

Comparative Assessment of eGFR Variants in CKD Diagnosis: A Study in Padaviya Area of Sri Lanka

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A cross sectional study was conducted on volunteer CKD patients with uncertain etiology in Padaviya area, endemic to the disease. Totally 202 patients were considered and kidney dysfunction was analyzed in terms of eGFR by using four different equations. eGFR was evaluated considering its four equations as Serum Creatinine based MDRD and EPI, Cystatin-c based EPI and Serum Creatinine & Cystatin-c combined EPI. In addition, urine albumin to creatinine ratio (UACR) was also analyzed and interpreted CKD risk by using KDIGO heat-map. Normal to mild decreased kidney function with eGFR 60-105 < mL/min per 1.73 m² and > 29 mg/g UACR represents 33.73 % (56), 30.12 % (50), 15.66 % (26) and 20.48 % (34) in four equation respectively. eGFR 45-59 mL/min per 1.73 m² and 30-300 mg/g range represents 18.66 % (28), 18 % (27), 26 % (26) and 37.33 % (56), in four equations. eGFR 30- 44 mL/min per 1.73 m² and 300- 2000 mg/g represents 23.18 % (16), 17.39 % (12), 30.43 % (21) and 20.98 % (21) and eGFR 29-15 > mL/min per 1.73 m² and nephrotic range included 23.02 % (102), 23.7 % (105), 26.41 % (117) and 26.86 % (119) respectively. Based on the results, SCr MDRD, and SCr EPI identifies highest number of patients as normal or low risk range. All four equations showed approximately similar values at the latter stages of the disease. Hence the study could be concluded that both creatinine based equations were less sensitive to identifying early CKD patients as over 64 % of patients identified as normal. But controversial finding was also identified as no such differences in late staged CKD patients and Cystatin C based equations perform well at mild to moderate patients.

Keywords: eGFR, Serum creatinine, Cystatine C, Serum creatinine and Cystatine C Combined