Abstract: P1845

11 years of transcatheter aortic valve implantation in a single centre and outcomes for all 1004 patient cases completed.

Authors:
PF Brennan¹, SJ Wilson¹, M Alkhalil¹, A Santos¹, A Mcniece¹, NG Johnston¹, R Jeganathan¹, CG Owens¹, GM Manoharan¹, MS Spence¹, ¹Royal Victoria Hospital - Belfast - United Kingdom of Great Britain & Northern Ireland,

Topic(s):
Aortic Valve Intervention

Citation:
Background Long-term outcome data after TAVI is of key importance as indications have extended from high risk patients to intermediate risk alongside contemporary study of low risk patients.

Purpose We report our complete 11 y experience of TAVI.

Methods All patients (n=1004) treated with TAVI in our institution between Feb 2008 & Nov 2018 were included. Data was collected prospectively and all death certificates were reviewed. Independent predictors of mortality were determined by multivariable cox proportional hazard modelling. Annular sizing was performed via echocardiography +/- angiography until Aug 2012 after which time cardiac CT was used.

Results Patients were 53% female & had mean age 81.9±6.6 y, logistic EuroScore 18.5%. 89% were NYHA > 2, and 26.7% had a left ventricular ejection fraction (LVEF) of < 50%. TAVI was performed for severe degenerative aortic valve disease (93.5%), while valve-in-valve (2.4%) bicuspid (2.1%) & rheumatic (2%) made up the remainder. Self-expanding valves were implanted in 73% cases. 98% cases were performed under local anaesthesia. A percutaneous transfemoral approach was used in 92% cases. For the first 6 y 19% procedures were performed for urgent inpatients, rising to 42% over the last 5 y. The mean time to discharge was 5.5 d, overall, & 60% cases were discharged within 72 h in the last 5 y. Mortality, for those at risk, was 3.2%, 12.8%, 53% & 88% at 30 d, 1 y, 5 y & 10 y. The median time to death was 2.6 y. Non-cardiac death accounted for 62% deaths, with sepsis being the main cause (55%). The main cause of cardiac death was heart failure (HF (53%)). Independent clinical predictors of death were increased age, atrial fibrillation, pulmonary disease & LVEF <50%. Use of a 2nd generation valve was associated with better survival at 5 y (p<0.001).

30 d new permanent pacemaker and stroke incidence were 13.7% and 2% respectively. 30 d readmission occurred in 13% patients. Independent clinical predictors of 1 y HF (7%) readmission were NYHA Class >2 and LVEF < 50%. Endocarditis was seen in 1.6% during a mean follow-up 2,593 patient y. Mean aortic gradients at 1 y, 5 y & 10 y were 9.7mmHg, 8.4mmHg &10.53mmHg. One patient had severe trans-aortic regurgitation during the follow-up. A 2nd TAVI procedure was performed in 5 patients with clinically significant paravalvular regurgitation, all within 30 d.

Conclusion This comprehensive evaluation of all patients treated with this innovative technology provides reassurance regarding the long-term clinical efficacy of TAVI & gives insight into the evolution of our programme with time.
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Figure 1 [A] Kaplan-Meier survival plots cut to 5 years stratified by first generation valve versus second generation valve. [B] Multivariate predictors for All-Cause Death as determined by Cox proportional hazard regression (n=630). Candidate variables: age, sex, diabetes, pulmonary disease, ischaemic heart disease, previous MI, previous PCI, peripheral vascular disease, extensive calcification of ascending aorta, atrial fibrillation, body mass index, pre-TAVI NYHA Class > 2, pre-TAVI LVEF <50%, pre-TAVI mitral regurgitation > mild, Logistic Euroscore, Logistic Euroscore tertile, 2nd generation valve vs. 1st generation valve, elective vs. urgent procedure, and transfemoral approach vs. other.