

Impact of aortic valve replacement on outcomes of patients with low-flow, low-gradient moderate aortic stenosis

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Background: Aortic valve replacement (AVR) is recommended for patients with low-flow, low-gradient (LFLG) and true-severe aortic stenosis (TSAS). However, there is very few data on the potential benefit of AVR in patients with LFLG pseudo-severe (i.e. moderate) AS (PSAS).

Methods: Consecutive patients with aortic valve area ≤ 0.6 cm²/m², mean gradient <40 mmHg were prospectively recruited in a multicenter observational cohort study. The patients were categorized in TSAS vs. PSAS using previously reported thresholds of flow-independent parameters of AS severity (projected valve area at normal flow rate ≤ 1.0 cm² and/or aortic valve calcium score by CT >1200 AU in women and >2000 AU in men). To account for between-treatment-group differences, inverse probability-of-treatment weighting was combined to Cox proportional hazards regression.

Results: Among the 430 patients included in this study, 297 (69%) were

classified as TSAS and 274 (57%) underwent AVR. Of note, 21% of the patients treated by AVR were classified as PSAS. In patients managed conservatively (ConsRx), 52% had PSAS and 48% TSAS. During a median follow-up of 28 months [8–60], 198 patients died. The adjusted weighted hazard ratio (awHR) of death associated with AVR as compared to ConsRx was 0.42 [0.24–0.73] ($p<0.0001$, Figure1-Panel-A). This survival benefit associated with AVR was observed not only in patients with TSAS but also in those with PSAS (awHR: 0.29 [0.12–0.70]; $p=0.006$, Figure1-Panel-B).

Conclusion: The results of this study suggest that AVR is associated with a survival benefit not only in LFLG patients with TSAS but also in those with PSAS. Randomized trials are needed to confirm the benefit of AVR in patients with moderate AS and depressed LV systolic function.

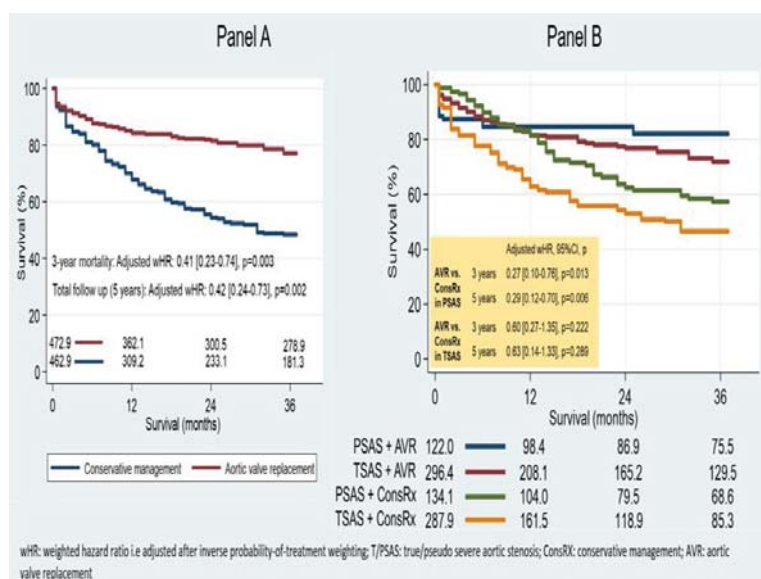


Figure 1