CONCLUSION SMI, a measure of sarcopenia readily determined from pre-TAVR CT scans, independently predicts TAVR LOS better than standard frailty testing. Further evaluation of SMI as a frailty measure after TAVR is warranted.

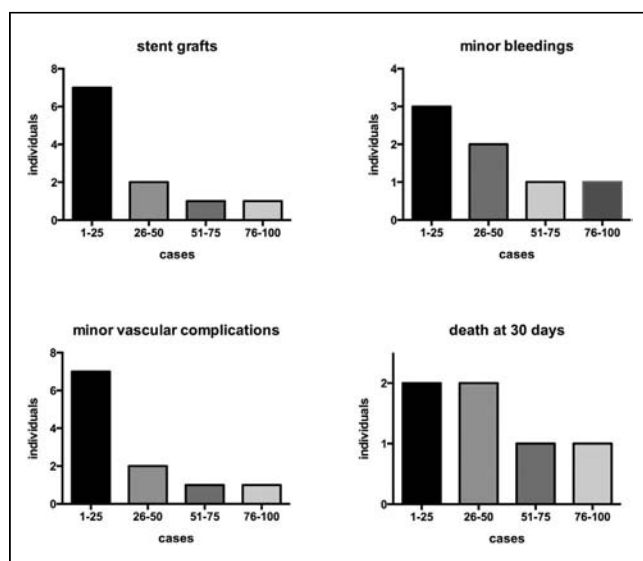**CATEGORIES STRUCTURAL:** Valvular Disease: Aortic

TCT-708

Safety and Efficacy of the Percutaneous Transaxillary Access for Transcatheter Aortic Valve Implantation using various Transcatheter Heart Valves in 100 Consecutive Patients

Ulrich Schafer,[1] Florian Deuschl,[1] Niklas Schofer,[1] Christian Frerker,[2] Daniel Reichart,[1] Johannes Schirmer,[1] Tobias Schmidt,[3] Karl-Heinz Kuck,[3] Felix Kreidel,[3] Izamu Mizote,[1] Hermann Reichenspurner,[1] Stefan Blankenberg,[1] Lenard Conradi[1]
[1]University Heart Center Hamburg, Hamburg, Germany; [2]Asklepiosklinikum St. Georg, Hamburg, Germany; [3]Asklepios Klinik St. Georg, Hamburg, Germany

BACKGROUND Transcatheter Aortic Valve Implantation (TAVI) is an established treatment alternative for patients at high risk for conventional aortic valve replacement. Nowadays, the transfemoral approach is the most commonly used access for TAVI. Nevertheless, in a significant number of patients the transfemoral access is not suitable due to peripheral vascular disease. In these cases the transaxillar approach can serve as an alternative implantation route.

METHODS We analyzed the outcome of 100 consecutive cases being implanted by a percutaneous transaxillary approach at two different hospitals in Germany. Data were retrospectively analyzed by means of procedural, hemodynamic and clinical outcome. In addition, 1st versus 2nd generation devices were analyzed.

RESULTS Mean age was 78.2±2.1 years and the logEuroSCORE I was 23.9±3.4%. Device success was achieved in 95%. No patient experienced a major and 11 patients a minor access site complication. In general, there was a clear learning curve (see figure). There was one procedural death (annular rupture) and one peri-procedural TIA. 23% of the patients were in need for a new pacemaker. At discharge, mean effective orifice area was 1.94±0.16 cm2 and the mean aortic gradient was 6.8±2.1 mmHg. Moderate aortic regurgitation/paravalvular leakage was documented in two patients. Mortality rates at 30 days and one year were 6% and 14.8%. Last but not least, 2nd generation devices showed a trend of improved procedural outcomes.

