**DOES PRE-OPERATIVE CHRONIC KIDNEY DISEASE ESTIMATED BY CKD-EPI FORMULA IMPACT LONG-TERM SURVIVAL FOLLOWING AORTIC VALVE SURGERY?**

**A. Kossar**, M. Ji, H. Yerebakan, S. Jones, L. Soni, T. Raza, B.C. Esrig,

M. Argenziano, F.H. Cheema

Columbia University, New York, NY, USA

Objectives: Chronic kidney disease (CKD) is characterized by gradual decline in kidney function and plays a significant role in progression of cardiovascular disease. The effect of preoperative CKD on outcomes after aortic valve replacement (AVR) surgery is unclear. We sought to evaluate the predictive ability of CKD on morbidity and mortality in patients undergoing AVR.

Methods: We retrospectively reviewed 1555 consecutive patients undergoing aortic valve surgery at our institution, from 1996 to 2004. Only patients undergoing isolated AVR were included (n=750). eGFR was calculated by the CKD-EPI equation and patients were classified by pre-operative eGFR (mL/min/1.73m2): normal (>60), moderate CKD (30-60), and severe CKD (<30). Standard Kaplan-Meier curves and multivariate Cox proportional hazards testing were used for statistical analysis.

Results: When stratified into the normal (n=460), moderate CKD (n=232), and severe CKD (n=58) groups, patients were 64.83±14.33, 73.13±10.02, and 58±7.73 years old and had BMIs of 26.95±5.49, 26.73±5.14, and 25.19±4.79, respectively. Patients with preoperative severe CKD were more likely to have history of COPD (p=<0.026), diabetes (p=<0.005), and hypertension (p=<0.001). Severe CKD was associated with respiratory failure (p=<0.001), increased hospital stay (p=<0.001), and all time mortality (log-rank p<0.001), see figure. Multivariate analyses showed preoperative severe CKD was associated with long term mortality (HR 1.72; p=0.004), independent of age, sex, ethnicity, preoperative dialysis, hypertension and diabetes. Conclusion: Severe CKD prior to AVR surgery is independently associated with morbidity and mortality. Further investigations may provide an insight in determining the eGFR threshold associated with worsened outcomes in patients undergoing aortic valve surgery.