EDITORIAL

The time is now for risk-based triage for nephrology referrals

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EDITORIAL NOTE

Although chronic kidney disease (CKD) is frequent, kidney failure requiring dialysis or a kidney transplant is still a rare occurrence in CKD patients. A more suitable transition from general care to secondary care nephrology, greater patient-provider communication, and the avoidance of referrals in patients who are unlikely to advance to kidney failure can all be made possible by accurately estimating the risk of CKD progression. In universal health care systems like the United Kingdom or Canada, nephrology services may be more scarce, and the majority of patients with CKD are handled by primary care physicians. In these settings, referral criteria are often used to guide the transition, and these criteria are typically based on single values or changes in estimated glomerular filtration rate (eGFR) as well as urine albumin to creatinine ratio[1,2].

The kidney failure risk equation (KFRE), in conjunction with other factors, is used to evaluate whether a patient needs to be sent to a nephrologist in a number of Canadian provinces as well as in US health systems like Kaiser Permanente[3,4]. A risk of>3% over 5 years as estimated by the KFRE has been a significant factor in the nephrology referral process in Manitoba, Canada. Since its implementation, wait times have decreased, improving access to care for patients who are most at risk of CKD progression. More recently, a validation study using the KFRE in primary care in the UK revealed that reducing nephrology referrals by using a threshold of >5% over five years as opposed to the existing criteria of an eGFR of 30 ml/min per 1.73 m2. The National Institute for Health and Care Excellence (NICE) in the United Kingdom has incorporated this update into the draught CKD guidance. Additional research is required to compare these levels with the referral standards used by the NICE at the moment, which are currently set at either 3% or 5% over a 5-year period.

Jones used The Health Improvement Network, a comprehensive and broadly applicable primary care research database in the United Kingdom, to undertake a cross-sectional study to answer this question. In comparison to existing NICE guidelines, they looked at the effects of a referral threshold of >3% risk of renal failure: (1) eGFR 30 ml/min per 1.73 m2, (2) hematuria and a urine albumin to creatinine ratio 30 mg/mmol, (3) no diabetes and a urine albumin to creatinine ratio 70 mg/mmol, and (4) a sustained drop in eGFR of 25% or a sustained decrease in eGFR. It is commendable that the authors used a predefined published process for their analysis, which is uncommon in this kind of research database study [5].

The Health Improvement Network database provided the authors with a cohort of more than 3 million primary care patients, from which they discovered 107,962 with a confirmed diagnosis of CKD. As should be expected, over 30% of these people had diabetes, and over 70% had been given a hypertension diagnosis. The prevalence of coronary heart disease and congestive heart failure was also high among people with CKD. Despite recommendations that all people with CKD should have their albuminuria measured for staging and prognosis, only 36.6% of the patients had one in the previous 12 months. Perhaps the biggest obstacle to the general adoption of the KFRE in primary care is the paucity of albuminuria assessment, especially in people without diabetes mellitus.

The authors then contrasted the KFRE-based criterion with the NICE referral criteria based on the 2014 NICE CKD advice. Their main conclusion was that for 85% of patients, the recommendations for referral or nonreferral were consistent between the KFRE-based criteria and the NICE criteria. However, there was a considerable difference when focused on those who were suggested for referral based on the most recent NICE criteria. 31.5% of patients who were referred based on the NICE criteria had a KFRE risk of less than 3% over the course of five years, while 40.2% of people with a risk greater than 3% would not have been referred based on the KFRE-based

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criteria. Together, these results led to the reclassification of 5869 (53.1%) of the 11,049 patients who met the NICE and/or KFRE criteria into either general or speciality care [6].

The continuous reduction in eGFR component of the NICE advice was the main cause of the inconsistent referral outcomes between the KFRE and NICE criteria. Only 44.6% of patients who reached the NICE level for this specific component also satisfied the KFRE threshold. Contrarily, the KFRE criterion and the other NICE criteria had concordance ranging from 75% to 93%. These results are significant because they highlight the unexplained fall in eGFR in low-risk patients, which frequently initiates a nephrology referral from primary care. It is crucial to research whether this temporary or continuous drop in eGFR signals actual illness development or if it just returns to its initial level over time. The discrepancy between a transitory or prolonged drop in eGFR of 25% and the KFRE threshold is also significant, and it is vital to assess how these two measurements relate to the subsequent 5-year risk of kidney failure [7, 8].

Regression of CKD is as common as progression, and it is more prevalent in older adults and in people with normal or mild albuminuria, according to a recent study from Alberta, Canada. 8 These results would indicate that the 44.6% of patients with a sustained decrease in eGFR and KFRE risk>3% are likely true progressors, and the 55.4% are people who are more likely to have regression to their baseline eGFR or stable disease given that age and albuminuria are components of the four-variable KFRE. This would imply that referral criteria that rely on shorter-term changes in eGFR in otherwise low-risk individuals may not be the best way to identify patients at longer-term risk of CKD development.

There are certain significant restrictions that should be taken into account. First off, patients with intact kidney function should not use the KFRE to assess their risk of CKD progression because it was created in people with CKD stages G3A-G5. Albuminuria is a major risk factor for the development of CKD and is useful in identifying high-risk people whose renal function is still normal but who are at risk for decrease in the following two to five years. Second, nephrologists may need to handle patients who are at low risk for CKD progression to dialysis but have complex acid-base or electrolyte abnormalities, probable glomerulonephritis, polycystic kidney disease, and other illnesses. The KFRE should not be the primary criterion for nephrology referral [9].

These results imply that a KFRE-based threshold may be a significant addition to and replacement for shorter-term changes in eGFR in the UK nephrology referral criteria. In the following years, studies will be required to prospectively assess the effects of adding KFRE-based criteria to the NICE CKD referral advice on patient and health system outcomes.

DISCLOSURE

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