CONCLUSIONS As a result of size reduction of the delivery system and changes in the 3D sizing guidelines, the new third generation SAPIEN 3 device can be implanted in the majority of TAVR patients. Thus, significant more TAVR patients can benefit from an aortic valve replacement with the new SAPIEN 3 device. Within our cohort, implantation of the new SAPIEN 3 device resulted in excellent procedural and short-term outcomes.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-680 Pre-Procedural Work-up process in Patients Undergoing Transcatheter Aortic Valve Implantation: Results From The Written (WorlWide TAVI ExpressNce) Survey

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BACKGROUND Transcatheter aortic valve implantation (TAVI) has been worldwide adopted, but there are still several areas where consensus and evidence are lacking. Pre-procedural work-up process is essential to determine eligibility and predict outcomes, but may vary across centers. The objectives were to determine the real life practice related to pre-procedural TAVI planning across different centers around the world.

METHODS From January to May 2015, an online survey was distributed worldwide in centers performing TAVI regardless the number of procedures and valve type. There was a responsible to distribute the survey for each country or region.

RESULTS A total of 167 centers (including 37843 TAVI procedures) responded the questionnaire from 27 different countries in Europe, North-America and South-America. Heart team meetings were regularly scheduled in most of the centers (>95%) with high participation of interventional cardiologist (95%) and cardiac surgeon (94%), but low involvement of other specialists (radiologists 16%; internists/gastroenterics 14%). While one or two surgical risk scores were used in 99% and 65% of the centers, respectively; frailty (37%), quality of life (23%) or 6 minute walking (3%) assessments were rarely performed. Moderate or low risk patients represent 20% of the TAVI candidates. Cardiac-CT was the preferred imaging study for annulus measurements and valve sizing (87%). Finally, concomitant severe coronary artery disease (CAD) was treated before or during the TAVI procedure in 79% and 4% of centers, and 3% of centers did not treat systematically significant CAD in TAVI candidates.

CONCLUSIONS In the real-world practice, up to one-fifth of patients undergoing TAVI are considered at moderate or low surgical risk. While the role of the Heart Team on the clinical-decision making process is well established, the involvement of other non-cardiovascular specialists remains anecdotic. Cardiac CT scan is the “gold standard” for annulus assessment and valve sizing, and significant CAD is treated before the TAVI procedure in the majority of centers.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-681 Aggressive oversizing of balloon-expandable transcatheter aortic valve replacement: predictor of para valvular leak with severe aortic valvar complex calcification

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BACKGROUND Higher calcification of the aortic valve complex increases the risk of post-dilatation and paraavalvular leak (PVL) after transcatheter aortic valve replacement (TAVR). The role of aggressive oversizing as a predictor of PVL post TAVR is not well understood. The aim of this study was to evaluate the association between degree of aortic valve complex calcification and PVL after aggressive oversized balloon-expandable TAVR.

METHODS Between January 2013 and April 2015, a total of consecutive 347 patients with severe aortic stenosis underwent TAVR (Sapien 3 or XT—270) and had suitable contrast cardiac CT. Aggressive oversizing was defined as over 20% of area oversizing. A region of interest for calcium volume included the total leaflet region - the area from the annulus to leaflet tips and left ventricular outflow tract (LVOT) region- the area from the annulus to 5 mm inferior to it. Annular device landing zone (ALZ) consisted of the area from the annulus to 3 mm superior to it and 2 mm inferior to it. Aortic valve complex was also divided by each leaflet sector. Calcium (CA) scoring was set at 850 Hounsfield units (HU). Aortic valve calcium was also divided by each cusp (LCC)-ALZ CA, and LCC-LVOT CA were predictor of PVL (area under the curve [AUC] = 0.739; 95% confidence interval [CI]: 0.638–0.840). It was performed between 2006 and 2014 were included into the analysis. Patients with severe aortic stenosis, in which TAVR was performed before or during the TAVI procedure appears to be unclear. Therefore, it was the aim of this study to evaluate the impact of MR on outcome after TAVR.

RESULTS Of 347 patients, aggressive oversizing was performed in 133 patients (38.3%). From these patients, 31 patients (23.3%) had PVL < mild (25 patients) or moderate PVL ≤ (6 patients). One patient had aortic annulus injury. Mean total leaflet CA, ALZ CA, and LVOT CA were 160.9 mm3, 24.2 mm3, and 0.4 mm3, respectively. ALZ CA, left coronary cusp (LCO-ALZ CA, and LCC-LVOT CA were higher in PVL patients (38.3%). From these patients, 31 patients (23.3%) had moderate to severe MR showed significant difference (p < 0.001, 17.3 mm3 vs. 8.5 mm3; p < 0.001, 22.1 mm3 vs. 13.7 mm3; p = 0.025, respectively). In receiver operator characteristic curve analysis, LVOT CA and LCC-LVOT CA were predictor of PVL (area under the curve [AUC] = 0.739; 95% confidence interval [CI]: 0.638–0.840; p < 0.001, [AUC] = 0.704; 95% CI 0.592–0.816; p < 0.001). It was performed before or during the TAVI procedure in 79% and 4% of centers, and 3% of centers did not treat systematically significant CAD in TAVI candidates.

CONCLUSIONS Of aortic valvular complex calcification, LVOT volume was the strongest predictor for PVL after aggressive oversized balloon-expandable TAVR.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Paravalvular leak, Predictors, TAVR

TCT-682 Impact of concomitant mitral regurgitation on mortality after transcatheter aortic valve replacement for severe aortic stenosis in high risk patients—results from a prospective single center registry

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BACKGROUND Transcatheter aortic valve replacement (TAVR) enables treatment of inoperable and high risk patients with severe aortic stenosis. Impact of concomitant mitral regurgitation (MR) on outcome in patients undergoing TAVR appears to be unclear. Therefore, it was the aim of this study to evaluate the impact of MR on outcome after TAVR.

METHODS Patients with severe aortic stenosis, in which TAVR was performed before or during the TAVI procedure appears to be unclear. Therefore, it was the aim of this study to evaluate the impact of MR on outcome after TAVR.

RESULTS Between January 2006 and May 2014 a total of 1530 consecutive patients (Age: 80 years; Logistic EuroScore 20%±13%, STS PROM 8.5±6.2%) with severe aortic stenosis were treated with TAVR at our institution. At baseline 178 (10.3%) of these patients presented with no MR, 1173 (68.2%) with mild MR (grade i), 171 (9.9%) with moderate MR (grade 2) and 9 (0.5%) with severe MR (grade 3). Patients with moderate to severe MR showed significantly higher