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Reply to Letter to the Editor: "Comment on: Self-Expanding Transcatheter Aortic Valve Implantation in Patients with Severe Aortic Stenosis Undergoing Prosthetic Mitral Valve Replacement: A Single-Center Experience"

LETTER TO THE EDITOR
REPLY

To the Editor,

We are grateful to the authors[1] for their thoughtful and constructive comments regarding our recently published study titled "Self-Expanding Transcatheter Aortic Valve Implantation in Patients with Severe Aortic Stenosis Undergoing Prosthetic Mitral Valve Replacement: A Single-Center Experience."[2] We appreciate their interest in our work and their valuable contribution to the ongoing discussion of this complex and evolving topic.

As mentioned, our study reflects the experience of our center during a specific period of time when self-expanding (SE) valves were used in all cases. However, in recent years, we have also started to use balloon-expandable (BE) valves in similar patients. Once we reach a sufficient number of BE TAVI cases, we plan to publish a separate study to compare the 2 valves. Until then, our current results should be viewed in light of the limited number of patients and the single-valve strategy used.

We would also like to clarify a point raised regarding the conclusion that SE valves were the "optimal choice." In our manuscript, this statement was intended to reflect the specific context of our cohort, which consisted entirely of patients with prior mechanical mitral valve replacement and challenging aorto-mitral anatomy. As stated in the discussion, "Despite having less experience with BE valves in the clinic, particularly in cases of prior MVR, the unique anatomical challenges in patients with mechanical mitral prostheses made the SE Evolut R valve the optimal choice in this cohort." Thus, our conclusion was not meant to imply that SE valves are universally superior, but rather that they were the most suitable option within the limitations and anatomical characteristics of the studied population.

Regarding the relatively high rate of permanent pacemaker implantation (PPI) in our study, we agree that this is a significant consideration. However, we think this may not be only due to the type of valve used. All our patients had a prior mitral valve replacement (MVR), which is known to affect the heart's conduction system and increase the risk of PPI after TAVI. Earlier studies have shown that MVR is an independent risk factor for PPI.[3,4] So, both the valve type and the patients' existing condition might have contributed to the observed rate. While there are no dedicated prospective studies directly comparing BE and SE valves specifically in MVR patients, extensive data from the general TAVI population consistently show that BE valves are associated with significantly lower PPI rates compared to SE valves. This has been demonstrated across multiple large registries and meta-analyses, underscoring the influence of valve design on conduction outcomes. Therefore, although our current series was SE-focused, we believe that growing experience with BE valves may provide an opportunity to mitigate this important complication in future practice.

Ahmet Kıvrak
Ahmet Hakan Ateş
Can Menemencioğlu
Mert Doğan
Mehmet Levent Şahiner
Ergün Barış Kaya
Kudret Aytemir

Department of Cardiology, Hacettepe University Faculty of Medicine, Ankara, Türkiye

Corresponding author:
Ahmet Kıvrak
✉ a.kivrak89@gmail.com

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Although we did not find a statistically significant link between PPI and mortality in our study, we are aware that large studies have reported worse long-term outcomes in patients who needed a pacemaker after TAVI. This is something we take seriously, and we are working on techniques to lower the risk of PPI in our ongoing practice. As noted, our study covers an 11-year period, during which many changes occurred in both technology and procedural techniques. We agree that dividing the data into earlier and later years could give more detailed insights. We plan to do this in future studies as our patient numbers increase.

Finally, we thank the authors for their question about the aorto-mitral distance. In our study, the average distance was 6.4 mm. While it is often thought that shorter distances may make the procedure harder or increase complications, we did not clearly see such an effect. However, due to the small sample size, we aren't able to make a firm conclusion. Other studies have shown that with proper imaging and planning, even short distances may not cause major issues.[5,6] We agree that this measurement is important and will keep monitoring it in future work.

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