implantation between January 2013 and March 2015, including SAPIEN XT (Jan 2013-September 2014) and SAPIEN 3 (October 2014-March 2015). All patients presented severe aortic stenosis who were refused for conventional surgery. Procedure success, clinical outcomes and peri-procedural complications were prospectively assessed according to the Valve Academic Research Consortium (VARC)-2 criteria.

**RESULTS** N=142 consecutive patients who underwent TAVR using SAPIEN device were included in the study (n=76 SAPIEN XT and n=66 SAPIEN 3). There was no difference between groups regarding age, Euroscore, gender, previous medical history and left ventricle ejection fraction. However, SAPIEN 3 patients had a higher prevalence of peripheral arterial disease (65.2% vs. 36.8%, p<0.001) and ilio-femoral axis calcifications on scanner (47.9 vs. 26.5 %, p=0.008) than the others. Moreover, SAPIEN 3 patients had a smaller aortic valve area than SAPIEN-XT subjects (0.67±0.9 vs 0.76 ± 0.14 cm²/m², p=0.007), yet there was no significant difference in aortic annulus diameter (25±4.5 vs 23±8.2 mm, p=ns). TAVR was performed through transfemoral access in 96% in both groups. Device implantation success rate was higher (100% vs. 90%, p=0.002) in the SAPIEN 3 than in the SAPIEN-XT group. The prevalence of moderate to severe paravalvular leaks was lower in SAPIEN 3 than in SAPIEN-XT patients (0% vs 9.2%, p<0.01). We observed fewer hemorrhagic events in the SAPIEN 3 group than in the other, as assessed by the lower incidence of life-threatening major bleeding events (0% vs 9.2%, p=0.01). There was no difference regarding the 30-days rate of MACCE (major adverse cardiovascular & cerebrovascular events) between patients, including no difference in terms of death (3% vs. 5%), stroke (3% vs. 2.6%) and major vascular complications (6% vs. 13.1%). Finally, the rate of permanent pacemaker implantation was comparable in both groups (10.3% vs. 14.5%, p=0.49).

**CONCLUSIONS** The use Edwards SAPIEN 3 allows TAVR in patients with more severe peripheral artery disease. Moreover, this device provides excellent short-term outcome and lower rates of paravalvular regurgitations compared to the previous generation SAPIEN-XT valve.

**CATEGORIES STRUCTURAL:** Valvular Disease: Aortic

**KEYWORDS** Outcomes, Paravalvular leak, TAVR

**TCT-627**

Left Ventricular Mass Regression After Transcatheter Or Surgical Aortic Valve Replacement: Importance Of Stroke Volume And The Left Ventricular Mass Formula

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Valve Replacement: Importance Of Stroke Volume And The Left Ventricular TCT-627

**KEYWORDS** STRUCTURAL: CATEGORIES

**XT valve.**

(10.6 vs. 14.5%, p=0.002) after SAVR at discharge. However, after SAVR at discharge, LV mass decreased from 227.45±65.02 to 215.08±59.02 gm (p<0.002), and LVEDD from 56.1±0.64 to 4.8±0.65 cm (P<0.0001), although PWT and IVS were unchanged. 2D derived stroke volume (SV) also declined at discharge from 72.64±27.04 ml to 58.93±21.10 ml (p=0.01) after SAVR, but not after TAVR (70.42±27.21 ml to 70.36±24.48 ml; P=0.46). Similar changes were observed with Doppler derived SV. At 1 year, LV mass, SV and LVEDD remained smaller following SAVR vs. TAVR, a difference that persisted after exclusion of those with moderate aortic regurgitation (AR).

**CONCLUSIONS** Greater LV mass regression after SAVR is due to smaller post-operative LVEDD associated with lower SV after SAVR than TAVR. Further study is needed to identify the reasons for reduced SV after SAVR.

