

Real world use of cerebral protection in patients undergoing transfemoral transcatheter aortic valve replacement

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Funding Acknowledgement: Type of funding source: None

Aims: Preventing strokes is an important aim in TAVR (transcatheter aortic valve replacement) procedures. Embolic protection devices may protect from cardiac embolisms during TAVR, but use and outcomes in clinical practice remain controversial.

Methods and result: Isolated transfemoral TAVR procedures performed in Germany with or without cerebral protection devices were extracted from a comprehensive nationwide billing dataset. In the most recent years available, 2015 and 2017, 41,654 TAVR procedures were analyzed. The overall share of procedures employing cerebral protection devices was 3.7%. In order to compare outcomes, which may be related to the use of a cerebral

protection device, a risk-adjusted comparison was performed. The risk of in-hospital mortality did not differ (OR 0.71, 95% CI 0.47–1.17, $p=0.103$). Moreover, there were no differences in in-hospital cerebral events: the risk for stroke did not differ in patients receiving a cerebral protection device (OR 1.07, 95% CI 0.75–1.12, $p=0.714$). Risk for delirium was similar in both groups (OR 0.95, 95% CI 0.71–1.16, $p=0.621$).

Conclusions: Based on our findings and previous studies the routine use of cerebral protection devices should be performed with caution until further data from randomized controlled trials show a reliable reduction of strokes or cerebral failure such as delirium or long-term cognitive decline.