

Risk factors and clinical outcomes of infective endocarditis after transcatheter aortic valve replacement

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Among patients undergoing transcatheter aortic valve replacement, younger age, male sex, history of diabetes mellitus, and moderate to severe residual aortic regurgitation were significantly associated with an increased risk of infective endocarditis, and patients who developed endocarditis had high rates of in-hospital mortality and 2-year mortality, according to a study appearing in the September 13 issue of *JAMA*.

Infective endocarditis (an infection caused by bacteria that enter the bloodstream and settle in the heart valve or heart lining) following surgical valve replacement occurs in 1 percent to 6 percent of [patients](#) and is associated with a high risk of illness and death. Transcatheter [aortic valve replacement](#) (TAVR) has emerged as a therapeutic option for patients with aortic stenosis (narrowing) who are considered to be at high or prohibitive surgical risk. Limited data exist on clinical characteristics and outcomes of patients who had infective endocarditis after undergoing TAVR.

Josep Rodes-Cabau, M.D., of Quebec Heart and Lung Institute, Laval University, Quebec City, Quebec, Canada and colleagues analyzed data from the Infectious Endocarditis after TAVR International Registry, which included patients with definite infective endocarditis after TAVR from 47 centers from Europe, North America, and South America between June 2005 and October 2015. A total of 250 cases of infective endocarditis occurred in 20,006 patients after TAVR (incidence, 1.1 percent per person-year; median age, 80 years; 64 percent men). Median time from TAVR to infective endocarditis was 5.3 months.

The characteristics associated with higher risk of progressing to infective endocarditis after TAVR was younger age (78.9 years vs 81.8 years), male sex (62 percent vs 50 percent), diabetes mellitus

(42 percent vs 30 percent), and moderate to severe aortic regurgitation (22 percent vs 15 percent). Health care-associated infective endocarditis was present in 53 percent of patients. Enterococci species and *Staphylococcus aureus* were the most frequently isolated microorganisms (25 percent and 23 percent, respectively). The in-hospital [mortality](#) rate was 36 percent, and surgery was performed in 15 percent of patients during the infective endocarditis episode. In-hospital mortality was associated with heart failure and acute kidney injury. The 2-year mortality rate was 67 percent.

"The rate of infective endocarditis after TAVR observed in the present study is similar to that reported for surgical prosthetic valve endocarditis, therefore, supports the lack of reduction in the rate of prosthetic valve infective endocarditis after TAVR despite less invasive nature of TAVR compared with surgical [valve replacement](#). This study confirms the high rate of morbidity and mortality of infective endocarditis after TAVR and provides novel information about the timing, causative organisms, and predictive factors of [infective endocarditis](#) in this particular population. This information may help the clinicians identify patients at higher risk and aid in implementing appropriate preventive measures," the authors write.

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