

**Severe Aortic Stenosis in High Risk Patients: Comparison Between TAVI and Surgical AVR**

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**Introduction:** Transcatheter aortic valve implantation (TAVI) has become available for patients with severe aortic stenosis in whom operative risk seems prohibitive. We compared outcomes after TAVI (femoral access) to those of surgical aortic valve replacement (AVR) in high-risk patients.

**Methods:** We screened our database for all patients age >75 that underwent an elective procedure for severe aortic stenosis with or without coronary revascularization: 49 underwent TAVI, 188 underwent AVR. Other concomitant procedures were excluded. Patients in the TAVI group were older ( $84\pm 5$  vs  $80\pm 4$ ;  $p<0.0001$ ) had a higher incidence of renal failure (33% vs 10%;  $p<0.0001$ ) and COPD (20% vs 10%;  $p=0.04$ ). Logistic Euroscore was slightly higher in the TAVI group ( $18\pm 11$  vs  $14\pm 11$ ) ( $p=0.008$ ). Propensity score matching yielded 31 and 50 patients in the TAVI and AVR groups respectively.

**Results:** For TAVI and AVR patients respectively: both ICU stay ( $3\pm 1$  and  $8\pm 16$  days), and hospital stay ( $8\pm 14$  and  $20\pm 18$  days) were shorter ( $p<0.0001$ ). There was no difference in stroke rate or the need for a permanent pacemaker. Procedural mortality was 4 (8%) in the TAVI group and 23 (12%) in the AVR group ( $p=ns$ ). By multivariate regression analysis, predictors of operative mortality were: age ( $p<0.0001$ ), gender ( $p=0.001$ ) and surgical valve replacement ( $p=0.002$ ). Coronary disease did not emerge as a risk factor for mortality. In the propensity matched cohort, operative mortality was 1 (3%) in the TAVI group and 10 (20%) in the AVR group ( $p=0.03$ ), and survival at 3 years was TAVI 66% and AVR 71% ( $ns$ ). Age was the only predictor of late survival. **Conclusions:** Trans-femoral TAVI affords a good solution for high-risk patients suffering from severe aortic stenosis. Our results show shorter hospital stay and lower procedural mortality, although late survival was similar.