CONCLUSION The percutaneous transaxillary access for TAVI is technically feasible and safe thereby yielding excellent clinical results.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-709

Trans-apical Transcatheter Aortic Valve Replacement in Patients with History of Coronary Artery Bypass Grafting: An Analysis from the National Inpatient Sample Database

S. Chiu Wong,[1] Konstantinos Voudris,[2] Geoffrey Bergman,[3] Robert Minutello,[4] Richard Devereux,[5] Rajesh Swaminathan,[6] Harsimran Singh,[7] Dmitriy Feldman,[8] Luke Kim,[9] Arash Salemi[10]
[1]NY Presbyterian - Weill Cornell Medical College, New York, New York, United States; [2]UIC/Christ Advocate Christ Medical Center; [3]NYPH, New York, New York, United States; [4]WCMC, New York, New York, United States; [5]Weill Cornell Medical Center; [6]New York-Presbyterian Hospital, New York, New York, United States; [7]New York Presbyterian Hospital, New York, New York, United States; [8]NewYork-Presbyterian Cornell Hospital, New York, New York, United States; [9]Weill Cornell Medical Center; [10]Weill Cornell Medical College, New York, New York, United States

BACKGROUND Peri-procedural clinical outcomes in patients [pts] with history of coronary artery bypass grafting (CABG) undergoing Trans-apical Transcather aortic valve replacement (TA-TAVR) are currently not well described.

METHODS We sought to compare clinical characteristics and in-hospital procedural outcomes in pts with and without history of CABG undergoing TA-TAVR using the 2011-2013 HCUP-Nationwide Inpatient Sample database. ICD-9-CM procedure codes were used to identify all pts undergoing TA-TAVR and those with a history of CABG. Propensity score matching was applied to adjust for differences in patient and procedural factors between the 2 cohorts.

RESULTS Of the 5,374 pts who underwent TA-TAVR during the study period, 1,176 had history of CABG. Pts with prior CABG were more frequently male with a higher prevalence of adverse clinical characteristics [Table]. In propensity score-matched analysis on 2,244 pts [1,068 with No Prior CABG group and 1,176 with Prior CABG group], prevalence of in-hospital all-cause mortality (1.7% vs. 4.7%, p<0.001) and permanent pacemaker implantation (22.0% vs. 27.1%, P=0.006) were lower in pts with prior CABG whereas frequency of acute kidney injury, peri-procedural stroke, vascular complications and transfusion post TA-TAVR were comparable between the 2 cohorts

Baseline Characteristics	No Prior CABG (N=4198)	Prior CABG (N=1176)	P
Age (mean± SD)/Women	80.0 ± 10.1/58.5%	80.5 ± 7.0/36.4%	0.051/<0.0001
DM/ Dyslipidemia/HTN	37.6%/60.5%/79.0%	49.5%/78.9%/88.9%	All <0.0001
Chronic Renal Insufficiency	32.3%	44.0%	<0.0001
History of Stroke/PVD	1.6%/28.9%	2.6%/41.5%	0.049/<0.0001
Pulmonary HTN/CAD	22.2%/60.9%	17.7%/100%	0.001/<0.0001
Propensity Score Matched	No Prior CABG (N=1068)	Prior CABG (N=1176)	P
All-Cause Mortality/ Stroke	4.7%/2.8%	1.7%/2.6%	<0.0001/0.794
Vasc. Compl./Transfusion	1.3%/37.7%	0.8%/35.6%	0.215/0.334
AKI/ Pacemaker Implant	26.2%/27.1%	23.9%/22.0%	0.205/0.006

CONCLUSION Pts with history of CABG undergoing TA-TAVR had lower rates of in-hospital mortality and permanent pacemaker implantation compared to those without CABG. The prevalence of peri-procedural stroke, vascular complications, blood transfusion, and acute kidney injury were similar between the 2 groups.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic
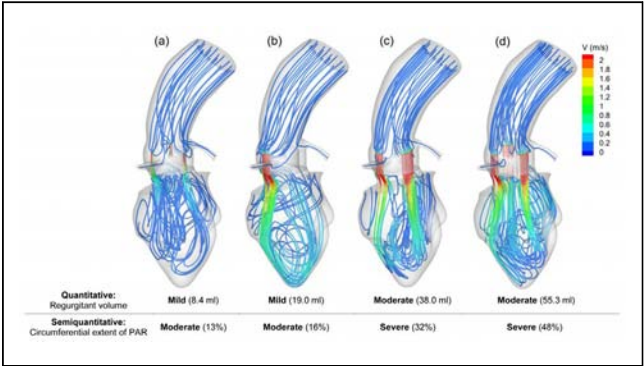
TCT-710

