Concordance of serum creatinine to estimated glomerular filtration rate in determining early chronic kidney disease in Malaysia.

ABSTRACT

Little is known about the accuracy of serum creatinine (SCr) in identifying early chronic kidney disease (CKD) in the primary care setting. Thus, this study aims to examine the concordance of SCr to estimated glomerular filtration rate (eGFR) in detecting early CKD. This is part of a randomly selected 10-year retrospective, observation cohort study of patients registered with the Department of Primary Care Medicine Clinic at the University of Malaya Medical Centre. A SCr ≥ 132μmol/L and eGFR < 60 ml/min are used as the cut-off points for impaired renal function. Kappa statistic is used to test the inter-rater agreement of SCr with eGFR. A total of 1100 subjects were recruited. The mean age, SCr and eGFR were 66±9 years, 86±42 μmol/L and 70±30 ml/min respectively. The concordance between SCr and eGFR was poor as 363 (35.5%) patients had normal SCr but abnormal eGFR. Kappa value was 0.022 ($p<0.001$). Screening for CKD using SCr fails to detect an additional third of patients with impaired renal functions. Hence using eGFR is a better way to identify early CKD.

Keyword: Creatinine; Estimated glomerular filtration rate; Chronic kidney disease; Concordance; Malaysia.