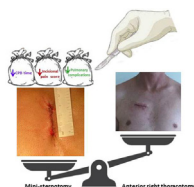


The authors reported no conflicts of interest.

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**REPLY FROM
AUTHORS: DAZZLING
LIKE AN ART(IST),
WORTHWHILE LIKE A
CRAFTSMAN**



Reply to the Editor:

We appreciate the interest and concerns of Wu and colleagues¹ regarding our manuscript,² which contribute dialectically to the discussion in the field. The authors state that conclusions “may negatively impact the uptake of the anterior right thoracotomy (ART) approach.” Our study is not “perfect” and its limitations are the limitations of long-timespan studies and we have applied statistical methods to reduce them.

However, the conclusion in our manuscript clearly states that ministernotomy (MS) has good postoperative and long-term outcomes that significantly are better compared with ART for aortic valve surgeries² (see Figure 1 in our manuscript).

One of the main criticisms of Wu and colleagues¹ is the greater incidence of all-cause mortality in the ART group compared with the MS group, presuming that outcomes can be influenced by allocation biases in the propensity-matching process. However, propensity matching is the best method to minimize biases and errors in prospective clinical studies. In this context, daily clinical practice is also based on prospective studies until results from clinical trials are available. Our long-term outcomes showed that the overall survival rate was greater in the MS group compared with the ART group. As previously demonstrated,^{3,4} long-term outcomes are also influenced by in-hospital complications, which were greater in the ART group. Therefore, we assumed that the greater incidence of postoperative complications in the ART group may negatively impact long-term survival.

Behind these different minimally invasive techniques, precise patient selection, full cooperation, and accurate management by a multidisciplinary team are critical. This is mandatory to interpret differences in outcomes: incision

alone, in fact, doesn't affect survival. However, is there something more?

We believe that the best immediate- and long-term results obtained with MS are linked not to the relative dexterity of the single surgeon but to the actual less-invasiveness of MS versus ART. To investigate this statement, we are conducting a comparative subanalysis considering the group with intact pleura (mostly MS) versus open pleura (ART and some MS). The results (to be published) show an effective and significant advantage in terms of perioperative complications (which are also reflected in short- and long-term survival), obtainable with the maintenance of pleural integrity as already evidenced in patients undergoing coronary artery bypass grafting.⁵

A learning curve is present for every single surgical procedure, and patients' risk profiles may influence clinical outcomes. We agree with the authors that common sense, experience, and intuition should be part of surgeons' daily clinical practice. However, first and foremost, results from clinical research should be the leading driver to improve patient outcomes. Therefore, our message has never been to stop pursuing ART but only to describe the clinical outcomes from 2 distinct surgical procedures in the real world.

We agree with the need for further verification of our results (preferably with randomized controlled trials), but we also believe that young surgeons must reflect on the feasibility, simplicity, and reproducibility of a current technique, as these characteristics make it more effective in resolving the problem of aortic valve disease. For every ARTist who performs the superb work innovating and pushing the boundaries of cardiac surgery, indeed, there should exist worldwide hundreds of craftsmen who, even with simpler and more reproducible actions, solve the current problems of millions of people.

In conclusion, we believe that the best surgical approach may be chosen based on the patient's risk profile and surgeon's expertise, considering the importance of reliability, availability, simplicity, and most of all safety of a surgical procedure. Thus, often an artist also has to become a craftsman in the real world of cardiac surgery.

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References

1. Wu SY, Ghattanatti R, Zacharias J. Is it the art or the artist? *J Thorac Cardiovasc Surg Open*. 2023;14:89.
2. Bonacchi M, Dokollari A, Parise O, Sani G, Prifti E, Bisleri G, et al. Ministernotomy compared with right anterior minithoracotomy for aortic valve surgery. *J Thorac Cardiovasc Surg*. April 23, 2021 [Epub ahead of print]. <https://doi.org/10.1016/j.jtcvs.2021.03.125>
3. Hassan M, Miao Y, Maraeay A, Lincoln J, Brown S, Windsor J, et al. Minimally invasive aortic valve replacement: cost–benefit analysis of ministernotomy versus minithoracotomy approach. *J Heart Valve Dis*. 2015;24:531-9.
4. Bonacchi M, Cabrucci F, Bugetti M, Dokollari A, Parise O, Sani G, et al. Outcomes' predictors in post-cardiac surgery extracorporeal life support. An observational prospective cohort study. *Int J Surg*. 2020;82:56-63. <https://doi.org/10.1016/j.ijsu.2020.07.063>
5. Bonacchi M, Prifti E, Giunti G, Salica A, Frati G, Sani G. Respiratory dysfunction after coronary artery bypass grafting employing bilateral internal mammary arteries: the influence of intact pleura. *Eur J Cardiothorac Surg*. 2001;19:827-33. [https://doi.org/10.1016/s1010-7940\(01\)00695-9](https://doi.org/10.1016/s1010-7940(01)00695-9)

<https://doi.org/10.1016/j.xjon.2023.04.009>