Finally, There's a Race-Free Test to Check Kidney Function

Simply measuring a specific protein in the blood provides an accurate estimate of how well the kidneys are working.

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Since the 1990s, mathematical equations for checking kidney function always factored in a person's race—along with their age and sex. But a new test will eliminate the need for this controversial practice, according to new study findings published in The New England Journal of Medicine, reports a press release from the University of California, San Francisco (UCSF).

Currently, labs use a mathematical equation to estimate a person's glomerular filtration rate (how well the kidneys filter waste) based on the amount of creatinine—a waste product from muscle wear and tear—present in their blood along with an individual's personal classification.

Researchers included race in these equations after studies found that people who identified as Black exhibited, on average, elevated levels of creatinine compared with non-Black people.

For this inquiry, scientists reviewed data from 1,248 participants enrolled in a national study of almost 4,000 adults living with chronic kidney disease. The information collected included age and sex; self-reported race; markers for genetic ancestry; and levels of serum creatinine, serum cystatin C, a protein, and the amount of creatinine found in each person's urine after a 24-hour period.

Results showed that independent of age and sex, Black race was linked with a serum creatinine level 10.7% higher compared with non-Black race. In addition, researchers noted that replaced by genetic African ancestry this was associated with a 1.3% higher level of the compound.

"Our results show that race and genetic ancestry are linked to a person's creatinine level, and we can't erase that even if we account for a wide range of other factors, such as muscle mass, dietary protein intake and other factors that are believed to influence blood creatinine level independent of kidney function," said Alan Go, MD, a senior scientist at the Kaiser Permanente division of research in Northern California. "That math is there. So, if the purpose is to try to get the most accurate assessment of a person's kidney function, and if you are going to rely on creatinine, then you need to incorporate Black race or genetic ancestry."

During the past year, however, this race-based method of determining kidney function prompted accusations of medical racism from activists and others.

“The recent activism has really raised the question about why we include race, here and in medicine generally, and whether we should,” Chi-yuan Hsu, MD, MSc, a nephrologist at UCSF, and the co–lead author of the study, said in a Kaiser Permanente press release. “There have been many calls to just take the race coefficient out of the equation. We were concerned that doing so would worsen the test’s accuracy, but we also felt it was important to move away from considering race, if possible.”

As a result, scientists also studied the data to see whether they could find a race-free test and struck paydirt.

“Our research showed that if you use a blood cystatin C test, instead of a blood creatinine test, you don’t need to include race to get a similarly accurate estimate of kidney function,” said Go. “We believe that changing to the cystatin C test will promote more equity for people of all racial and ethnic backgrounds.”

Cystatin C tests are readily available but not routinely used to check kidney function because they aren’t standardized and cost much more than those that screen for creatinine. But if doctors used these tests more often, they would become much less expensive, predicted researchers.

Check out Real Health’s basic overview titled “Kidney Disease” to learn more about this chronic condition.

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