Transcatheter aortic valve replacement (TAVR) success is hampered by a relatively high rate of vascular complications, which correlates with mortality. A trend from surgical access to percutaneous access has led to a decrease in the reported complication rate, but it is still considered a valid access strategy. The aim of this study was to explore the vascular complication rates of surgical versus percutaneous access for TAVR and of the two most frequently used closure devices.

**Methods:** A comparison of the three groups’ baseline characteristics, valve Academic Research Consortium (VARC)-defined vascular complication, and mortality rates was performed.

**Results:** Baseline characteristics were mostly similar save for a higher incidence of SAPIEN valve use in the surgical access group (71.3% vs 97.4% surgical; p <0.001). Although the rate of major VARC vascular complication did not differ between groups, Figure access site hematoma, major bleeding and need for transfusion were more frequent in the surgical access group. Mortality rates at 30 days and 1 year did not differ among the three groups. No differences were noted in outcome when Periclose was compared with Prostar use.

**Conclusions:** Complete percutaneous vascular access and closure with either Periclose ProGlide or ProStar is associated with lower rates of vascular complications compared with surgical cut down and should be the preferred access technique in TAVR.

**Background:** Transcatheter aortic valve replacement (TAVR) represents an emerging technology that is nowadays widely used for the treatment of aortic-valve disease in high-risk patients. However, paravalvular leakage (PVL) still represents a major problem and was recently shown to be associated with increased mortality and morbidity. This study evaluates the impact of CT based aortic-valve calcification and its distribution on the post-procedural occurrence of PVL.

**Methods:** From May 2008 to December 2012 a total of 369 patients were scheduled for the treatment of aortic stenosis with a TAVI procedure either using a CoreValve- Medtronic (n = 198), Edwards-SAPIEN (n = 164) or an Edwards-SAPIEN (n = 2) and Medtronic-Engager prosthesis (n = 5). Of these, 260 patients with a mean logistic EuroSCORE I of 19.3±12% had a preoperative CT-scan and were included in this study. AVCS was measured in mm and mm3 using a method analogous to the Agostoni calcium scoring of coronary arteries. The image data were analyzed separately to determine the degree of calcification for each cusp and commissure. The occurrence of intra- or post-procedural PVL was assessed by echocardiography and correlated to the calcium degree and distribution.

**Results:** TAVI was successfully performed in 254 Patients (97.7%). A New Pacemaker implantation was observed in 22.4% (n = 57) of patients and MACE (Myocardial Infarction, Stroke, major vascular complication, Death) occurred in 11.4% (n = 29) of all cases. The mean hospital length of stay was 11.3 ± 8.3 days. There was a statistically relevant difference in AVCS between Groups when correlating to the occurrence of post-interventional PVL Valve Grade 0-1 (550.4 ± 377.2 mg, n = 164) and Grade 2 (755.6 ± 470.6 mg, n = 78, p <0.001) or Grade 3 (825 ± 460.8 mg, n =12, p<0.05). There was no correlation between a new pacemaker implantation and AVCS.

**Conclusions:** This study highlights the significant correlation between the degree of calcification and the occurrence of post-interventional paravalvular leakage after TAVI procedure. Thus, preoperative AVCS calculation may represent an important predictor for PVL and may be added to the routine list of parameters for CT planning before TAVI. PVL Valve Grade 0 - none; 1 - minimal; 2 - mild; 3 - moderate.

**Background:** Dual anti-platelet therapy is an essential component of post-percutaneous coronary intervention (PCI) and transcatheter aortic valve replacement (TAVR) as it prevents restenosis and stent thrombosis. While several trials have studied the impact of high response to clopidogrel [Platelet Reactivity Units (PRU) > 230] in PCI patients, data on the clopidogrel hyper-responsiveness post TAVR is lacking. The objectives of the study were to characterize predictors and outcomes of clopidogrel responders and hypo-responders, patients using Accumetrics VerifyNow® (San Diego, CA) P2Y12 testing post TAVR.

**Methods:** Twenty two consecutive patients underwent TAVR and platelet function testing after initial background aspirin and 600 mg of clopidogrel. Post procedure a daily maintenance dose of 75 mg clopidogrel was administered. Patients’ characteristics, presentation [heart failure, syncope, angina] and major adverse cardiac events (MACE) [death, acute myocardial infarction, major bleeding and re-admission] were compared between responders and hypo-responders.

**Results:** Of the 22 patients 15 (68%) were hypo-responders. Comparison between the two groups is presented in table 1: MACE rate at 30 days was similar between responders and hypo-responders [27 (29%) vs. 3/15 (20%), respectively, p=0.9].