

Simple Lab Tests May Predict 25-Year Risk of ESRD

The researchers used data from men enrolled in the long-term MRFIT study of CVD prevention.

REVIEWED BY AREEF ISHANI, MD

Routine blood and urine tests may help to predict the risk of end-stage renal disease (ESRD) developing between middle age and old age, according to a study in the *Journal of the American Society of Nephrology*.

Abnormal results on the urine dipstick test that detects proteinuria and an estimated glomerular filtration rate (eGFR) to estimate kidney function can identify patients at increased risk of ESRD, wrote Areef Ishani, MD, and colleagues from the Minneapolis Veterans Affairs Medical Center.

The researchers used data on 12,866 men who were enrolled in the long-term Multiple Risk Factor Intervention Study (MRFIT) of cardiovascular disease (CVD) prevention. At the beginning of the study, from 1973 to 1975, the men were aged 35 to 75 years. The men included in MRFIT were at high risk for heart disease but did not have existing coronary disease. Investigators looked at follow-up data through 1999 to determine whether common laboratory tests and other factors could help identify patients who were at high risk of eventually developing ESRD.

THE DIPSTICK TEST

During 25 years, 1.7% of men in the MRFIT study developed ESRD or died of kidney disease. On the dipstick test, men who had more than a trace amount of protein in their urine in middle age were at triple the risk of ESRD at follow-up. For those men with a stronger positive result, ESRD risk was >15 times higher compared with men who had a normal dipstick result.

Dr. Ishani and colleagues wrote that eGFR was also a long-term ESRD risk predictor. When eGFR was abnormally low, the risk of ESRD was more than doubled.

Combined with recognized risk factors, urine dipstick and eGFR may be a useful part of strategies to predict long-term risk of serious kidney disease.

When both the dipstick test and the eGFR were abnormal, the risk of ESRD was 41 times higher than in men with normal results on both tests.

Other factors that predicted ESRD risk were age, smoking status, blood pressure, low levels of HDL cholesterol and glucose level. Many risk factors for kidney disease are the same as those for CVD.

The authors said that the new results show that the urine dipstick and eGFR — combined with recognized risk factors — may be a useful part of strategies to predict the long-term risk of serious kidney disease. “Both tests are very easy to perform and are commonly done in clinical practice,” said Dr. Ishani in a news release. “Future studies can determine whether intervening on these factors can prevent the development of ESRD.” ■

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Ishani A, Grandits GA, Grimm RH, et al. Association of single measurements of dipstick proteinuria, estimated glomerular filtration rate, and hematocrit with 25-year incidence of end-stage renal disease in the Multiple Risk Factor Intervention Trial. *J Am Soc Nephrol*. 2006;17:1444-1452.