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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

To the Editor,

We read with great interest and appreciation the important study by Kıvrak et al[1] published in *The Anatolian Journal of Cardiology*, titled "Self-Expanding Transcatheter Aortic Valve Implantation in Patients with Severe Aortic Stenosis Undergoing Prosthetic Mitral Valve Replacement: A Single-Center Experience." We congratulate the authors for sharing their experience in this challenging and specific patient group, for presenting the largest single-center series reported in the literature to date, and for achieving commendable results such as a 100% procedural success rate and zero intraprocedural mortality. The fact that the center's experience is built upon their earlier pioneering work from 2016, which included the first patients of this series, is also valuable as it presents a decade of their accumulated experience.[2] We aim to contribute to the scientific discussion by contextualizing the findings of this valuable study within the framework of larger-scale registries and the center's own evolution.

One of the study's key conclusions is that self-expanding (SE) valves are the "optimal choice" in this patient group due to their repositioning capabilities. This strong assertion, however, becomes debatable when compared with broader data from the literature. The multicenter OPTIMAL registry, one of the largest in this field involving 154 patients, reported the use of balloon-expandable (BE) valves in nearly half of its cases and concluded that there was "no significant difference in TAVI procedural success rates according to the type of THV (ie, balloon-expandable vs self-expanding)."[3] The OPTIMAL registry suggests that the choice of valve should be guided by patient anatomy and operator experience, rather than being limited to a single approach.

The most striking data point in this regard is the permanent pacemaker implantation (PPI) rate. The 22.5% PPI rate in the series by Kıvrak et al, which used 100% SE valves, is nearly double the 12% rate reported in the OPTIMAL registry, which used a mix of BE and SE valves. Furthermore, the PPI rate in the same center's initial 6-case series from 2016 was 16.7% (1/6 patients). When viewed together, these data strongly suggest that the high PPI rate in the study by Kıvrak et al is associated with their SE-focused strategy. The OPTIMAL data indicates that a mixed strategy that includes BE valves could significantly reduce the need for PPI, a major complication in this patient group.

The authors note that in their own study, they found no significant difference in mortality between patients who did and did not receive a PPI ($P = .718$), which they justifiably attribute to the small sample size. However, as they also reference, a large meta-analysis of over 50 000 patients has shown that post-TAVI pacemaker implantation is associated with increased long-term mortality and rehospitalization. Therefore, even if this study's own mortality data did not show a significant difference, the known long-term adverse outcomes associated with a high PPI

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rate of 22.5% once again underscore the importance of strategies designed to minimize this rate.[4]

In addition to these clinical outcomes, the study's methodological design also presents points for discussion. The 11-year study period, from 2013 to 2023, encapsulates an impressive learning curve for the center. As seen by comparing their 2016 publication with the current one, the vascular access technique evolved from primarily surgical cut-down to standardized percutaneous closure systems, with a corresponding drop in vascular complication rates.[2] While this demonstrates a laudable improvement, analyzing the results from a decade of evolving technology (e.g., from first-generation CoreValve to Evolut R) and operator experience as a single cohort may mask important details of this evolution. We believe a subgroup analysis stratifying the data into an "early" and "late" period would more clearly reveal the evolution of the center's practice and enhance the homogeneity of the results.

Finally, the authors' emphasis on the importance of the aorto-mitral distance in pre-procedural planning is highly pertinent. They report a mean distance of 6.4 mm. In this context, we are curious as to whether the authors observed a correlation between this distance and specific complications. For instance, were shorter aorto-mitral distances associated with a higher incidence of minor vascular complications or greater difficulty in valve positioning?

In conclusion, the study by Kıvrak et al is a valuable work that proves excellent results can be achieved with an SE-focused strategy in an expert center. However, when its conclusions are interpreted in light of larger, more heterogeneous studies like OPTIMAL, the assertion that SE valves are the "single optimal choice" is weakened. The literature suggests that a more flexible, patient-tailored approach to valve selection appears to be more prudent, especially to mitigate the significant risk of PPI and its known long-term adverse outcomes. We once again congratulate the authors for this important contribution and for transparently sharing their decade of experience with the scientific community.

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