

Smoking may block some of the benefits of kidney disease medications

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To improve care for patients with kidney dysfunction, investigators are striving to identify modifiable risk factors that may slow the progression of chronic kidney disease (CKD) to kidney failure. A new study suggests that cigarette smoking partially negates the kidney-protective effects of medications taken by patients with early CKD, possibly by inducing higher kidney levels of oxidative stress. The findings will be presented at ASN Kidney Week 2016 November 15–20 at McCormick Place in Chicago, IL.

The study conducted by Bethany Roehm, MD, MS (Tufts Medical Center) and her colleagues included 108 smoking and 108 nonsmoking patients with early CKD who were taking angiotensin converting enzyme inhibitor (ACEI) drugs, which slow kidney function decline. All smokers underwent a smoking cessation intervention. Non-smokers (n = 108), continued smokers (n = 83), and quitters (n = 25) were followed 5 years after starting ACE inhibition.

Nonsmokers and smokers who successfully quit had slower worsening of their kidney function than those who were unsuccessful at quitting. In addition, continued smoking prevented the typical decrease in protein excretion in the urine that is indicative of kidney protection when patients are taking ACEI drugs. This appeared to be due to [oxidative stress](#) induced by cigarette smoking.

"It has practically become dogma that if you have a patient with [high blood pressure](#) and CKD that you start them on an ACEI, and we are

often comforted as clinicians that we are doing something to help slow progression of their kidney disease in doing this," said Dr. Roehm. "But our data suggest that this may not be the case for smokers, and our study underscores the importance of doing all we can as clinicians to encourage our patients to stop smoking." She added that the results of this small study need to be confirmed in larger studies and in studies that include patients with CKD due to various causes.

More information: Study: "Cigarette Smoking Partially Negates the Kidney Protective Effect of ACE Inhibition in Stage 2, Non-Diabetic, Hypertension-Associated CKD" (Abstract 2784)

Provided by American Society of Nephrology

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