Methods: 99 patients underwent TAVI (78.8% trans-femoral, 12.1% trans-apical/aortic and 9.1% subclavian access) between February 2009 and September 2011 at Rennes University Hospital. Creatinine level was assessed daily at least up to 72 hours after TAVI. the characteristics of patients, procedural features and outcomes according to VARC definitions were studied to evaluate determinants and prognostic impact of AKI.
Results: AKI occurred in 22 patients (22.2%). Among them, 5 were AKI 2 (5.1%), 8 were AKI 3 (9.1%) including 4 who needed dialysis (4%). At baseline, compared to no AKI or AKI 1, AKI 2 or 3 patients had a higher prevalence of ≥ grade 2 mitral regurgitation (p=0.03). There was a non significant trend toward a higher prevalence of moderate or severe chronic kidney disease (p=0.07). During the post TAVI hospitalization, AKI 2 or 3 was related to a higher rate of death from any cause (p=0.0009), major bleeding, acute heart failure (both p=0.002), infectious complications (p=0.0008) and longer total and ICU hospitalization duration (p=0.0004 and <0.0001 respectively). There was no association between any stage of AKI and the 30-day and 6-months rate of death. Only AKI 3 was associated with a higher risk of 6-months NYHA class III or IV (p=0.016).
Conclusions: AKI 2 or 3 as defined by the VARC criteria were associated with a higher risk of post procedural death because of their association with other major post procedural complications. AKI 3 was associated with a higher risk of short term worse functional outcomes.

TCT-140

Trend of clinical outcomes in patients with chronic kidney disease and end-stage renal disease following percutaneous coronary intervention.

James Lai[1], M. Chadi Alraies[1], Wael Aljaroudi[1], Stephen Ellis[1], Leslie Cho[1]
[1]*Cleveland Clinic, Cleveland, OH*

Background: Chronic kidney disease (CKD) and end-stage renal disease (ESRD) have been demonstrated to be associated with poor outcomes following percutaneous coronary intervention (PCI). Although there have been significant advances in PCI, patients with CKD/ESRD are often excluded from the majority of published trials. To date, little is known about the trend of clinical outcomes in this population who have undergone PCI.
Methods: We analyzed data from 2,470 patients with CKD or ESRD who underwent PCI at The Cleveland Clinic between 1992 and 2011. The primary outcomes of our study were the hard endpoints of all-cause death at 30 days, myocardial infarction (MI), stroke, bleeding, and the composite of major adverse cardiovascular events (MACE), defined as all-cause death at 30 days, MI, stroke, and bleeding. Patients were stratified into 3 groups according to the time of their intervention: group 1 (1992-2000), group 2 (2001-2006), and group 3 (2007-2011).
Results: Results are shown in Table 1. Over the 12 year period, there was a significant decrease in the rates of bleeding (group 1: 19.3%, group 2: 12.6%, group 3: 9.3%, p<0.00001), MI (7.7%, 3.9%, 2.0%, p< 0.0001) and MACE (27.1%, 18.3%, 15.1%, p<0.00001). Although rates of stroke and mortality were lower in the 2 most recent cohorts compared with those patients treated before, this trend was not statistically significant.
Conclusions: In a large registry of patients with CKD and ESRD who have undergone PCI, the trend in clinical outcomes of bleeding and MI have improved over a span of 12 years. Further studies are warranted to understand contributing factors for these improvements.

Table 1 Clinical outcomes following PCI

Variable	1992-2000, n = 771 (%)	2001-2006, n = 965 (%)	2007-2011, n = 734 (%)	p Value
Transfusion	149 (19.3)	122 (12.6)	68 (9.3)	<0.00001
Stroke	8 (1.0)	2 (0.2)	4 (0.5)	0.07
NSTEMI	59 (7.7)	38 (3.9)	15 (2.0)	<0.0001
Death (30-days)	54 (7.0)	47 (4.9)	46 (5.4)	0.15
MACE	209 (27.1)	177 (18.3)	111 (15.1)	<0.00001

MACE = major adverse cardiac event (transfusion, stroke, MI, and death at 30-days)

TCT-141

Age, Glomerular Filtration Rate, Ejection Fraction and the AGEF score are predictors of Contrast-Induced Nephropathy (CIN) in patients with ST-Elevation Myocardial Infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI).

Giuseppe Ando[1], Gaetano Morabito[1], Cesare de Gregorio[1], Olimpia Trio[1], Giuseppe Oreto[1], Francesco Saporito[1]
[1]*University of Messina, Messina, Italy*

Background: In patients undergoing primary PCI for STEMI, the occurrence of CIN has a pronounced impact both on morbidity and mortality. We investigated the variables associated with the development of CIN in patients with STEMI undergoing primary PCI. We then evaluated the predictive accuracy of a 3-variable clinical risk score (the AGEF score) based on age, left ventricular ejection fraction (LVEF) and estimated glomerular filtration rate (eGFR), as compared with EuroSCORE and Mehran Risk Score (MRS).

