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Abstract

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Longitudinal Analysis of Estimated Glomerular Filtration Rate in a Cohort of Health Service Users

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Aim: To analyse the change in the estimated glomerular filtration rate (eGFR) in a cohort of health service users over a 7-year period.

Background: One of the current controversies with respect to using eGFR to diagnose and stage chronic kidney disease (CKD) is how to take into account the age-related decline in renal function. Misclassification of non-pathological reduction in renal function as progressive CKD could lead to unnecessary testing and referrals.

Methods: A longitudinal retrospective cohort study was conducted using data from the Southern.IML Research database. Adult patients with an eGFR test in both 2006 and 2013 were identified as the study population. Patients' eGFR results (mL/min/1.73 m²) were stratified into four categories: <15 (stage 5), 15-29 (stage 4), 30-59 (stage 3) and ≥60.

Results: Data on 32,353 patients demonstrated that over the 7-year period 84.6% of patients remained in the same eGFR category. Further, of the 2,238 patients aged ≥70 years who started in stage 3; 76.2% had non-progressing CKD, 16.4% progressed to stage 4 CKD and 1.7% progressed to stage 5 CKD. The remaining 5.7% had improvement in eGFR to above ≥60.

Conclusions: The eGFR and its change over time are crucial to the detection of CKD and for making decisions about diagnosis and treatment. The findings suggest that when managing stage 3 CKD an approach that uses time to help identify older patients with declining renal function may be taken. The majority of patients with stage 3 CKD can and should be managed by primary care physicians. Adoption of this approach into clinical practice has the potential to improve the quality of care and ensure the appropriateness of referrals to nephrologists.