

**NON-TRANS FEMORAL TRANS CATHETER AORTIC VALVE REPLACEMENT IN NONAGENARIANS WITH SEVERE AORTIC STENOSIS: A MATCHED CASE-CONTROL PILOT STUDY**

Poster Contributions

Poster Hall, Hall C

Saturday, March 18, 2017, 3:45 p.m.-4:30 p.m.

Session Title: Interventional Cardiology: PCI and TAVR in Complex Patients

Abstract Category: 19. Interventional Cardiology: Complex Patients/Comorbidities

Presentation Number: 1239-127

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Background: Trans catheter aortic valve replacement (TAVR) via a non-trans femoral (TF) approach has been associated with a higher mortality in nonagenarians. We sought to determine the impact of extreme age on procedural outcomes and mortality after non-TF TAVR.

Methods: Nonagenarians undergoing TAVR via the non-TF approach at a high-volume TAVR center were case-matched (1:1) with their younger counterparts based on sex, Society of Thoracic Surgeons (STS) scores and frailty status. The effect of extreme age on operative outcomes and long term survival was investigated by using multivariable cox regression analyses in the matched group. Kaplan Meier survival estimates were used to assess survival.

Results: Between June 2012 and August 2016, 24 patients (aged 90 or less (Group I)) who had TAVR via a non-TF approach at a single center, were matched 1:1 based on sex, STS scores and frailty status to 24 controls younger than 90 years (Group II). Mean follow up duration was 18 months. Case-control matching resulted in similar baseline clinical characteristics in both age groups (Sex: $p=1.00$; Body mass index (Kg/m^2): $p=0.90$; STS score: 0.37; Frailty status: $p=1.00$; NYHA class: $p=0.47$). Operative outcomes were similar in the two groups. (Group I vs. Group II). Permanent pacemaker placement (8% vs. 4%; $p=0.55$), vascular complications (13% vs. 8% $p=0.63$) and moderate or severe paravalvular leak (16% vs. 0% $p=0.06$). Kaplan Meier estimated all-cause mortality at 30 days, 1-year and 2 years to be 83.3%, 78.4% and 71.9% for cases and 91.5%, 77.9% and 67.8% for controls respectively. (log rank test: $p=0.845$). Multivariable cox proportional hazard analysis showed that, poor frailty status (Hazard ratio: 2.56, 95% C.I: 1.20, 5.58; $p=0.014$) but not age (Hazard ratio: 0.80, 95% C.I: 0.43, 1.49; $p=0.488$) is associated with a higher post-operative mortality after non-TF TAVR.

Conclusions: Findings from this pilot study suggest that, post-operative mortality rates in nonagenarians undergoing TAVR via a non-TF access are similar to that of their younger counterparts. Extreme age patients not eligible for TF-TAVR may benefit from non-TF TAVR with a considerable overall risk.