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Valvular Heart Disease

TRANSCATHETER AORTIC VALVE REPLACEMENT IN BICUSPID AORTIC VALVE DISEASE

Oral Contributions
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Background: Bicuspid aortic valve (BAV) disease is a relative contraindication to transcatheter aortic valve replacement (TAVR). We evaluated the results of TAVR in patients with BAV using a multinational registry.

Methods: A retrospective registry of BAV patients undergoing TAVR was developed. Outcomes were assessed according to the Valve Academic Research Consortium criteria.

Results: The BAV registry includes 120 patients undergoing TAVR for BAV stenosis (62.5%), regurgitation (0.9%), or mixed stenosis/regurgitation (36.6%) from 13 centers. The mean age was 79.8±8.2 years and 65.0% were male. The mean logistic EuroSCORE and Society of Thoracic Surgeons mortality risk score were 15.4±10.7% and 4.9±3.1%, respectively. BAVs were classified as Type 0 (27.4%); Type 1 (67%); and Type 2 (5.7%). The Edwards SAPIEN (n=30) and Medtronic CoreValve (n=90) were both implanted. The implanted THV diameters were: 23 mm (5.8%), 26 mm (33.3%), 29 mm (45.0%), and 31 mm (15.8%). Major vascular complications were noted in 7.6%, device malposition in 5.9%, and 3.4% required implantation of a second THV during the index procedure. Overall procedural success was determined in 88.2% of patients. The mean post procedural transvalvular gradient was 11.3±10.4 mmHg and aortic regurgitation ≥ grade 2 occurred in 28.1% of cases. At 30-day follow-up, all-cause mortality or stroke occurred in 8.3% and 1%, respectively.

Conclusions: TAVR for BAV disease is both feasible and safe, though post-implantation aortic regurgitation ≥ grade 2 occurs more frequently than with tricuspid aortic valve stenosis. Further follow-up is required to determine the clinical efficacy of TAVR in this patient population.