Race-free equations for glomerular filtration rate compared

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(HealthDay)—The chronic kidney disease (CKD) Epidemiology Consortium estimated glomerular filtration rate cystatin C (eGFRcys), the only guideline-recommended equation that does not require race, results in the smallest changes to eGFR among Black patients, according to a research letter published online July 29 in the *Journal of the American Society of Nephrology*.

James A. Diao, from Boston Children's Hospital, and colleagues compared eGFR distributions for race-free eGFR equations and equations using serum creatinine and requiring race (eGFRcr and eGFRcr-cys [computed from creatinine and cystatin C, respectively]). The distributions of eGFR were compared using data from the National Health and Nutrition Examination Survey, for a sample of 4,434 nonpregnant adults from 1999 to 2002.

The researchers found that eGFRcys resulted in the smallest change in CKD prevalence among Black adults relative to eGFRcr-cys (0.7 percent) compared to race-blended or race-removed equations (1.4 to 4.5 percent). The smallest median change in eGFR in Black adults was seen with eGFRcys (?0.8 mL/min/1.73 m^2) compared with other race-free alternatives, which varied from 11.3 to 29.0 for race-blended and race-removed models, respectively. The smallest gap in CKD prevalence between Black and White/other patients was seen with eGFRcys (3.7 percent) relative to other race-free equations (6.1 to 7.4 percent).

"Our findings indicate that race-free alternatives may vary considerably in effects on chronic kidney disease classification," a coauthor said in a statement. "We hope these estimates will be useful to the many individuals and groups working to improve kidney function estimation without race."

More information: Abstract/Full Text (subscription or payment may be required)