PREDICTION OF MORTALITY IN ELDERLY PATIENTS WITH CHRONIC KIDNEY DISEASE – THE ROLE OF CYSTATIN C

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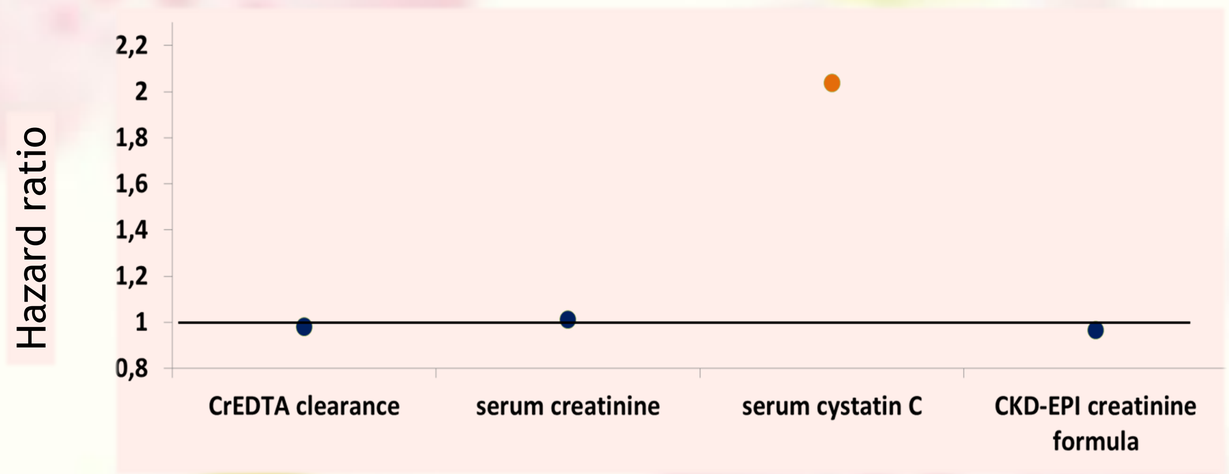
INTRODUCTION. The prevalence of chronic kidney disease (CKD) in the elderly is high. Serum cystatin C is an accurate marker of kidney function and it has prognostic utility in CKD patients (1-4).

The aim of our study was to determine the prediction of cystatin C and other markers of kidney function on long-term survival in elderly CKD patients.

PATIENTS and METHODS. 61 adult Caucasian patients, older than 65 years (31 women, 30 men; mean age 72.5 years; range from 65 to 85 years), were included. Patients with known malignancy, thyroid disease and/or on steroid therapy were not enrolled in the study. In each patient ^{51}CrEDTA clearance, serum creatinine (IDMS traceable method), serum cystatin C (immunonephelometric method) and eGFR using the CKD-EPI creatinine formula were determined on the same day and patients were then followed for 10 years or until their death.

RESULTS. The mean ^{51}CrEDTA clearance was 53.2±17.1 ml/min/1.73m^2, mean serum creatinine 144.2±43 µmol/l, mean serum cystatin C 1.8±0.5 mg/l, CKD-EPI creatinine formula 39.8±14.1 ml/min/1.73m^2, respectively. In the follow up period of 10 years 45 (72.6%) of our elderly CKD patients (22 women and 23 men) died. Cox regression analysis showed different hazard ratios (HR) for death: for ^{51}CrEDTA clearance HR 0.981 (95% CI 0.963-1.000; P=0.049), serum creatinine HR 1.011 (95% CI 1.004-1.018; P=0.002), serum cystatin C HR 2.037 (95% CI 1.265-3.280; P=0.003), CKD-EPI creatinine formula HR 0.967 (95% CI 0.942-0.993; P=0.013).



CONCLUSIONS. Our results indicate that serum cystatin C values at the beginning of follow-up are better in predicting the outcome of elderly CKD patients than other markers of kidney function.

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DOI: 10.3252/pso.eu.53era.2016

ePosters supported by F. Hoffmann- La Roche Ltd.