

# Reflux and ulcer medications linked to kidney stones and chronic kidney disease

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Certain medications commonly used to treat heartburn, acid reflux, and ulcers can have damaging effects on the kidneys. The findings come from two studies that will be presented at ASN Kidney Week 2016 November 15–20 at McCormick Place in Chicago, IL.

Proton pump inhibitors (PPIs) and histamine receptor-2 (H2) blockers are commonly used to reduce gastric acid production. To see if these drugs increase the risk of developing [kidney stones](#), Pietro Manuel Ferraro, MD, MS, PhD (Fondazione Policlinico Universitario A. Gemelli - Catholic University of the Sacred Heart, in Rome, Italy) and his colleagues examined information on 187,330 participants of the Health Professionals Follow-up Study (HPFS) and Nurses' Health Study (NHS) I and II who were initially free of kidney stones.

During a follow-up of up to 12 years for PPIs and 26 years for H2 blockers, 3245 symptomatic kidney stones developed. After adjusting for a number of factors such as age, race, body mass index, physical activity, smoking status, comorbidities, use of medications, and intake of nutrients, use of PPIs was associated with a 12% higher risk of developing a kidney stone, and use of H2 blockers with a 13% higher risk. In a subgroup of participants, use of PPIs was associated with lower urinary excretion of calcium, oxalate, citrate, and magnesium, which are components of kidney stones.

"Use of PPIs and H2 blockers is associated with a small increase in risk of incident kidney stones. Further studies are needed to confirm our

findings and to investigate whether the excess risk is related to a particular type of kidney stones such as those made of calcium oxalate," said Dr. Ferraro.

In a second study, Yan Xie, MPH (VA Saint Louis Health Care System) and his colleagues examined current assumptions that chronic [kidney disease](#) that may arise after use of PPIs is secondary to incomplete recovery from [acute kidney injury](#) (AKI). When the investigators analyzed information in the Department of Veterans Affairs national database on 152,157 users of PPIs or H2 blockers, PPI use was associated with a greater than 30% higher risk of developing CKD or a combined endpoint of [kidney failure](#) or more than 50% decline in estimated glomerular filtration rate (a measure of [kidney function](#)) compared with H2 blocker use in the absence of AKI.

"Reliance on AKI as a marker of potential adverse renal events in those treated with PPI is not sufficient," said Xie "Exercising vigilance in PPI use—even in the absence of AKI—and careful attention to kidney function in PPI users may be a reasonable approach."

**More information:** Studies: Proton Pump Inhibitors, Histamine Receptor-2 Blockers and the Risk of Incident Kidney Stones (Abstract 931); Long Term Kidney Outcomes Among Proton Pump Inhibitors Users Without Intervening Acute Kidney Injury (Abstract 3495).

Provided by American Society of Nephrology

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