N. Gupta, S. Kalagara, C. Uche, R. Matta, A. Draffen, J. Silberstein, V. Gurbuxani, Z. Natsheh, H. Sufyaan, R. Rana, S. Sahgal, M. Ismail, A. Hattab, J. Dau, J. Yu, A. Mishra, L. Navarro, M. Singam, S. Liu, A. Roy, S. Habeel, S. Dwyer, V. Groo, A. R. Shroff, *Nothing to disclose.*

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E-84 | Long-Term Outcomes in Subtypes of Low-Flow Aortic Stenosis Following TAVR: A Five-Year Analysis

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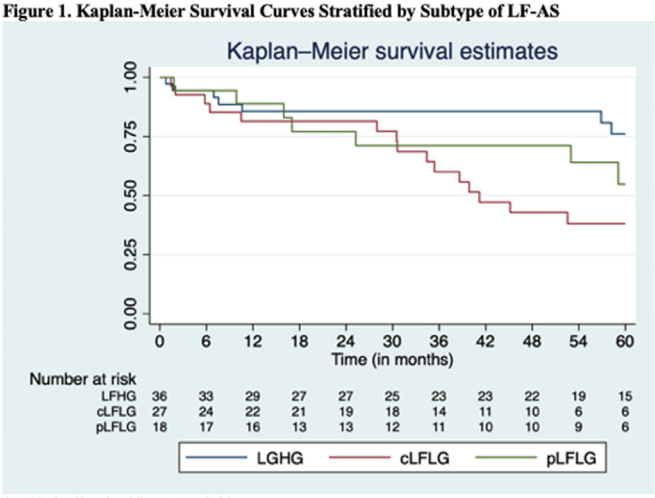
Background: Low-flow aortic stenosis (LF-AS) is a heterogeneous condition with distinct subtypes and varying outcomes. Classical LF, low-gradient AS (cLFLG) has a poor prognosis, but long-term outcome data compared to other subtypes, including LF, high-gradient (LFHG) and paradoxical LF, low-gradient (pLFLG), remain limited. We evaluated 5-year mortality in these subtypes.
Methods: 81 patients who underwent TAVR in 2019 were stratified into 3 subtypes of LF-AS. All were classified as low-flow (stroke volume index (SVI) < 35 mL/m^2). LFHG was defined by mean gradient ≥ 40 mmHg. cLFLG was defined by mean gradient < 40 mmHg and EF $< 50\%$. pLFLG was defined by mean gradient < 40 mmHg and EF $\geq 50\%$. Mortality was evaluated over 5 years using chi-square tests, Cox proportional hazards models and Kaplan-Meier survival curves.
Results: Among 81 patients (36 LFHG, 27 cLFLG, 18 pLFLG), the median follow-up was 4.2 years. Mortality differed significantly ($\chi^2 = 8.85$, $p = 0.012$), with cLFLG showing the highest mortality (57.7%; HR = 3.40, 95% CI: 1.38-8.37), followed by pLFLG (41.2%; HR = 2.02, 95% CI: 0.71-5.75) and LFHG (21.9%, reference). Median survival was poorest in cLFLG (3.2 years), followed by pLFLG (4.4 years) and LFHG (5.0 years) ($p = 0.02$).
Conclusions: This small, single-center study, shows that cLFLG AS patients have the worst prognosis, followed by pLFLG and LFHG when followed for 5 years. These findings highlight the need for tailored long-term management strategies in LF-AS, particularly for cLFLG patients, such as closer surveillance and adjunctive therapies. Larger studies with long-term follow up are needed to confirm this finding.

Figure 1. Kaplan-Meier Survival Curves Stratified by Subtype of LF-AS



*statistically significant, p=0.02

Disclosures: A. Sharma, L. Chopra, Y. Prakash, T. J. Hanlon, E. Galvani, S. K. Sharma, A. S. Kini, S. Lerakis, *Nothing to disclose.*

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E-85 | Comparative Outcomes of Myval Balloon-Expandable Valve Versus Evolut R/Pro Self-Expanding Valves inSevere Aortic Stenosis: A Systematic Review and Meta-Analysis

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Background: Transcatheter aortic valve replacement (TAVR) is now a widely accepted treatment for severe aortic stenosis (AS). Among the transcatheter heart valves (THVs) available, the self-expanding (SE) Evolut R and Evolut Pro valves (Medtronic) have established a strong record of clinical success. Meanwhile, the newer balloon-expandable (BE) Myval valve (Meril Life Sciences) has shown promising early clinical outcomes. Despite their growing use, direct comparative data on the clinical and procedural performance of these THVs remain limited. This meta-analysis seeks to systematically evaluate and compare the safety and efficacy of the Myval and Evolut THVs in patients undergoing TAVR.
Methods: A comprehensive literature search was conducted across PubMed, EMBASE, Cochrane Library, and Scopus for studies published up to November 2024, comparing the BE Myval valve and the SE Evolut R or Evolut Pro valves in TAVR. Key outcomes included 30 days all-cause mortality, and procedural complications including major bleeding, major vascular complications, acute kidney injury (AKI) and permanent pacemaker implantation (PPM). A random-effects meta-analysis was used to calculate odds ratio (OR) with 95% confidence intervals (CI), and heterogeneity was evaluated using the I^2 statistic. Statistical analyses were conducted using R Studio version 4.3.2.
Results: Three studies involving 919 patients (530 with the Myval and 389 with the Evolut R/Pro) were included. For 30 days all-cause mortality, no significant difference was observed (OR = 0.84, 95% CI: 0.36–1.96, $p = 0.76$, $I^2 = 0\%$). Regarding procedural complications, no significant difference was detected in AKI (OR = 0.90, 95% CI: 0.38–2.13, $p = 0.80$, $I^2 = 0\%$), PPM (OR = 0.54, 95% CI: 0.26–1.11, $p = 0.091$, $I^2 = 54\%$), major bleeding (OR = 1.30, 95% CI: 0.45–3.74, $p = 0.62$, $I^2 = 0\%$), and major vascular complications (OR = 0.54, 95% CI: 0.20–1.54, $p = 0.21$, $I^2 = 0\%$).
Conclusions: Our meta-analysis suggests that the BE Myval and SE Evolut R/Pro valves demonstrate comparable safety and efficacy outcomes in TAVR. Further large-scale, randomized studies are needed to provide more definitive evidence.
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E-86 | Outcomes and Costs of Different Mechanical Circulatory Support (MCS) Devices on patients undergoing Transcatheter Aortic Valve Replacement (TAVR): Results From the Nationwide Inpatient Sample

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