Most relevant complications of transcatheter aortic valve implantation related to the site of implantation: results of Slovenian national registry

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Background: Transfemoral valve implantation is the most widely used approach for transcatheter aortic valve implantation (TAVI) and transapical approach is considered to be associated with increased morbidity and mortality. The aim of our study was to compare TAVI related complications in trasfemoral and transapical approach and to compare the long-term outcome in these two groups.

Methods and results: We enrolled 171 patients who underwent transfemoral or transapical TAVI between October 2009 and January 2015 (143 transfemoral approach, 28 transapical approach). Patients with transapical approach were more often men and more of them had coronary artery disease and carotid stenosis. The most common complications were related to vascular damage that resulted in minor bleeding and were more common in transfemoral approach. There were no other significant differences in periprocedural complications between transfemoral and transapical site of implantation. We observed no statistical difference in 30 days survival between transfemoral and transapical approach, but long-term survival was better with the transfemoral approach (log Rank = 0.025).

Conclusions: We observed comparable results with transfemoral and transapical TAVI approach. The long-term survival, which was better in transfemoral group, could be improved with valve and access route individualization to each patient's anatomy and general condition.

Keywords: aged, aortic valve stenosis, aortic valve replacement, transcatheter, postoperative complications/mortality