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Reply from authors: Shouldn't we start gathering evidence for improved hemodynamic support in patients with postcardiotomy cardiogenic shock? [Letter]

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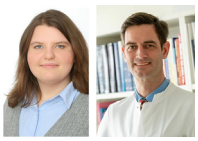
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REPLY FROM AUTHORS: SHOULDN'T WE START GATHERING EVIDENCE FOR IMPROVED HEMODYNAMIC SUPPORT IN PATIENTS WITH POSTCARDIOTOMY CARDIOGENIC SHOCK?

Reply to the Editor:

We read with great interest the letter by Vondran and colleagues[1] referring to our publication on the use of microaxial pumps in patients with postcardiotomy cardiogenic shock (PCCS) following coronary artery bypass grafting. The authors criticize the nonuse of intra-aortic balloon pumps (IABP) preoperatively as well as postoperatively in our patients, referring to current European as well as American guidelines for PCCS.[1,2] This criticism is quite astonishing when looking at the aforementioned guidelines. In the European guidelines, the only class III recommendation says "the implantation of an IABP is not recommended in cases of severe LV or biventricular dysfunction as a primary treatment option in case of impossible CPB weaning or acute heart failure shortly after CPB weaning."[2]

The American Association for Thoracic Surgery guidelines find an IABP "attractive" due to its safety and ease of placement but state in the same paragraph that an IABP is insufficient in reversing cardiogenic shock. In line with this, the American Association for Thoracic Surgery guidelines state about the Impella: "Unlike the IABP, these devices drastically reduce LV end-diastolic pressure and volume and may be better poised to support systemic perfusion while allowing the heart to recover."[3]

In the absence of randomized controlled trials for the use of either percutaneous device for postcardiotomy cardiogenic shock, both guidelines clearly find the characteristics of transvalvular microaxial pumps attractive in patients with PCCS, supporting our use of microaxial pumps in these patients in PCCS.

By combining circulatory support with left ventricular unloading, an overall survival of 69.4% in our patients with PCCS was achieved when the support was initiated simultaneously during coronary artery bypass grafting surgery. This survival is superior to the majority of published data on PCCS extracorporeal support and therefore of interest to the cardiac surgery community.[4]

Skepticism in the use of new machines in medicine is broad and sometimes justified; yet, when considering our encouraging data, this skepticism may appear in a different light. We feel it is the duty of high-volume cardiac surgery centers to start gathering evidence for new medical devices in patients with PCCS, where randomized controlled trials are always difficult to pursue due to high costs and cohort inhomogeneity. We certainly think that it is our occupational responsibility in an academic high-volume center to take the field of PCCS, and therefore cardiac surgery, forward.

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Conflict of Interest Statement

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.

References

1. Vondran M, Kaminski A, Schemke S, Heringlake M. Shouldn't we first follow the guidelines before implementing alternative mechanical circulatory support modalities? *J Thorac Cardiovasc Surg Open*. 2024;18:87-89.
2. Lorusso R, Whitman G, Milojevic M, et al. 2020 EACTS/ELSO/STS/AATS expert consensus on post-cardiotomy extracorporeal life support in adult patients. *J Thorac Cardiovasc Surg*. 2021;161(4):1287-1331.
3. Bakaeen FG, Gaudino M, Whitman G, et al; American Association for Thoracic surgery Cardiac Clinical Practice Standards Committee; Invited Experts. 2021: The American Association for Thoracic Surgery expert consensus document: coronary artery bypass grafting in patients with ischemic cardiomyopathy and heart failure. *J Thorac Cardiovasc Surg*. 2021;162(3):829-850.e1.
4. Sommer W, Arif R, Kremer J, et al. Temporary circulatory support with surgically implanted microaxial pumps in postcardiotomy cardiogenic shock following coronary artery bypass surgery. *J Thorac Cardiovasc Surg Open*. 2023;15:252-260.

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