Health of kidney disease patients: Diet and blood pressure

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Three studies presented during the American Society of Nephrology's Annual Kidney Week provide new information on diet and blood pressure in kidney disease patients.

Nimrit Goraya, MD (Texas A&M College of Medicine) and her colleagues investigated whether adding fruits and vegetables to the diet can improve the health of patients with chronic kidney disease (CKD). Alkaline therapy is used to treat CKD patients with severe metabolic acidosis (when there is too much acid in the body). Dr. Goraya and his team looked to see if adding fruits and vegetables—which are highly alkaline—can benefit CKD patients with less severe metabolic acidosis. For the study, 108 patients were randomized to receive added fruits and vegetables, an oral alkaline medication, or nothing. After three years, consuming either fruits and vegetables or the oral medication reduced a marker of metabolic acidosis and preserved kidney function to similar extents.

"Our findings suggest that an apple a day keeps the nephrologist away," said Dr. Goraya.

Another team led by Deidra Crews, MD (Johns Hopkins University School of Medicine) wondered whether poor dietary habits might help explain why poverty is linked with CKD. In their study of 2,058 individuals, fiber, calcium, magnesium, and potassium intake were lower, and cholesterol higher, among those in poverty. CKD was present among 5.6% of people in poverty, and 3.8% of those not in poverty.

"An unhealthy diet is strongly associated with kidney disease among poor individuals. Dietary interventions tailored to meet the needs of this population may help to reduce disparities in kidney disease," said Dr. Crews.

A third study looked at blood pressure control among ethnically diverse CKD patients. Racial and ethnic minorities are more likely to develop kidney failure than whites, perhaps due in part to poorer blood pressure control. Delphine Tuot, MD (University of California, San Francisco) and her colleagues examined blood pressure using 18,864 clinical blood pressure measurements from 6618 adults (23% white, 34% black, 18% Hispanic, 21% Asian) with CKD who received primary care in a health network serving San Francisco's uninsured and publicly insured residents. Blood pressure was nearly 20% higher than national estimates with smaller, though still significant, disparities between black and white patients (with blacks having higher rates of uncontrolled blood pressure.)

"Public health care delivery systems like the Community Health Network of San Francisco disproportionately care for vulnerable patients, including those of racial/ethnic minorities, and can serve as front-line agents to reduce disparities of care through implementation of innovative programs," said Dr. Tuot.

More information: Study co-authors for "Fruits and Vegetables or Oral NaHCO3 Preserve GFR and Reduce Urine Angiotensinogen, a Marker of Kidney Angiotensin II Activity, in Stage 3 CKD" (abstract 2214) include Chanhee Jo, PhD, Jan Simoni, PhD, and Donald E. Wesson, MD.

Study co-authors for "Dietary Habits, Poverty, and Chronic Kidney Disease in an Urban Population" (abstract 842) include Marie Kuczmarski, PhD, Edgar R. Miller, MD, PhD, Alan B. Zonderman, PhD, Michele Kim Evans, MD, and Neil R. Powe, MD.

Study co-authors for "Blood Pressure Control among CKD Patients in a Public Health System" (abstract 2303) include Charles E. McCulloch, PhD, Chi-yuan Hsu, MD, Tanushree Banerjee, PhD, Margaret Handley, PhD, Dean Schillinger,and Neil R. Powe, MD.

Provided by American Society of Nephrology