Long term follow up of elderly patients treated with self-expanding transcatheter aortic valve implantation; a single center experience

J. Rodriguez Nieto, M. Delgado Ortega, M. Ruiz Ortiz, M.D. Mesa Rubio, J. Perea Armijo, A. Piserra Lopez Fernandez De Heredia, A. Rodriguez Almodovar, F. Esteban Martinez, E. Romo Penas, J. Suarez De Lezo, S. Ojeda Pineda, M.A. Romero Moreno, M. Pan Alvarez Ossorio

University Hospital Reina Sofia, Cordoba, Spain

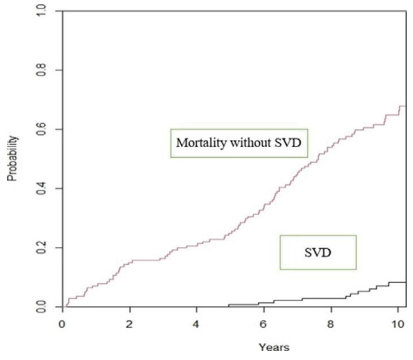
Funding Acknowledgement: Type of funding sources: None.

Background and aims: The information of long term clinical performance of transcatheter heart valves is limited. Our aim is to assess the clinical outcomes and rate of structural valve deterioration (SVD) in patients after self-expanding transcatheter aortic valve implantation (TAVI) at 10-year follow-up.

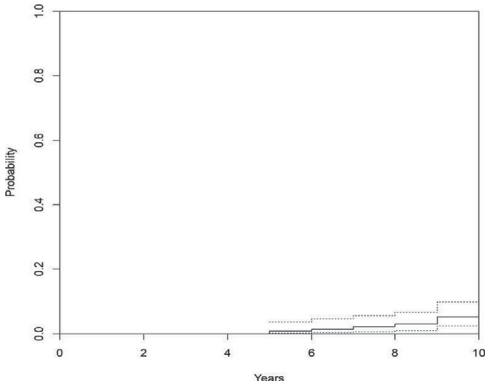
Methods: A total of 141 consecutive patients undergoing self-expanding TAVI for native aortic valve stenosis or failed aortic surgical bioprosthesis, between 2008 and 2012 at our institution were included. We considered SVD as defined for the consensus statement from the European Association of Percutaneous Cardiovascular Interventions (European Society of Cardiology/European Association for Cardio-Thoracic Surgery). SVD cumulative incidence was calculated considering death in the absence of valve damage as a competitive risk.

Results: At the time of TAVI mean age was 78±5 years, male 44%. Percutaneous prosthesis implanted were self-expanding in 100% of patients (size: 26 mm in 72%, 29 mm in 28%). Mortality at 1, 5, and 10-year follow-up was 14%, 32%, and 72%, respectively. There was one death due to prosthetic valve endocarditis. Of the total cohort, 11 patients had severe SVD, with a cumulative incidence at 10 years of 8,21 (95% CI 4.09- 14.14%). The rate of SVD at 4, 6, 8, and 10 years was 0%, 1.41%, 2.83%, and 8.21%, respectively (Figure 1 and 2). Of the 11 patients with severe SVD, seven died, two patients had reintervention (both had redo TAVI), and the other two patients remain in close follow-up. In survivors at 10-year follow-up (n=41) the median of mean gradient was 8 mmHg (interquartile Rank 6–13 mmHg) and in 8.4% an prosthetic valve regurgitation ≥moderate was detected. Diabetes, chronic obstructive pulmonary disease, chronic kidney disease, previous stroke and high pulmonary systolic pressure were independent predictors of global mortality. SVD was not associated with any of studied variables (Age, arterial hypertension, obesity, chronic kidney disease, atrial fibrillation, previous aortic bioprosthesis, left ventricle function <50%, prosthetic valve regurgitation, valve size and ballon postdilatation)

Conclusions: A low rate of SVD at 10-year follow-up was observed in this serie of elderly patients with severe aortic stenosis treated with self-expanding TAVI. This study provides insights into the long-term performance of self-expanding TAVI.



Cumulative incidence of SVD and death



SVD with confidence intervals