Impact of post-procedural aortic regurgitation on mortality after transcatheter aortic valve implantation

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Objective: To clarify the impact of mild post-procedural aortic regurgitation (post-AR) on clinical outcomes.

Background: Post-procedural aortic regurgitation (post-AR) is known to be associated with poor short-mid term outcome after transcatheter aortic valve implantation (TAVI).

Methods: We compared clinical outcomes in 400 consecutive TAVI recipients according to post-AR grade: none (group 1=74.8%), mild (group 2=22.2%) or moderate to severe (group 3=3.0%).

Results: The mean age was similar in the 3 groups (83.4±6.1 years) as well as logistic EuroSCORE (25.5±11.6 and 21.5±9.4%, p=0.28) and annulus size (22.0±1.8, 22.2±2.1 and 22.5±2.1 mm respectively, p=0.53).

The Edwards valve was the most frequently used in group 1 compared to group 2 and 3 (36.9, 78.7 and 83.3%, p=0.3) and the implanted valve size was similar in all groups (25.6±2.0, 25.4±2.2 and 25.5±2.2 mm respectively, p=0.69). Post-dilatation was required more frequently in group 3 (47.7, 24.1, and 50.0% respectively, p=0.01). Post-procedural increase in mitral regurgitation was in line with the post-AR grade (0.78±0.73, 1.22±0.80 and 1.89±0.78, respectively, p=0.01).

Despite the absence of difference in 30-day mortality, longer-term outcome showed patients with mild AR had a significantly worse outcome compared to none (log-rank p=0.01) and better than moderate to severe (p=0.04), regardless of TAVI type and left ventricular function.

Post-AR was also identified as an independent predictor for mid-long term mortality (HR 1.68, 95% CI: 1.21-1.44, p<0.01).

Conclusion: Mild post-AR after TAVI is associated with worse outcome compared to none or trivial. Cautious valve selection and post-dilatation when required to avoid mild post-AR might contribute to improved clinical outcome after TAVI.

Incidence, predictors and impact of bleeding after transcatheter aortic valve implantation

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Background and objective: Bleeding post-PCI is associated with increased in-hospital mortality and adverse outcomes. Data regarding the determinants and outcomes of bleeding after transcatheter aortic valve implantation (TAVI) are limited. We assessed the incidence, predictors and clinical impact of bleeding after TAVI in patients from a single center registry.

Methods: We included 250 consecutive patients implanted in our center between March 2005 and January 2012. We compared clinical outcomes in 400 consecutive TAVI recipients according to post-AR grade: none (group 1=74.8%), mild (group 2=22.2%) or moderate to severe (group 3=3.0%).

The mean age was similar in the 3 groups (83.4±6.1 years) as well as logistic EuroSCORE (25.5±11.6 and 21.5±9.4%, p=0.28) and annulus size (22.0±1.8, 22.2±2.1 and 22.5±2.1 mm respectively, p=0.53).

The Edwards valve was the most frequently used in group 1 compared to group 2 and 3 (36.9, 78.7 and 83.3%, p=0.3) and the implanted valve size was similar in all groups (25.6±2.0, 25.4±2.2 and 25.5±2.2 mm respectively, p=0.69). Post-dilatation was required more frequently in group 3 (47.7, 24.1, and 50.0% respectively, p=0.01). Post-procedural increase in mitral regurgitation was in line with the post-AR grade (0.78±0.73, 1.22±0.80 and 1.89±0.78, respectively, p=0.01).

Despite the absence of difference in 30-day mortality, longer-term outcome showed patients with mild AR had a significantly worse outcome compared to none (log-rank p=0.01) and better than moderate to severe (p=0.04), regardless of TAVI type and left ventricular function.

Post-AR was also identified as an independent predictor for mid-long term mortality (HR 1.68, 95% CI: 1.21-1.44, p<0.01).

Conclusion: Mild post-AR after TAVI is associated with worse outcome compared to none or trivial. Cautious valve selection and post-dilatation when required to avoid mild post-AR might contribute to improved clinical outcome after TAVI.

Results: TAVI was performed via TF access in 190 (76%) cases, and the SAPIEN XT model was used in 123 (49.2%) cases. Bleeding after TAVI was observed in 68 (27.2%) patients as follows: LTB in 33 (13.2%), major bleeding in 23 (9.2%) and minor bleeding in 12 (4.8%). After multivariate analysis, only TA access was an independent predictor of LTB (OR 3.35, 95% CI: 1.22 – 7.38, p=0.003). Patients presenting LTB post-TAVI had a higher 30-day mortality: 33.3% vs. 3.7%, p<0.001 and 1-year mortality: 46% vs. 82%, p<0.001. LTB was an independent predictive factor for 30-day (OR 6.98, 95% CI: 1.93 – 25.1, p=0.003) and 1-year mortality (HR 2.18, 95% CI: 1.11 – 4.28, p=0.024).

Conclusion: Bleeding represents a frequent complication of TAVI, being observed in over 25% of cases in this single center registry. It is associated with higher 30-day and 1 year mortality.