**CATEGORIES STRUCTURAL:** Valvular Disease: Aortic

**KEYWORDS** Aortic valve replacement, Echocardiographic assessment, Transcatheter aortic valve replacement

**TCT-628**

Prospective Non-randomized Comparison Between Three Transcatheter Aortic Valve Replacement Devices: Accurate vs CoreValve vs Sapien XT. A Single Heart Team Experience in Patients With Severe Aortic Stenosis

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**BACKGROUND** This is the first study comparing outcomes after transfemoral transcatheter aortic valve replacement (TAVR) with Symetis ACURATE (ACT) - a new device -, Medtronic CoreValve (MCV) and Edwards Sapien XT (SXT).

**METHODS** We prospectively evaluated patients with severe aortic stenosis undergoing transfemoral TAVR at two centers coordinated by the same Heart Team. Study objectives were echocardiography findings and Valve Academic Research Consortium (VARC) at 30 days.

**RESULTS** We evaluated 162 patients (ACT n=48, MCV n=57, SXT n=57). Baseline clinical and imaging features are resumed in Table 1. Immediately after the procedure, Device Success were lower with MCV (97.9% vs 86% vs 94.7%, p=0.049), as well as Aortic Valve Area (1.90±0.26 vs 1.81±0.32 vs 2.01±0.28, p=0.002), with no differences in Mean Gradient (p=0.752) or Moderate/Severe Aortic Regurgitation (p=0.272). At 30 days, there were no significant difference in all-cause mortality (p=0.298), cardiovascular mortality (p=0.222), myocardial infarction (p=0.776) and stroke (p=0.999). Additionally, no differences were found in major vascular complications (p=0.594), life-threatening bleeding (0.378) and stage 3 acute kidney injury

**Table. Echocardiographic Parameters by Treatment Over Time**

**TCT-629**

*Implantation Rate* of Transcatheter Aortic Valve Replacement for Intermediate-Risk Patients


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**BACKGROUND** Approximately 40% of patients at intermediate surgical risk (European System for Cardiac Operative Risk Evaluation) (EuroSCORE) I 10–20% are not candidates for surgical intervention due to comorbidities and frailty. Therefore, transcatheter aortic valve replacement (TAVR) represents a viable alternative to reduce the risk of major complications, peri-procedural mortality and hospital length of stay. Despite the current evidence showing a benefit of TAVR over surgical aortic valve replacement (SAVR), the impact of the surgical high risk setting on patients’ quality of life and lifestyle is unknown. We sought to determine why LV mass regression is more extensive after SAVR than TAVR despite a higher AV gradient after SAVR

**METHODS**成年人の心血管障害治療と結果

**RESULTS** Echo data were available in 389 TAVR and 353 SAVR patients (Table). LVEDD, PWT, IVS, LV mass, and SV were similar in TAVR and SAVR at baseline. These variables were unchanged at discharge with TAVR. However, after SAVR at discharge, LV mass decreased from 227.45±65.02 to 215.08±59.02 gm (p<0.002), and LVEDD from 56.1±0.64 to 4.8±0.65 cm (P<0.0001), although PWT and IVS were unchanged. 2D derived stroke volume (SV) also declined at discharge from 72.64±27.04 ml to 58.93±21.10 ml (p=0.01) after SAVR, but not after TAVR (70.42±27.21 ml to 70.36±24.48 ml; P=0.46). Similar changes were observed with Doppler derived SV. At 1 year, LV mass, SV and LVEDD remained smaller following SAVR vs. TAVR, a difference that persisted after exclusion of those with >moderate aortic regurgitation (AR).

**CONCLUSIONS** Greater LV mass regression after SAVR is due to smaller post-operative LVEDD associated with lower SV after SAVR than TAVR. Further study is needed to identify the reasons for reduced SV after SAVR.

**CATEGORIES STRUCTURAL:** Valvular Disease: Aortic

**KEYWORDS** Aortic valve replacement, Echocardiographic assessment, Transcatheter aortic valve replacement