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Infective endocarditis after transcatheter aortic valve implantation, a comparison with endocarditis occurring in surgical aortic prosthesis and native aortic valve patients

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Background: Infective endocarditis is rare but serious. Epidemiology is well known in standard population and surgical valve patients (Pts). The recent development of Transcatheter Aortic Valve Implantation (TAVI) raises new questions about endocarditis in this population.

Purpose: The aim of this study was to assess outcomes of endocarditis in TAVI Pts and to compare the results to surgical aortic valve (SV) owners and native aortic valve (NV) patients.

Methods: We included all patients hospitalized in our institution and presenting with endocarditis after TAVI between 2012 and 2018. We compared these patients to those discussed within the "endocarditis team" and presenting with endocarditis located on SV or on NV.

Results: A total of 34 TAVI Pts were included and compared to a population of 45 SV and 68 NV Pts. TAVI Pts were older (83.1±1.1 yrs, vs 73.3±1.7 and 66.0±1.7, respectively; $p<0.001$) and had a higher Charlson score (6.2±0.4, vs 5.6±0.4 and 4.1±0.3; $p<0.001$). TAVI Pts underwent more frequently invasive procedures during the 6 months prior to the diagnosis of endocarditis (38.2%, vs 11.4 and 8.8%; $p<0.001$). They had less incidence of a new valvular murmur (0%, vs 28.9 and 33.8%; p=0.001) and less heart failure symptoms (26.5%, vs 28.9 and 33.8%; p=0.007). Clinical complications were similar between the 3 groups and mortality was high and comparable at 1 year (29.2%, vs 36.4 and 29.7% p=0.730). However, TAVI Pts were more frequently re-hospitalized (41.2% vs 26.7% and 16.2%, p=0.02) and were treated less invasively (surgery or pacemaker extraction in 14.7% vs 35.6% and 42.6%, p=0.019). Only one TAVI Pt needed surgical aortic valve replacement.

Conclusion: Despite more frequent comorbidities, TAVI patients affected by infective endocarditis have the same mortality during the first year after diagnosis compared to SV and NV patients but are more often rehospitalized.