VALVULAR DISEASE

Aortic valve-in-valve replacement

Surgery for aortic valve disease commonly involves the implantation of a bioprosthetic valve, but these devices have limited durability and are expected to degenerate and fail within 10–20 years, which necessitates reoperation in these patients. However, registry data analyzed by Dr Danny Dvir and colleagues indicate that “the ‘off-label’ use of transcatheter aortic valve implantation (TAVI) within failed surgically-inserted bioprosthetic valves (‘valve-in-valve’) is technically feasible”, and might obviate the need for reoperation.

The Global Valve-in-Valve Registry was initiated in December 2010 and, at the time of the analysis, included 202 patients with bioprosthetic valves that had deteriorated (mean age 77.7 ± 10.4 years, 52.5% men) from 38 centers in Australia, Europe, the Middle East, New Zealand,

and North America. The median time from the previous aortic valve surgery to the valve-in-valve procedure was 9 years. Valve failure was classified as stenosis (42.1%), regurgitation (33.7%), or a combination of both (24.3%).

Overall, 124 and 78 patients had a new CoreValve® (Medtronic, Minneapolis, MN, USA) or Edwards SAPIEN® valve (Edwards Lifesciences, Irvine, CA, USA) implanted, respectively, with a combined 93.1% procedural success rate. Common complications included initial device malposition (15.3%) and coronary ostial obstruction (3.5%). Furthermore, a high rate of elevated postprocedural aortic gradients was observed. At 30-day follow-up, all-cause mortality was 8.4%, and 83.7% of patients were in NYHA class I or II. At 1-year follow-up (available for 87 patients), survival was 85.8%, with no significant difference between the CoreValve® and Edwards SAPIEN® devices.

The investigators caution that “there is not enough data to justify valve-in-valve

instead of reoperation in most high-risk patients with failed aortic bioprostheses. Nevertheless, valve-in-valve could be an acceptable approach in carefully selected high-risk patients.” According to Dr Dvir, the registry “includes by now almost 500 aortic cases and almost 100 mitral valve-in-valve procedures... Our next step is to evaluate long-term results.”

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Original article Dvir, D. *et al.* Transcatheter aortic valve replacement for degenerative bioprosthetic surgical valves: results from the Global Valve-in-Valve Registry. *Circulation* doi:10.1161/CIRCULATIONAHA.112.104505