

New approaches to assessing and protecting kidney health

November 7 2013

A variety of recent studies highlight new approaches to assessing and protecting kidney health. Below are the findings of some of these studies, which are being presented at ASN Kidney Week 2013 November 5-10 at the Georgia World Congress Center in Atlanta, GA.

In one study, Viviane Calice da Silva, MD (Pró-Rim Foundation, in Brazil) and her colleagues evaluated the potential of using a dipstick that determines saliva urea nitrogen (SUN) levels for diagnosing [acute kidney injury](#) (AKI)—an abrupt decline in [kidney](#) function—in 44 [patients](#) with varying stages of [kidney damage](#). (Urea is a waste product excreted by the kidneys, intestine, saliva, and sweat. Urea nitrogen tests measure the amount of nitrogen that comes from urea.) The researchers found that the SUN dipstick was comparable to standard blood urea nitrogen tests, and the dipsticks accurately discriminated different stages of AKI. They noted that the technique could be particularly useful in areas with limited access to clinical chemistry facilities. "This low-resource technology may help to improve the diagnosis of advanced AKI and aid triaging patients in areas with limited access to healthcare facilities and may improve outcomes," they wrote. "The next step is to repeat this research with a 7-day follow-up to see if the strip is able to show the difference during the days according to the treatment applied."

Another team led by Minesh Khatri, MD (Columbia University) looked at the effects of the Mediterranean diet on kidney health in 900 adults without kidney disease who were followed for an average of 6.9 years. "The Mediterranean diet has received much attention recently for having

possible cardiovascular health benefits. Considering there is a close link between cardiovascular and kidney disease, it is conceivable that this dietary pattern may have a beneficial effect on kidney function as well," explained Dr. Khatri. The researchers found that every one-point increase in adherence to the Mediterranean diet (based on a nine point scoring system) was associated with a 17% decreased odds of developing chronic kidney disease during the study and a 14% decreased odds of being in the upper quartile of [kidney function](#) decline. "Since observational studies like this have limited ability to detect causality, the next research step would be to have a controlled clinical trial where subjects are randomized to receiving a Mediterranean diet versus a controlled diet," said Dr. Khatri.

Jeanie Park, MD (Emory University School of Medicine and Atlanta VA Medical Center) and her colleagues looked at how fueling the brain, rather than the body, may impact kidney health. Specifically, they examined the effects of mindfulness meditation, a type of stress reduction technique, on [blood pressure](#) and adrenaline levels in patients with chronic kidney disease and high blood pressure. They conducted the study because patients with kidney disease are at significantly increased risk of dying from heart disease, in part due to high blood pressure and high adrenaline levels. In their study, 13 patients with stage 3 [chronic kidney disease](#) received both mindfulness meditation and blood pressure education, but at different visits. The rate of reduction in systolic blood pressure, diastolic blood pressure, average arterial pressure, and muscle sympathetic nerve activity was significantly greater over time during mindfulness meditation sessions compared with blood pressure education sessions. "Future research will determine if mindfulness meditation has long-term beneficial effects on blood pressure, adrenaline levels, and mortality in patients with [kidney disease](#)," said Dr. Park.

Finally, Bjoerg Thorsteinsdottir, MD (Mayo Clinic) and his team looked

at the potential burdens of renal replacement therapy—such as dialysis—on elderly patients. Their study included 379 patients aged 75 years and older who were treated at the Mayo Clinic between 2007 and 2011. Most (75%) started renal replacement therapy in the hospital because of an acute illness or surgery. "Loss of independent living was frequently observed following hospitalization," said Dr. Thorsteinsdottir. Specifically, of 254 patients who came from home, 28% died in the hospital or were discharged to hospice, and only 37% were able to return home. Thirty-nine percent of patients died within 6 months of starting treatment; most of these initiated treatment in the intensive care unit while patients who started dialysis as outpatients had reasonably good survival. "Patient awareness of these outcomes may allow for better informed discussions," said Dr. Thorsteinsdottir.

More information: Study: Spit It out To Check Your Kidneys: Saliva Urea Nitrogen Dipstick as a New Bedside Diagnostic Tool of Acute Kidney Injury (Abstract FR-PO001)

Provided by American Society of Nephrology

Citation: New approaches to assessing and protecting kidney health (2013, November 7) retrieved 11 May 2024 from <https://medicalxpress.com/news/2013-11-approaches-kidney-health.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.