KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1661

Serum creatinine to cystatin C ratio as a prognostic marker for mortality in chronic kidney disease patients

Miyeun Han, Da Woon Kim, You Hyun Jeon, Hyo Jin Kim, Sang Heon Song, Eun Young Seong
Department of Internal Medicine-Nephrology, Busan National University Hospital, Korea, Republic of

Objectives: Muscle wasting is common and a risk factor for mortality. Serum creatinine to cystatin C (Cr/CysC) ratio has been reported as a surrogate marker of muscle wasting. We aim to evaluate the association of Cr/CysC and mortality, cardiovascular outcome and initiation of renal replacement therapy (RRT) in non-dialysis CKD patients.

Methods: We used data from the Korean cohort study of CKD (KNOW-CKD) to identify 2145 subjects who measured serum creatinine and cystatin C. We estimated adjusted hazard ratios using cox regression analysis. Models were adjusted for baseline characteristics, comorbidities, and laboratory values. Cardiovascular outcome include acute coronary syndrome, heart failure, and stroke.

Results: Mean age was 53.6 ± 12.3 and 1312 (61.2%) were male. Mean serum creatinine was 1.8 ± 1.2 mg/dL and mean estimated GFR was 53.1 ± 30.8 ml/min/1.73 m^2. Mean Cr/CysC ratio was 1.02 ± 0.22 [0.46, 3.54]. Cr/cysC ratio was associated with age, male, estimated glomerular filtration rate, hemoglobin, albumin, phosphate, ferritin, fasting glucose, and urine protein creatinine ratio in multiple linear regression analysis. In multiple Cox regression analysis, adjusted with age, male, diabetes, hypertension and baseline eGFR, hemoglobin, phosphate, albumin, phosphate, ferritin, fasting glucose, urine protein creatinine ratio, low Cr/CysC ratio was associated with mortality (HR=0.23, 95% CI 0.06-0.86, P=0.030), and cardiovascular outcome (HR=0.31, 95% CI 0.10-1.00, P =0.05), however, not in RRT (HR=0.84, 95% CI 0.53-1.32, P =0.45).

Conclusions: Low Cr/CysC ratio can be a predictable marker of mortality and worse cardiovascular outcome in patients with CKD. However, Cr/CysC was not associated with initiation of RRT.