AKI comprised among others non-transfemoral access, anemia, high EURO Score and the absence of an increase in cardiac output (CO) after TAVI (AKI vs. non-AKI ΔCO: 0.2±1.8% vs. 7.2±26.5%, p< 0.0001).

Conclusions: Preprocedural renal dysfunction has a prominent impact on mortality after TAVI. In addition, the occurrence of AKI after TAVI carries an even worse impairment.

TCT-759
Early Detection of Acute Kidney Injury Post Transcatheter Aortic Valve Replacement By a Novel Renal Biomarker
Elizabeth M. Holper1, Robert A. Farkas1, Harold M. Szerlip1, Molly Szerlip1, Morley Herbert2, Ethan Unghusari3, Rebecca J. Kim1, Christina Worley1
1Cardiopulmonary Research Science and Technology Institute, Dallas, TX, 2Medical City Hospital, Dallas, TX, 3Heart Hospital Baylor Plano, Plano, TX

Background: Neutrophil gelatinase-associated lipocalin (NGAL) is a novel biomarker associated with acute kidney injury (AKI) after cardiac procedures. NGAL allows earlier detection of AKI than serum creatinine (SCr) level but has not been evaluated after transcatheter aortic valve replacement (TAVR). Methods: From 6/2012-5/2013, we enrolled 66 patients undergoing TAVR in this single-center pilot study. Urinary NGAL was measured at baseline, 2, 4, and 12 hours post op. Demographic, procedural features, and SCr until discharge were measured. The trend of NGAL post TAVR and the association of increased NGAL with AKI as per VARC-2 criteria was assessed.

Results: Twenty-two patients (33.3%) developed AKI postoperatively (Stage 1, 63.6%; Stage 2, 22.7%; Stage 3, 13.6%). There was no significant difference in baseline SCr, eGFR, or contrast dye volume between patients who developed AKI and those who did not but AKI patients had a significantly smaller aortic valve area. There was a significantly higher level of NGAL in patients with AKI versus those without AKI seen at 2, 4 and 12 hours post procedure (Figure), with the peak at 2 hours. After adjusting for gender, age, diabetes, TAVR type, and BMI, NGAL was significantly predictive of AKI at baseline (OR = 1.019 (95% CI 1.001 – 1.037, p=0.034) and at each post op measurement.

Conclusions: NGAL was significantly elevated in patients who develop AKI both pre TAVR and post TAVR as early as 2 hours post procedure in this pilot study. This biomarker may assist in better determining patients at risk for and earlier detection and management of this frequent complication.

TCT-760
Treatment of Acquired von Willebrand Syndrome in Aortic Stenosis with Transcatheter Aortic Valve Replacement (TAVR)
Tobias Spangenberg1, Ulrich Badde1, Thielsen Thomas1, Christian Frierker2, Karl-Heinz Kuck3, Ulrich Schäfer4
1University of Leipzig, Leipzig, Germany, 2University Hospital Mainz, Mainz, Germany, 3Heart Center Leipzig, Leipzig, Germany, 4Mediaklinik St. Georg, Hamburg, Germany

Background: von Willebrand disease (vWd) is associated with increased cardiovascular outcomes, however the direct relation between vWd and valve implantation remains to be elucidated. We investigated the prevalence of acquired von Willebrand syndrome (aVWS) in patients undergoing TAVR and the impact on the underlying factor deficiency.

Methods: A single-center pilot study. Urinary NGAL was measured at baseline, 2, 4, and 12 hours postoperatively. Demographic, procedural features, and SCr until discharge were measured. The trend of NGAL post TAVR and the association of increased NGAL with AKI as per VARC-2 criteria was assessed.

Results: From 6/2012-5/2013, we enrolled 66 patients undergoing TAVR in this single-center pilot study. Urinary NGAL was measured at baseline, 2, 4, and 12 hours post op. Demographic, procedural features, and SCr until discharge were measured. The trend of NGAL post TAVR and the association of increased NGAL with AKI as per VARC-2 criteria was assessed.

Conclusion: Preprocedural renal dysfunction has a prominent impact on mortality after TAVI. In addition, the occurrence of AKI after TAVI carries an even worse impairment. Prevalence and course of the AKI in patients treated with TAVR though has not yet been described comprehensively. Thus, we investigated the prevalence of the aVWS in patients undergoing TAVR and the impact on the underlying factor deficiency.

