

00058 Transcatheter Aortic Valve Implantation: Evolution of Outcomes With Time

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Aims: Transcatheter aortic valve implantation (TAVI) provides an alternative treatment option to open surgery for severe aortic stenosis (AS) patients with intermediate to high surgical risk. With increasing experience and advancements in technology leading to better devices, outcomes are projected to improve further. We aim to describe our local experience in the treatment of severe AS patients with TAVI.

Methodology: This is a prospective single centre study of all patients who underwent TAVI at our institution. The patients were categorized into three time periods: Group 1 (2009 – 2011), Group 2 (2012 – 2015) and Group 3 (2016 – 2017). The primary outcome studied was 1-year mortality. Secondary outcomes were intraprocedural vascular complications.

Result: A total of 216 patients (mean age 75.4 +/- 9.3 years, 106 (49.1%) males, mean STS score 6.47 +/- 6.05, 167 (78%) transfemoral approach, 106 (49.1%) self-expandable valves were included. The mean duration of follow-up was 2.63 years (interquartile range 0.83 – 4.14 years).

There were 41 (20%) patients in Group 1, 115 (53.2%) in Group 2 and 60 (27.8%) in Group 3. On adjusting for age, gender, chronic kidney disease and Society of Thoracic Surgeons (STS) score, patients in Group 3 had a lower 1-year mortality rate than patients in Group 2 and 1 (5.3% (n=3) vs 13% (n=15) vs 32.3% (n=10) respectively; adjusted hazards ratio (HR) 0.19, 95% confidence interval (CI) 0.05-0.69, p=0.012). Group 3 patients also had a trend towards lower proportion of vascular complications compared to Group 1 and 2 (8.3% (n=5) vs 22% (n=9) vs 12.2% (n=14) respectively, p=0.126).

Conclusion: Significant improvements in mortality and complication rates were noted in the more contemporary cohorts, likely a contribution of better experience as well as improved devices. With time, further improvements in safety and efficacy outcomes can be expected.