Methods: 481 consecutive patients with STEMI who were undergoing primary PCI were prospectively enrolled. CIN was defined as an absolute increase in serum creatinine ≥0.5 mg/dL or an increase ≥25% from baseline within 72 hours after the administration of contrast medium. AGEF score was calculated by adding 1 point to the Age/EF(%) ratio if the eGFR was <60 mL/min per 1.73 m^2. Logistic regression, receiver-operating characteristic (ROC) curve analysis and Hosmer-Lemeshow χ^2 statistic were performed to assess accuracy and calibration of AGEF score, EuroSCORE and MRS as predictors of CIN.
Results: The incidence of CIN was 5.2%. In-hospital mortality was higher among patients with CIN (16% Vs 1.3%, p=0.001). At multivariable analysis age (OR 1.08, p=0.038), eGFR (OR 0.95, p=0.002), LVEF (OR 0.94, p=0.033) and post-procedural TIMI flow (OR 0.30, p=0.01) were independent predictors of CIN. AGEF score was an accurate (OR 5.19, 95% CI 3.13-8.62, p<0.0001, AUC 0.88) and well calibrated (Hosmer-Lemeshow χ^2=10.24, p=0.62) predictor of CIN with a 100% sensitivity for AGEF score >1.5 point; all patients developing CIN were in the highest tertile of AGEF score (p<0.0001). MRS (OR 1.27, p<0.0001) and EuroSCORE (OR 1.61, p<0.0001) were less accurate, though not significantly, predictors of CIN than AGEF score.
Conclusions: Age, LVEF and eGFR are independent predictors of CIN development after primary PCI for STEMI. A simple model based on pre-procedural, readily obtainable variables, such the AGEF score, can predict the risk of CIN at least as accurately as more complex non-linear risk scores and is well fitted to the acute settings. Complex risk models may be over fitted, at least in populations with a low rate of events.

TCT-142

Association of Acute Kidney Injury with Mortality post TAVR

Elizabeth Holper[1], Ethan Ungchusri[2], Robert Farkas[3], Christina Worley[4], Morley Herbert[5], Wells Stewart[6], William Brinkman[7], David Brown[7]
[1]*Medical CIty Hospital, Dallas, TX, [2]Carnegie Mellon University, Pittsburgh, PA, [3]Medical City Hospital, Dallas, TX, [4]Cardiopulmonary Research Science and Technology Institute, Dallas, TX, [5]Medical City Dallas Hospital, Dallas, TX, [6]Cardiopulmonary Research Science and Techn ology Institute, Dallas, TX, [7]Baylor Healthcare System, Plano, TX*

Background: Acute kidney injury (AKI) post TAVR has been associated with increased post operative morbidity and mortality. Long-term outcomes after TAVR with the Edwards Sapien valve (Edwards Lifesciences, Irvine, CA) in patients who develop AKI postoperatively are not well-described.
Methods: A retrospective analysis of 317 TAVR cases performed at Medical City Hospital, Dallas, Texas from August 2006 through April 2012 was performed. The incidence of AKI as per VARC criteria, multivariate predictors of AKI, and association of AKI with one year mortality were evaluated.
Results: Stage 1 AKI occurred in 4.4% of patients (14/317), stage 2 in 28.7% (91/317), and stage 3 in 4.4% (14/317). The overall operative mortality was 7.6%, with a mortality of 2.5% in patients with no kidney injury, 21.4% in stage 1, 11.0% in stage 2, and 42.9% in stage 3. The incidence of new postoperative dialysis was 2.5%. The one year Kaplan-Meier survival is shown in Figure 1. Survival at 1 year for No injury/Stage 1/Stage 2/Stage 3 was 86 ± 3 %, 64 ± 13 %, 68 ± 5%, and 43 ± 13%, respectively. Logistic regression modeling for the combination of Stage2 or Stage 3 AKI post-surgery demonstrated that the last preoperative creatinine (for each 1 mg/dL increase, odds ratio = 2.21; 95% CI 1.26-3.85; p < 0.001) and having a transapical approach (compared to transfemoral, odds ratio = 2.38; 95% CI 1.45-3.90; p = 0.005) were significant predictors for AKI. At 1 year,
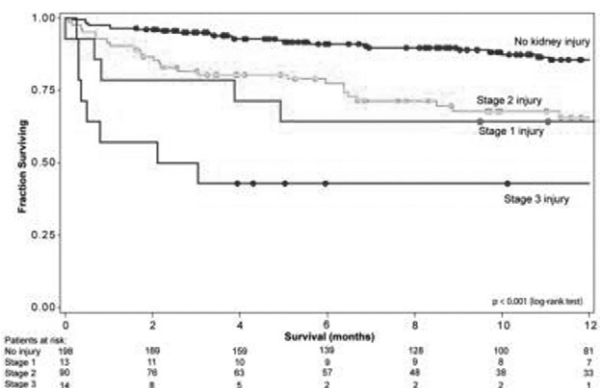
Conclusions: AKI post TAVR is associated with increased postoperative and one-year mortality. Further research regarding methods to prevent AKI can improve outcomes of this procedure.

JACC Vol 60/17/Suppl B | October 22–26, 2012 | TCT Abstracts/POSTER/Chronic Kidney Disease and Acute Renal Insufficiency

B41

POSTERS