Drawback of the Circumferential Extent of Paravalvular Regurgitation as a Semi-quantitative Parameter to Evaluate the Severity of Transcatheter Aortic Valve Leakage

Koohyar Vahidkhah,[1] Ali Azadani[2]
[1]University of Denver, Denver, Colorado, United States; [2]University of Denver, Denver, Colorado, United States

BACKGROUND Paravalvular aortic regurgitation (PAR) following transcatheter aortic valve (TAV) replacement is commonly assessed semi-quantitatively by estimating the circumferential extent of PAR. This study aims to evaluate the accuracy of using such a parameter for the assessment of PAR.

METHODS A patient-specific geometry was reconstructed from computed tomographic angiography images. Four computational models representing a TAV with different levels of PAR were developed (Fig. 1a-d). PAR was modeled by introducing gaps between the TAV and native valve commissures. The level of leakage was adjusted by the number and size of the gaps. 3D flow fields were obtained using ANSYS-FLUENT flow solver.

RESULTS The regurgitant volume for the cases presented in Fig. 1a-d was calculated to be 8.4, 19.0, 38.0, and 55.3 ml/beat, respectively. Based on the Valve Academic Research Consortium-2, such values correspond to mild, mild, moderate, and moderate conditions, respectively. The corresponding calculated values for the circumferential extent of PVR at the short axis plane just below the valve were 13, 16, 32, and 48%, respectively. These values correspond to moderate, moderate, severe, and severe conditions, respectively. This observation indicates that the semi-quantitative assessment of PAR based on circumferential extent tends to overestimate the PAR severity in the patient-specific model.

Quantitative: Regurgitant volume — Mild (8.4 ml) | Mild (19.0 ml) | Moderate (38.0 ml) | Moderate (55.3 ml)
Semiquantitative: Circumferential extent of PAR — Moderate (13%) | Moderate (16%) | Severe (32%) | Severe (48%)

CONCLUSION The result of this study underscores the requirement for a quantitative evaluation of the severity of PAR as opposed to the semi-quantitative assessments using the circumferential extent of PAR.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-711

Clinical Relevance of Baseline and Post-procedural Thrombocytopenia in Patients Undergoing Transcatheter Aortic Valve Replacement: Prognostic Implications

Anna Sannino,[1] ROBERT C. STOLER,[2] ROBERT HEBELER,[3] Molly Szerlip,[4] Michael Mack,[4] Paul Grayburn[5]
[1]Baylor Heart and Vascular Hospital, Dallas, Texas, Dallas, Texas, United States; [2]Netherlands; [3]Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore, India; [4]The Heart Hospital Baylor Plano, Plano, Texas, United States; [5]Baylor University Medical Center, Dallas, Texas, United States

BACKGROUND Thrombocytopenia (TCP) often occurs after cardiac surgery. However, few data exist regarding the role of baseline and post-procedural TCP on early and late outcomes after transcatheter aortic valve replacement (TAVR).

METHODS 714 patients undergoing TAVR from two heart hospitals were included in the study. Primary outcomes of interest were the relationship of: 1) baseline TCP and 2) post-TAVR TCP with 30-day and 1-year all-cause mortality. TCP was defined as mild TCP: 100×109/L-150×109/L and moderate/severe :<100×109/L.

