

Transcatheter aortic valve implantation versus surgical aortic valve replacement for severe aortic stenosis: Results from an intermediate risk propensity-matched population of the Italian OBSERVANT Study

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Background: Few studies have yielded information on comparative effectiveness of transcatheter aortic valve implantation (TAVI) versus surgical aortic valve replacement (SAVR) procedures in a real-world setting. Aim of this analysis is to describe procedural and post-procedural outcomes in a TAVI/SAVR intermediate risk propensity-matched population.

Methods: OBSERVANT is an observational prospective multicenter cohort study, enrolling AS patients undergoing SAVR or TAVI. Propensity score method was applied to analyze procedural and post-procedural outcomes. Pairs of patients with the same probability score were matched (caliper matching).

Results: The unadjusted enrolled population comprises 1383 SAVR and 725 TAVI patients. Matched population comprised a total of 266 patients (133 patients for each group). A relatively low risk population was selected (mean logistic EuroSCORE $9.4 \pm 10.4\%$ vs $8.9 \pm 9.5\%$, SAVR vs TAVI; $p=0.650$). Thirty-day mortality was 3.8% for both SAVR and TAVI ($p=1.000$). The incidence of stroke (1.5% SAVR and 0.0% TAVI; $p=0.156$) and myocardial infarction (0.8% SAVR and 0.8% TAVI; $p=1.000$) was not statistically different between groups, whereas a higher requirement for blood transfusion was reported across the surgical cohort (49.6% vs 36.1%; $p=0.026$). A higher incidence of major vascular damage (5.3% vs. 0.0%; $p=0.007$) and pacemaker implantation (0.8% vs 12.0%; $p=0.001$) were reported in the TAVI group.

Conclusions: Patients undergoing transcatheter and surgical treatment of severe aortic stenosis are still extremely distinct populations. In the relatively low-risk propensity-matched population analyzed, despite similar procedural and 30-day mortality, SAVR was associated with a higher risk for blood transfusion, whereas TAVI showed a significantly increased rate of vascular damage, permanent AV block and residual aortic valve regurgitation.

Biography

Fulvia Seccareccia graduated in Biological Sciences, at the University of Rome "La Sapienza", in 1979. She works as Senior Researcher at the Department of Cardio and Cerebrovascular Diseases, National Center of Epidemiology, Surveillance and Health Promotion, Istituto Superiore di Sanità, Rome, Italy. She has been project leader of several projects concerning "Outcome Research". From 1980 to 2001, her professional experience concerned mainly the epidemiology and prevention of cardiovascular disease. Since 2001, she has been involved in studies concerning comparative effectiveness analyses in cardiology and cardiac surgery. She has published more than 100 papers in reputed International Journals.

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