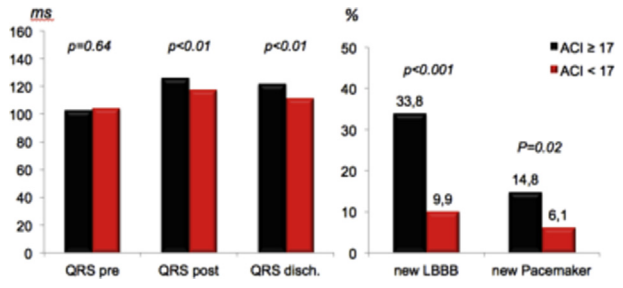
and new pacemaker after implantation of the balloon-expandable Sapien prosthesis (BES).
Methods: We analyzed 252 consecutive patients undergoing implantation of BES without pre-existing pacemaker. All patients underwent pre-procedural CT assessment of the aortic root. The congruence between annulus and valve prosthesis was assessed using the area cover index (ACI): 100 x (prosthesis area - CT annulus area/ prosthesis area). ECGs were performed at baseline, immediately after TAVI and at discharge.
Results: We divided the population in two groups according to median ACI value. There were no differences in baseline characteristics except more women in the ACI ≥17% group compared to ACI < 17% group (67% vs. 33% p< 0.01). The QRS interval duration immediately after TAVI and at discharge, incidence of new LBBB and of new pacemaker was significantly higher in ACI ≥17% group (Figure).



Conclusions: PO of ≥17% is associated with increased risk of conduction abnormalities and need for new pacemaker after implantation of balloon-expandable Sapien prosthesis.

TCT-708

Predictors Of Left Ventricular Function Improvement After Transcatheter Aortic Valve Implantation In Patients With Moderate To Severe Left Ventricular Dysfunction

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Background: Encouraging results have been demonstrated for TAVI in patients with reduced left ventricular (LV) ejection fraction (LVEF). Not all patients with systolic LV dysfunction may profit from TAVI to the same extent, however. The largest benefit is typically observed in patients who demonstrate LV function (LVF) recovery after valve intervention. Aim of this study was to identify predictors of LVF recovery (absolute increase in LVEF of ≥10%) at mid-term follow-up after TAVI in patients with preoperative moderate to severe LV dysfunction (LVEF≤40%).
Methods: Six international TAVI centers participated in this multicenter retrospective registry. All patients with LVEF≤40% who underwent TAVI for symptomatic severe aortic valve stenosis (AS) were identified in local institutional databases. Baseline, procedural and follow-up clinical data and echocardiographic images were reviewed for relevant data.
Results: Between November 2005 and July 2013, 1497 patients underwent TAVI for symptomatic AS, of which 253 (17%) had a LVEF≤40%. Eventually, 150 (60%) patients (mean age 78.6±8.2 years, 62% male) were included in the study, as 103 (40%) patients lacked echocardiographic mid-term follow-up or underwent interfering resynchronization therapy. There were no significant baseline differences between included and excluded patients. TAVI was mainly performed through transfemoral (85%) or transapical (11%) approach with an Edwards SAPIEN (37%) or Medtronic CoreValve (63%) device. At mid-term follow-up, 67 (45%) patients demonstrated LVF improvement. Previous CABG (OR=0.21, CI 95% 0.07-0.60, p=0.004), absence of concentric remodeling (OR=0.35, CI 95% 0.15-0.84, p=0.019) and preoperative left bundle branch block (OR=0.35, CI 95% 0.13-0.98, p=0.047) were independently associated with a reduced likelihood of LVF improvement; higher preoperative mean gradient (OR=1.04, CI 95% 1.01-1.07, p=0.018) with an increased likelihood of LVF improvement.
Conclusions: Previous CABG, absence of concentric remodeling, and preoperative LBBB are negatively associated, while higher mean gradient is positively associated with LVF improvement after TAVI in patients with preoperative moderate to severe LV dysfunction.

TCT-709

Early and Mid-term Outcomes Of 1904 Patients Undergoing Transcatheter Balloon-Expandable Valve Implantation: results the ITER Registry

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Background: Transcatheter aortic valve implantation (TAVI) has been proposed as a therapeutic option for high risk or inoperable patients with severe symptomatic aortic valve stenosis. aim of this retrospective multicenter study is to report early and mid-term clinical and echocardiographic outcomes of patients undergoing TAVI with a balloon-expandable device in Italy
Methods: From 2007 through 2012, 1904 patients were enrolled at 33 centers in the Italian Transcatheter balloon-Expandable valve Registry (ITER). The study device is the Sapien/Sapien XT prosthesis (Edwards Lifescience, Irvine, USA). A minimum follow-up of one-year was required to be part of the Registry. Outcomes were assigned according to the updated Valve Academic Research Consortium (VARC-2) definitions.
Results: Mean age was 81.6±6.2 and 1147 (60.2%) patients were female. Out of 352 (18.5%) patients who had at least one previous cardiac intervention, 49 (2.6%) underwent Valve-in-Valve TAVI. Mean Logistic EuroSCORE, EuroSCORE II and STS Score were 22.4±14.6%, 7.3±6.7% and 9.2±7.6%, respectively. The procedural accesses were: transfemoral, 1252 (65.8%); transapical (33.0%), 629; transaortic (1.0%), 19; transaxillary (0.2%), 4. Thirty Day mortality was 7.2% (137 patients). The most significant VARC-2 outcomes are summarized in the table below. At discharge mean transprosthetic gradient was 10.7±4.5 mmHg. Incidence of post-operative mild, moderate or severe paravalvular leaks was respectively: 32.1%, 5.0% and 0.4%. Overall 1, 2 and 3 years survival was 84.5%, 76.4 and 68.2%, respectively.

OUTCOME ACCORDING TO VARC-2 DEFINITIONS

	n/1904 (%)
Device insuccess	221 (11.6)
>1 valve implanted	14 (0.7)
Aortic valve replacement	9 (0.5)
Operative mortality (within 24h)	47 (2.5)
Aortic regurgitation ≥ moderate	100 (5.2)
Mean aortic gradient ≥ 20 mmHg	64 (3.4)
Acute Myocardial Infarction (≤72 h)	26 (1.4)
Stroke (non disabling)	36 (1.9)
Stroke (disabling)	18 (1.0)
Life threatening bleeding	186 (9.9)
Major bleeding	200 (10.6)
Major vascular complication	177 (9.3)
Acute Kidney Injury (AKIN) grade 2-3	155 (8.1)
PM implantation (before discharge)	116 (6.1)

Conclusions: According to our data, patients undergoing TAVI with a balloon expandable device show good early and mid-term clinical and hemodynamic outcomes. In particular the incidence of postoperative pace-maker implantation as well as moderate/severe regurgitation seems reasonable. The incidence of mild regurgitation is still a matter of concern.

TCT-710

Preliminary Experience With the 29mm Direct Flow Medical Transcatheter Aortic Valve In Patients With A Large Aortic Annulus

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