyright © 2021 The Author(s). Published by Elsevier Inc. on behalf of The American Association for Thoracic Surgery. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).
<https://doi.org/10.1016/j.jtc.2021.08.045>



The double-meaning of MAC: mitral annular calcification or a nice burger.

CENTRAL MESSAGE

Open transcatheter valve implantation for mitral annular calcification seems a reasonable solution in selected patients, but results may depend on comorbidities.

The authors are to be commended for their work. However, a generous part of the paper has been dedicated to a comparison with other studies. Unfortunately, most of the conclusions are still speculations, and some questions remain unanswered. In particular, the authors did not provide a detailed explanation of the significantly prolonged hospital stay of their patients. Also, from a technical perspective, some uncertainties remain regarding the



FIGURE 1. Mitral annular calcification (MAC) can be a major problem during surgery for patients with mitral valve disease.

implantation of an annuloplasty ring in case of annular-prosthesis mismatch. This, in fact, would not overcome the limitation of a calcified native ring and the need of a firm anchoring of the expandable valve. Finally, a more in-depth study of the technique should be conducted, especially considering the importance of patient's profile stratification, assuming that early outcomes depend on patient-related comorbidities.

Nevertheless, there is no doubt that this study provides another example of how innovative techniques can be

used to improve the limitations of standard approaches. Consequently, we can only conclude with a famous wish that also applies to our field (and when it comes to Big MACs): "stay hungry, stay foolish."

References

1. Udelson JE, Stevenson LW. The future of heart failure diagnosis, therapy, and management. *Circulation*. 2016;133:2671-86.
2. Hamid UI, Gregg A, Ball P, Owens C, Manoharan G, Spence MS, et al. Open transcatheter valve implantation for mitral annular calcification: One-year outcomes. *J Thorac Cardiovasc Surg Tech*. 2021;10:254-61.