Beyond Serum Creatinine: Identification of Renal Insufficiency Using GFR: Implications for Clinical Research and Care.

Background:

GFR is the gold standard for renal function. However, serum creatinine (sCr) is a poor marker of GFR especially in HIV-infected patients. HIV patients may develop kidney disease without elevating sCr. In addition, sCr is influenced by age, sex, race, and body mass. The NKF Stage 3+ Chronic Kidney Disease (NKF Stage 3+ CKD) classification, based on GFR, has been shown to be associated with an increased risk of mortality. The primary aim of this study was to compare the performance of sCr and GFR in detecting renal insufficiency in HIV-infected patients and to determine the association of renal insufficiency with clinical events.

Methods:

The CHORUS cohort is an observational study of HIV-infected patients initiating TDF. Patients with an initial estimated GFR < 60 mL/min/1.73 m² were enrolled. The study captured all clinical events. The primary outcome was the association of renal insufficiency with clinical events. Renal insufficiency was defined as a GFR < 60 mL/min/1.73 m².

Results:

A total of 1,298 patients were included in the analysis. The proportion of patients with renal insufficiency defined by GFR was 8.8% (115 of 1,298). The proportion of patients with renal insufficiency defined by sCr was 32.5% (420 of 1,298). The association of renal insufficiency with clinical events was stronger for GFR than for sCr. The rate ratio for clinical events was 2.74 (95% CI: 1.72, 4.34) for GFR and 1.23 (95% CI: 0.88, 1.71) for sCr.

Conclusions:

GFR is a more sensitive measure of renal insufficiency than sCr. GFR should be considered for the evaluation of renal insufficiency in HIV.

References:


