Potential candidates for transcatheter tricuspid valve interventions after transcatheter aortic valve implantation: predictors and prognosis

D. Tomii[1], T.O. Okuno[1], F.P. Praz[1], D.H. Heg[2], M.W. Wild[1], J.L. Lanz[1], S.S. Stortecky[1], S.W. Windecker[1], T.P. Pilgrim[1]

[1]Bern University Hospital, Inselspital, Bern, Switzerland; [2]Bern University Hospital, Inselspital, CTU Bern, Bern, Switzerland

Funding Acknowledgement: Type of funding sources: None.

Background: The importance of concomitant tricuspid regurgitation (TR) in patients with severe aortic stenosis (AS) undergoing transcatheter aortic valve implantation (TAVI) remains unclear.

Objectives: To document the prevalence of concomitant TR before and after TAVI, to correlate TR severity after TAVI with clinical outcome, to quantify suitability for transcatheter tricuspid valve interventions (TTVI), and to report clinical outcome in patients eligible for TTVI.

Methods: In a prospective TAVI registry, the severity of TR at baseline and after TAVI was retrospectively evaluated.

Results: Among 2,008 eligible patients, 1,659 patients (82.6%) had ≤mild TR, 242 (12.1%) had moderate TR, 57 (2.8%) had severe TR, and 50 (2.5%) had massive TR. More than half of all patients with ≥moderate TR had an improvement of TR severity after TAVI. In contrast to baseline TR, >moderate TR after TAVI was associated with an increased risk of mortality (HRadjusted 1.89; 95% CI 1.03–3.46, HRadjusted 2.11; 95% CI 1.07–4.16, respectively) compared with ≤mild TR. After TAVI, 30 out of 101 patients with baseline ≥severe TR (29.7%) were deemed suitable candidates for TTVI. They had a 2-fold increased risk of mortality between 30 days and 1 year (HRadjusted: 1.97; 95% CI: 1.17–3.31) and a higher risk of persistent heart failure symptoms (RRadjusted: 2.75; 95% CI: 1.75–4.31).

Conclusions: Severity of TR improved in more than half of all patients after TAVI. More than moderate TR after TAVI was associated with a twofold increased risk of death at one year. Xx% of patients with relevant TR are anatomically suitable for TTVI.

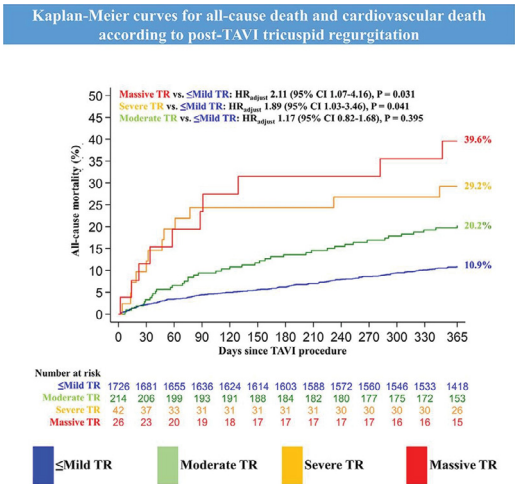

Figure 1