Caffeine Consumption Linked to A Longer Life for CKD Patients

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Consuming caffeine—the more the better—may help reduce the risk of early death among patients with chronic kidney disease, suggests a study presented at Kidney Week.

In Portugal, and his colleagues show that regular caffeine consumption has also been linked to better outcomes from some chronic diseases. For example, studies have shown that coffee and tea consumption help reduce the risk of death in patients with liver disease (Modi AA, et al. Hepatology 2010; 51:201–209), by exerting beneficial effects on the liver (Louise JM, et al. / Hepatol 2017; 67:339–348). Now, Miguel Bigotte Vieira, MD, of the Centro Hospitalar Lisboa Norte in Portugal, and his colleagues show that regular caffeine consumption may also yield life gains for CKD patients.

In their study, Bigotte Vieira and colleagues looked at mortality rates in 22,528 patients with CKD who participated in the National Health and Nutrition Examination Survey (NHANES) between 1999 and 2010. The NHANES collects detailed health and nutritional data on a nationally representative sample of the US population.

Caffeine consumption was assessed based on reports of 24-hour caffeine consumption in the survey. The study grouped patients into 4 categories of caffeine consumption.

The first consumed less than 20.5 mg/day of caffeine. That amount is less than the amount found in an iced tea, based on estimates from the Center for Science in the Public Interest. The second consumed between 30.5 to 101.0 mg/day—about the amount found in a soda or a cup of instant coffee. The third consumed between 101.5 and 206.0 mg/day—about the amount found in a cup or two of coffee. The fourth group consumed 206.5 to 1,778.5 mg/day—the equivalent of multiple cups of coffee a day.

Compared with those in the lowest group of caffeine consumption those in the second group had a 12% reduction in the risk of dying (HR 0.88, 95% CI, 0.66–1.44). The benefits were even larger for the 3rd and 4th groups with a 22% (95% CI, 0.60–1.01) and 24% (95% CI, 0.59–0.97) lower risk of dying, respectively.

“Our study showed a dose-dependent protective effect of caffeine consumption on mortality among patients with CKD,” said Bigotte Vieira. He noted the benefit persisted even when they adjusted for potential confounders like socioeconomic status, health factors, and other nutritional habits. He cautioned, however, that this observational study can’t prove the survival benefit was caused by caffeine consumption.

“These results suggest that advising patients with CKD to drink more caffeine may reduce their mortality,” he suggested. “This would represent a simple, clinically beneficial, and inexpensive option, though this benefit should ideally be confirmed in a randomized clinical trial.”

“Caffeine consumption and mortality in chronic kidney disease” (Abstract 2784081)

Proton Pump Inhibitors Increase Risk of Developing CKD

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sing proton pump inhibitors (PPIs) increases the risk of developing chronic kidney disease (CKD) or kidney failure by 33%, according to a meta-analysis presented at Kidney Week.

PPIs are one of the most commonly prescribed medications worldwide. They are used to treat gastroesophageal reflux disease (GERD). But a growing number of studies have linked them to serious adverse effects including kidney disease, fractures, Clostridium difficile infections, and vitamin deficiencies (Wilhelm SM, et al. Expert Rev Clin Pharmacol 2013; 6:443–451).

To assess the potential kidney risks, Charat Thongprayoon, MD, of the Bassett Medical Center in Cooperstown, New York, and his colleagues analyzed data from studies that compared the risk of developing CKD or kidney failure among PPI users and non-users. They included 5 studies with 536,902 participants. The relative risk of kidney disease was one-third higher among PPI users (RR 1.33 95% CI, 1.18–1.51).

“This study demonstrates a significant association between the use of PPIs and increased risks of chronic kidney disease and kidney failure,” said Thongprayoon. He acknowledged that such observational data cannot prove that PPIs cause kidney injury, but he said the evidence is compelling enough to warrant more caution use of these drugs.

“Although no causal relationship has been proven, providers should consider whether PPI therapy is indicated for patients,” Thongprayoon said. “Chronic use of PPIs should be avoided if not really indicated.”

Nephrologist Zayad Al-Aly, MD, director of clinical epidemiology at VUS Department of Veterans Affairs St. Louis Health Care System, said the meta analysis helps synthesize the evidence to date linking PPIs with kidney disease. He noted there are a variety of potential mechanisms that might explain kidney-related adverse events in PPI users. The most plausible is that the drugs impair the ability of organelles called lysosomes, which act as the cell’s “garbage incinerator,” he explained.

“They impair the action of those organelles and they accelerate aging of the cells,” he said. Currently, many physicians who prescribe PPIs monitor their patients for signs of acute kidney injury, Al-Aly noted. However, a recent study by Al-Aly and his colleagues showed that even PPI-users without signs of acute kidney injury may be at risk for renal disease (Xie Y, et al. Kidney Int 2017; 91:1482–1494).

“It could be happening insidiously without that warning sign,” he said.

He agreed that more caution should be used in prescribing these drugs. When they are indicated, such as when a patient has a bleeding ulcer, he said the lowest dose should be used for the shortest duration of time. He questioned why the drugs are being so widely prescribed and used, noting that data suggest 30–60% of PPI users may not need the drugs.

“When people who don’t have a medical need to be on a PPI in the first place, all they are getting is the side effects,” he said. “In that instance, the risks outweigh the benefits.”

“Proton Pump Inhibitors and Risk of Chronic Kidney Diseases: A Meta-analysis” (Abstract 2763180)

Excess Accumulation of Bone Drug in Rats With Compromised Kidneys

By Bridget M. Kuehn

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drug used to treat osteoporosis accumulates excessively in the bones of rats with chronic kidney disease (CKD), according to a study presented at Kidney Week.

Bisphosphonates are currently not recommended in patients with CKD—despite the elevated risk of osteoporosis—because of potential safety concerns. The drug is cleared in PPI users. The most plausible is that the drugs impair the ability of organelles called lysosomes, which act as the cell’s “garbage incinerator,” he explained.

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