Results: Mean age was 82(SD:6.9) yrs & 50% were male. Median Euroscore was 17(IQR 10-22). Smoking (54%) and diabetes (20%) were the most common cardiovascular risk factors. Access route of choice was femoral (94%). Medtronic CoreValve was used most commonly (68%). Permanent pacemaker was required in 18% of patients & 9% had at least one major complication. Event free survival was significantly higher (92% vs. 65%) in the later time periods (GP 2 and 3: n=128) compared to that in the "learning curve" group (GP 1: n=60). (log rank p<0.003) (graph 1). There was a 50% reduction in index procedure hospital stay for the latest cohort compared to the first two cohorts (GP 1 & 2 median = 8 days, IQR 4-16 days; GP3:median=4 days;IQR 3 days;p<0.002).

Conclusions: One year all-cause mortality has improved and hospital stay has reduced over three consecutive time periods. The mortality reduction does not relate to patient characteristics and may have been driven by acquired skills and experience of the TAVI team and advances in valve designs.

TCT-740

Transfemoral Aortic Valve Implantation of Edwards Sapien XT without Pre-dilatation is feasible

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Background: Transcatheter aortic valve implantation (TAVI) has become the standard intervention for elderly patients with aortic stenosis. Implantation of the valve without pre-dilatation might have some advantages by reducing procedural steps and thereby also the complication rate. This has been demonstrated for the antegrade transfemoral access with the balloon-expandable Edwards SAPIEN XT valve. However, the feasibility of TAVI with a balloon expandable device without predilatation using the retrograde transtemplar route has not been evaluated yet.

Methods: Twenty six consecutive patients with stenosis of the native aortic valve undergoing transfemoral TAVI with the Edwards Sapien XT prosthesis were enrolled in this study.

Results: The procedure was successfully performed in all 26 patients - irrespective of the aortic valve area and the extent of the aortic valve calcification. At baseline mean aortic valve area, mean AV gradient and median LVEF were 0.7±0.2 cm², 36.0±17.3 mmHg and 55.0% [IQR 35.0 – 60.0]; prior to discharge these values changed as follows: 1.7±0.3 (p<0.001), 9.8±6.1 mmHg (p<0.001) and 57.5% [IQR 38.7 – 60.0] (p=ns). Postdilatation due aortic regurgitation >2 was required in 3 cases, leading to aortic regurgitation <2 in all patients. Of note, no periprocedural neurological adverse events occurred.

Conclusions: Transfemoral aortic valve implantation without pre-dilatation using the Edwards Sapien XT is feasible and safe.

TCT-741

Risk Stratification and Clinical Pathways Optimize Length of Stay after Transfemoral Transcatheter Aortic Valve Replacement

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Background: The Vancouver Program initiated multidisciplinary and multimodality risk stratification to determine patients’ suitability for a transfemoral (TF) minimal access or percutaneous approach. By focusing on patients with a high risk profile, the number of patients with a risk factor profile was reduced. As a result, patients with a low-risk profile were identified to undergo a TF TAVR. The aim of this study was to compare the outcomes of transcatheter aortic valve implantation (TAVI) with the Medtronic CoreValve Revalving System® (MCV) with or without preparatory balloon aortic valvuloplasty (PBAV).

Methods: From November 2007 to September 2013 all patients treated with MCV were included in this analysis. Patients were divided in 2 groups: those where PBAV was performed and those where MCV was directly implanted. PBAV was performed according to operator discretion, after consideration of patient anatomical characteristics. Outcomes were assessed according to valvular academic research consortium (VARC-2) criteria at 30 days and 1 year.

Results: Of 538 patients that underwent TAVI in our center, 206 were treated with a MCV via one of the available access routes. Of those, 133 underwent PBAV, while 73 direct valve implantation. Baseline characteristics between the 2 groups were similar. At 30 days there were no significant differences in all-cause and cardiovascular mortality (3% vs. 5.5%, p = 0.380; and 1.5% vs. 5.5%, p = 0.105; respectively). A lower incidence of post-procedure moderate to severe mitral regurgitation (2.8% vs. 12.4%, p = 0.078) and a significantly higher rate of at least moderate peri-prosthetic aortic regurgitation (PPAR) requiring valvular balloon post-dilation (VBPD; 35.6% vs. 49.3%, p = 0.056) was noted among patients where PBAV was not performed. Conversely patients who underwent PBAV had more AKI (32.3% vs. 19.4%; p = 0.049).