RESULTS The prevalence of TCP at baseline was 19.6%, 16.1% mild and 3.5% moderate/severe. Of those patients without baseline TCP, 370 over 474 patients (78.05%) developed TCP (48.9% mild, 15.5% moderate/severe), at a median 2 days after TAVR. Both mild and moderate/severe TCP at baseline were associated with significantly higher 30-day (3.5% vs. 1.5%, p<0.0001 and 20.0% vs 1.5%, p<0.0001, respectively, Table) and 1-year mortality rates (13.3% vs 7.8%, p<0.0001 and 47.1% vs 7.8%, p<0.0001, respectively, Table). In multivariate logistic regression analysis, both mild and moderate/severe baseline TCP and a ≥50% decrease in platelet count were independent predictors of 1-year all-cause mortality (HR 2.921, 95% confidence interval[CI]: 1.02-8.40; HR 5.981, 95% CI: 1.31-27.27; HR 5.623, 95% CI:2.09-15.11 respectively).

	No TCP	Baseline TCP		Post-TAVR TCP	
	(>150*109/L) (n=204)	Mild (100-150*109/L) (n=115)	Moderate-Severe (<100*109/L) (n=25)	Mild (100-150*109/L) (n=281)	Moderate-Severe (<100*109/L) (n=89)
Procedural Complications					
Vascular complication	1 (0.5)	3 (2.6)	0 (0.0)	4 (1.4)	5 (5.6)
In-Hospital Mortality	1 (0.5)	1 (0.9)	2 (8.0)	4 (1.4)	3 (3.4)
30-day All-cause Mortality	3 (1.5)	4 (3.5)	5 (20.0)	5 (1.8)	4 (4.5)
1-year All-cause Mortality	11 (7.8)	12 (13.3)	8 (47.1)	12 (6.0)	10 (14.5)

CONCLUSION In patients being evaluated for TAVR, a low platelet count before the procedure needs to be recognized, since it is a strong predictor of mortality in TAVR. Similarly, after TAVR, a significant drop in platelet count (>50%) is associated with a greater risk of mortality.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-712

"Cusp Overlap" View Facilitates Accurate Fluoro-Guided Implantation of Self-Expanding Valve in TAVR

Syed Zaid,[1] Anoshia Raza,[1] Iassen Michev,[2] HASAN AHMAD,[3] Ryan Kaple,[4] Cenap Undemir,[5] Angelica Poniros,[6] Alexis Kearns,[6] Joanne Bennett,[7] Cheng Feng,[8] Tanya Dutta,[9] Amar Shah,[7] Anthony Gilet,[6] Martin Cohen,[10] Steven Lansman,[8] Gilbert Tang[11]
[1]WESTCHESTER MEDICAL CENTER/NEW YORK MEDICAL COLLEGE, White Plains, New York, United States; [2]not applicapble, New York, New York, United States; [3]WESTCHESTER MEDICAL CENTER/NEW YORK MEDICAL COLLEGE, WHITE PLAINS, New York, United States; [4]ryan.kaple@wmchealth.org; [5]Westchester Medical Center, Pearl River, New York, United States; [6]Westchester Medical Center; [7]Centro Cardiologico Monzino; [8]Westchester Medical Center, Valhalla, New York, United States; [9]Hospital de Jerez; [10]Hawthorne, New York, United States; [11]Westchester Medical Center, New York, New York, United States

BACKGROUND Unlike TAVR with balloon expandable valve, standard co-planar "3-cusp" view may not be ideal for deploying self-expanding valve (e.g.CoreValve) as it requires elimination of parallax ofvalve frame during deployment. A co-planar view by overlapping right and left cusps may be a useful approach in CoreValve(CV) deployment. Our goal is to evaluate safety and efficacy of using a novel CT based "cusp overlap" view to perform fluoro-guided CV implantation.

METHODS From 11/2014 to 2/2016, 45consecutive patients who underwent CV-TAVR with "cusp overlap" view were compared with 15 patients using the "3-cusp" view. "Cusp overlap" views were derived with 3Mensio imaging software and confirmed during procedure, showing a shorter visual distance for the valve to flower to engage the annulus (Figure 1A).