Methods: 104 consecutive patients (age: 81.0±13.0 years, logEuroscore 22.9±18.5%) underwent TAVR at our institution. Comprehensive hemostaseologic testing was performed prior to and up to one week after TAVR. Transvalvular hemodynamics and right heart catheterisation as well as bleeding episodes were recorded and analyzed with descriptive statistics.

Results: Baseline prevalence of an aVWS was 41% with an average densitometric high-molecular-weight multimere (HMW-MM) count of 16.6±3.5%. Pressure gradients correlated significantly with the extent of high-molecular-weight multimere (HMW-MM) deficiency (r=0.63 [P< 0.0001]). While in the past it has been shown to be vice-versa for SAVR, the necessity of blood transfusions was higher in our control-group. Following valve implantation, HMW-MM increased proportional to the drop in mean pressure gradient and normalized within a week in 97% of the patients with prior aVWS.

Conclusions: We describe a significant prevalence of aVWS in patients undergoing TAVR. Since severe factor deficiency can lead to significant bleeding during SAVR, TAVR should be taken into consideration as a first line treatment for patients with AVS and concomitant aVWS.

TCT-761
Balloon-Expandable Transcatheter Aortic Valve Can Be Effectively And Safely Implanted Transfemorally Without Balloon Valvuloplasty
Suneel K. Aggarwal1, Nicola Delahunty1, Sarah Early1, Emmanuel Ako1, Mun-Hong Cheung1, Markus Reinbinder1, Asad N. Tamimi1, Bentley Wong1, Neil Roberts1, John Yap1, Mahiddin Okez1
1The Heart Hospital, University College London Hospitals, London, United Kingdom

Background: Balloon aortic valvuloplasty (BAV) has traditionally been part of the transcatheter aortic valve implantation (TAVI) procedure using balloon expandable valves. However, the benefit of this is unknown. We aimed to evaluate procedural success and safety in patients who underwent TAVI with and without BAV.

Methods: We retrospectively evaluated all TAVIs performed for predominant aortic stenosis using the balloon-expandable Edwards Sapien XT and Sapien 3 devices from March 2012 to April 2014. BAV was routinely performed only until May 2013. We assessed Valve Academic Research Consortium (VARC)-2 defined device success and safety; differences in procedure and fluoroscopy times and differences in embolic load based on transcranial Doppler (TCD). Categorical variables were analyzed using the Fisher exact test and continuous variables by the unpaired T-test on SPSS v21.

Results: 61 patients underwent BAV (Group 1) and 52 patients had no BAV (Group 2). There was no difference (p>0.05) in the rate of device success, specifically successful valve deployment (98.3% in Group 1 and 96.1% in Group 2), rate of post-deployment balloon dilatation (3.4% in Group 1 and 4.0% in Group 2) or incidence of moderate or severe aortic regurgitation (4.9% in Group 1 and 5.8% in Group 2). There were no differences in procedure safety (50.8% VARC-2 defined major and minor complications in Group 1 and 34.6% in Group 2, p=0.15). There was no difference in fluoroscopic time. There is no difference in total fluoroscopic time in Group 2 vs Group 1 (13.2 vs 17.3 mins, p=0.006), but no significant difference in total procedure time (112 vs 119 mins, p=0.21).

Conclusions: Balloon-expandable TAVI valves can be implanted transfemorally without BAV, without a reduction in VARC-2 defined success or safety. Without performing a BAV there is a significant reduction in the fluoroscopic time. There is no difference in the rate of embolization on TCD.

TCT-762
Transcatheter Aortic Valve Implantation: A Single Center Comparison between Medtronic CoreValve and Edwards SAPIEN Bioprostheses
Eyal Ben-Azulay1, Yigal Abramovitz2, Arie Steinolv, Eran Leshem-Rubinon1, Ofer Havakuk1, Maayan Konigstein1, Yaron Arbel1, Amir Halkin1, Gad Keren1, Shmuel Bani1, Ariel Finkelsteind1
1Tel Aviv Medical Center, Tel Aviv, Israel

Background: Transcatheter aortic valve implantation (TAVI) is the new standard of care for inoperable patients with severe aortic stenosis and an alternative to surgical