Methods: A total of 1926 patients underwent the first SES implantation between November 2002 and December 2006 and 651 patients underwent the first EES implantation between January 2010 and December 2010, whose target lesion revascularization (TLR) were investigated by telephone follow-up, examining medical records, and asking family physicians. The patients were stratified into 4 groups according to their estimated glomerular filtration rate (eGFR): Group I, eGFR ≥ 90 ml/min/1.73m² (normal); Group II, eGFR < 60 and ≥ 30 ml/min/1.73m² (mild-moderate RI); Group III, eGFR < 30 ml/min/1.73m² and not on hemodialysis (HD) (severe RI without HD); and Group IV, renal failure treated with HD (severe RI with HD).

Results: The figure shows the cumulative incidence of TLR at 3 years in all cases and group IV. Complete 3-year follow-up was achieved in 99.6% of SES (1919/1926) and Young-Guk Ko2

Background: Cystatin C has emerged as a sensitive biomarker of renal function.

Methods: Using contrast medium (CM) can serve as a prognostic marker of CIN and cardiovascular mortality. The baseline and 24-h change in CysC-GFR after percutaneous cardiovascular intervention (PCI) can be used for prediction of CI-AKI. Analysis and Cox proportional hazards regression analysis were performed to identify factors of cardiovascular mortality. Increment of cystatin C level at 24-h from baseline was not able to predict CIN. AUC value of 0.51, 0.53, and 0.50, respectively. However, baseline CysC-GFR < 60 ml/min showed superior prediction of CIN (AUC 0.68, 95% CI 0.58-0.78, P < 0.001) followed by contrast amount (AUC 0.68, 95% CI 0.58-0.78, P < 0.001) and III (log rank p = 0.013).

Conclusions: EES might reduce the cumulative incidence of TLR at long term follow up, except for the patients with HD.

TCT-263

Not Early Change in Serum Level Cystatin C, but Baseline Serum Cystatin C Level Predicted Contrast Induced Nephropathy and Cardiovascular Mortality

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Background: Cystatin C has emerged as a sensitive biomarker of renal function. Early change in cystatin C based glomerular filtration rate (CysC-GFR) has been reported to predict contrast induced nephropathy (CIN). We evaluated whether baseline and 24-h change in CysC-GFR after percutaneous cardiovascular intervention using contrast medium (CM) can serve as a prognostic marker of CIN and cardiovascular mortality.

Methods: We evaluated 597 patients who underwent elective coronary (n = 357) and peripheral (n = 240) intervention from September 2010 to September 2013 August at Severance Cardiovascular Hospital, Seoul, Korea. CIN was defined as increase ≥ 25% and/or ≥ 0.5 mg/dl in serum creatinine at 48-h after intervention compared from baseline. Cystatin C and serum creatinine levels were measured before and 24-h after the procedure. Receiver operating characteristic (ROC) curve with area under the curve (AUC) value for prediction of CI-AKI was performed. Kaplan-Meier survival curves with analysis and Cox proportional hazards regression analysis were used to find risk factors of cardiovascular mortality.

Results: Increment of cystatin C level at 24-h from baseline was not able to predict CIN. AUC value of 10, 20, and 30% increment of Cystatin C levels were 0.51, 0.53, and 0.50, respectively. However, baseline CysC-GFR < 60 ml/min showed superior prediction of CIN (AUC 0.68, 95% CI 0.58-0.78, P < 0.001) followed by contrast amount ≥ 200cc (AUC 0.64, P = 0.0003), baseline modification of dose in renal disease (MDRD) GFR < 60 ml/min (AUC 0.63, P = 0.0005), and 24-h change in CIN CysC-GFR was not associated with cardiovascular mortality, baseline Cystatin C-GFR < 60 ml/min, baseline MDRD-GFR < 60 ml/min, age ≥ 75 years were associated with increased cardiovascular mortality by Kaplan-Meier survival curve analysis. In multivariate Cox regression analysis, only baseline CysC-GFR < 60 was a significant predictor of cardiovascular mortality (hazard ratio 4.1, 95% CI 1.54 – 15.65, P = 0.0075).

Conclusions: Baseline CysC-GFR < 60 was a significant predictor of CIN and cardiac mortality after cardiovascular intervention and early change of cystatin C showed no benefit for CIN prediction or cardiac mortality.

TCT-264

Impact of different definitions on prevalence of contrast induced nephropathy in patients undergoing transcatheter aortic valve implantation

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Background: Recently the Valve Academic Research Consortium (VARC) adopted the AKute Kidney Injury (AKIN) system in the place of the Risk, Injury, and Failure, Loss and End-stage kidney disease (RIFLE) system to define acute kidney injury (AKI) following transcatheter aortic valve implantation (TAVI). In this study, we sought to assess differences in prognostic accuracy between the two systems in our real-world retrospective population of patients undergoing TAVI.

Methods: In the present study, 239 consecutive patients undergoing transfemoral TAVI were prospectively enrolled. AKI was defined: (1) according to the AKIN system as a post-procedural creatinine increase of ≥ 0.3 mg/dl; or (2) according to the RIFLE system as a post-procedural decrease of the creatinine clearance of at least 25%.

Results: Both AKIN and RIFLE system definitions were significantly associated to one-year mortality (binary logistic regression, respectively: (1) OR 3.2, 95%CI 1.5-6.9, P = 0.003; and (2) OR 8.5, 95%CI 3.9-18.4, P < 0.001). However, the prognostic accuracy of RIFLE was higher (AUC 0.704; P < 0.001) as with respect to AKIN (AUC 0.602; P = 0.037) for the primary end-point of one-year mortality.

Conclusions: In a non-selected patient population undergoing TAVI, the RIFLE system had a higher prognostic accuracy in comparison to the currently proposed AKIN system.