**MDRD *versus* CKD-EPI equation to estimate glomerular filtration rate in kidney transplant recipients**

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**Abstract:**

Background: The new Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) creatinine-based equation was developed to address the systematic underestimation of the glomerular filtration rate (GFR) by the Modified of Diet in Renal Disease (MDRD) study equation in patients with a relatively well-preserved kidney function. The performance of the new equation for kidney transplant recipients is discussed.

Methods: We analyzed the performances of the CKD-EPI equation in comparison to the MDRD Study equation in 825 stable kidney transplant recipients. Bias, precision and accuracy within 30% of true GFR were determined. GFR was measured by urinary clearance of inulin (n=488) and plasma clearance of 51Cr-EDTA (n=337).

Results: Mean measured GFR was 50 (±19) mL/min.1.73m². On the whole cohort, bias was significantly lower for MDRD Study equation as compared to CKD-EPI creatinine. This superiority translated into a better accuracy (80% and 74% for the MDRD and CKD-EPI creatinine, respectively). The best performance of the MDRD study equation was confirmed both in the subgroups of patients with measured GFR<60 mL/min/1.73 m² and between 60 and 90 mL/min/1.73 m². For GFR>90mL/min/1.73m², there was no significant difference between the two equations in term of performance.

Conclusions: The CKD-EPI creatinine equation does not offer a better GFR prediction in renal transplant patients as compared to the MDRD Study equation, even for the highest CKD stages.