Conclusions: The occurrence of AKI is an independent predictor for mortality after TAVI in patients with and without CKD. However, an improved renal function after TAVI predicts long-term survival only for patients with prior CKD.
Transcatheter aortic valve implantation (TAVI) is an emerging treat-
ment option for inoperable or high risk patients. Low implantation (over 8 mm) has been frequently implicated with moderate or severe paravalvular aortic regurgitation (PVR). However, it has not been evaluated the effect of high implantation on the outcome of the procedure. The purpose of this study is to assess whether high implantation affects the short- and long-term outcome of the procedure.

Methods: Consecutive patients who underwent TAVI were evaluated. Echocardiographic parameters were recorded before the procedure, at discharge of the patient and during one month- and one year- follow-up. Permanent pacemaker implantation (PPI), one month- as well as one year- mortality were recorded according to VARC criteria. ID was defined as the distance both from the native coronary cusp (NCC) and the left coronary cusp(LCC) to the deepest edge of the deployed bioprosthesis in the left ventricle using an offline program. The patients were separated into two groups according to the ID. Group I included all patients with normal (4±8 mm) or low implantation (<8 mm) and Group II included those with high (0-4 mm) or over the annulus implantation/distance from either LCC or NCC < 0 mm.

Results: One hundred eighty six consecutive patients (81±5.5 years, 103 males) who underwent TAVI were recorded. In Group I, peak gradient discharge (17±8 vs. 14±4 mmHg, p<0.01) and mean gradient at discharge (9±4 vs. 7.5±3, p=0.002) was significantly higher comparing to Group II, while one year- cardi
vascular as well as one month- and in-hospital mortality did not differ among two groups.

Conclusions: In conclusion, high implantation seems to have a positive effect on short- and long-term outcome of the procedure.

TCT-747
Cost of transcatheter aortic valve implantation in the real-world: a single-center experience
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Background: Transcatheter aortic valve intervention (TAVI) is a recognized life-saving treatment for those who are at high risk for conventional aortic valve surgery. The financial cost of a TAVI “pathway” from the time of referral to the time of hospital discharge was assessed.

Methods: Consecutive patients (n=46) who underwent TAVI between February 2012 and December 2013 at Hammersmith Hospital, London, UK were included in this retrospective study. The analysis included costs of outpatient appointment, investigations prior to the procedure, the TAVI procedure as well as post-procedural costs including the cost of pacemaker implantation. NHS tariff costs were used for the assessment. Comparison of the costs incurred following implantation of the Edwards and CoreValve bioprostheses was also performed.

Results: Of 130 high-risk patients with severe aortic stenosis who underwent TAVR from January 2009 to May 2014 in our centre, 15 (12.5%) patients had documented BAV. Patients were aged 76±15 years (range 56-90), with mean Logistic EuroScore I of 20±11%, all in New York Heart Association functional class III. The mean aortic valve area was 0.76±0.36 cm2, mean gradient was 45±3±15.1
nnHg and mean LVEF was 50±±12.4%. The procedure was performed using transfemoral access in 13 (87%), transapical in 1 (6.5%) and transapical in 1 (6.5%). Median CoreValve prosthesis was implanted in 9 (60%) and Edwards Sapien XT in 6 (40%) patients. TAVI procedure was successful in 13 patients (87%). Major adverse events according to the second Valvular Academic Research Consortium definitions were present in 2 patients: 1 periprocedural death (Edwards Sapien XT 29) and 1 periprocedural stroke (Medtronic CoreValve 26). Importantly, both complications were related to prosthesis dislocation from the bicuspid aortic valve annulus. Postprocedural aortic valve mean gradient was 8±2 mmHg and AVA 1.4±0.4 cm2. After a mean follow-up of 13±12 months (range 1-39) no further adverse events occurred. All survivors remained in NYHA class I or II.

Conclusions: Our initial experience suggests TAVI using CoreValve and Sapien XT prostheses in high risk patients with stenotic bicuspid aortic valve is feasible, leading to good short term hemodynamic and clinical improvement.