

Few complications one year after aortic valve implantation

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Research presented at the 21st annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium, sponsored by the Cardiovascular Research Foundation (CRF), demonstrated an "exceptionally low" rate of complications one year after implantation of transcatheter aortic valve prostheses.

The aortic valve study was led by Sabine Bleiziffer, MD, consultant [cardiac surgeon](#), German Heart Center Munich, Munich, Germany, and will be presented as a poster abstract (TCT-111) on Tuesday, September 22 between 8:00 a.m. and 10:00 a.m. in Hall D of The Moscone Center.

"Transcatheter aortic valve implantation with the self-expandable prosthesis is an effective and durable treatment for patients with aortic stenosis not eligible for surgical aortic valve replacement," said Dr. Bleiziffer.

Between June 2007 and April 2009, 179 [aortic valve](#) prostheses were implanted in non-surgical candidates via a number of different routes: transfemoral (164 patients), transapical (5 patients), subclavian artery (7 patients), and ascending aorta (3 patients). Patients were a mean age of 81 ± 7 y, with a mean STS score of $19 \pm 11\%$ and symptomatic high-grade aortic stenosis (mean valve orifice area $0.7 \pm 0.2\text{cm}^2$, mean aortic gradient 48 ± 18 mm Hg).

Periprocedural complications included femoral access site complications in 13% of the patients, dialysis for postoperative renal failure in 8%,

neurologic events in 7%, and permanent pacemaker implantation in 26%. 30 day-, 6 months-, and 1 year-survival was 88%, 78%, and 78%, respectively.

Freedom from bleeding events, thromboembolic events, structural valve deterioration and prosthetic endocarditis was 83%, 97%, 99% and 97% at one year. Non-structural valve deterioration or valve thrombosis did not occur. Mean aortic gradient decreased to 11 ± 4 mm Hg (valve size 26) and 12 ± 4 mm Hg (valve size 29), and valve orifice area increased to $1.4 \pm 0.4\text{cm}^2$ (valve size 26) and $1.5 \pm 0.3\text{cm}^2$ without change up to one-year follow-up.

The study concluded that multiple vascular access sites are feasible for implantation of the prosthesis because of the small diameter of the delivery sheath. Periprocedural complications are considerable but related to the high risk patient population. Mid-term valve-related complications are exceptionally low and the gradient release after prosthesis implantation is stable up to one year of follow-up.

"A close and careful follow-up of patients treated with the new technology of transcatheter valve implantation including history of valve-related complications and echocardiographic assessment is crucial to approve the quality of the technique and to redefine indications for future patients," said Dr. Bleiziffer.

Source: Cardiovascular Research Foundation

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