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The high burden of rehospitalisations following transcatheter aortic valve implantation

Authors:
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Topic(s):
Aortic Valve Intervention

Citation:
European Heart Journal (2019) 40 (Supplement), 24

Background: Transcatheter aortic valve implantation (TAVI) is a treatment option for severe symptomatic aortic stenosis in patients at increased surgical risk. Rehospitalisations following surgical aortic valve replacement are a strain on patients and society. However, data on the extent of the burden and cause of hospitalisations following TAVI are sparse.

Purpose: To examine rehospitalisations and factors associated with rehospitalisations in a one-year period following TAVI.

Methods: In this Danish nationwide observational cohort study, we identified all patients who underwent TAVI from January 2008 through June 2016 and were discharged alive by Danish nationwide health- and administrative registries. Subsequent rehospitalisations, defined as a hospital admission for at least one overnight stay, were classified as either cardiovascular or non-cardiovascular according to the discharge diagnosis codes. Factors associated with any rehospitalisation were identified using Cox regression.

Results: In total, 2,390 patients undergoing TAVI were included. The median age was 81 years (25th-75th percentile 77–85 years of age) and men comprised 52% of the study population. Of all patients undergoing TAVI, 24% were hospitalised during the first 30 days after the procedure, while 54% were hospitalised during the first year. Among patients surviving the first year after the procedure, 25% were admitted to a hospital once, 14% were admitted twice, 8% were admitted three times, and 10% were admitted at least four times. Of all hospitalisations, 34% were due to a cardiovascular cause and 10% died during the one-year follow-up. Factors associated with any rehospitalisation were chronic kidney disease (HR 1.72 [95% CI, 1.48–2.00]), peripheral vascular disease (HR 1.36 [95% CI, 1.16–1.59]), atrial fibrillation (HR 1.28 [95% CI 1.14–1.43]), ischemic heart disease (hazard ratio [HR] 1.23 [95% confidence interval [95% CI], 1.09–1.38]), and chronic obstructive pulmonary disease (HR 1.16 [95% CI, 1.02–1.33] (Figure).

Conclusions: In a nationwide, all-comers cohort of patients undergoing TAVI, 57% of patients were hospitalised at least once during the first-year post-procedure and approximately one-third of all hospitalisations was due to a cardiovascular cause. Focus on patient selection and prevention of readmissions after TAVI is warranted.
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Forrest plot