

A System “PUMP”ed to Its Limits: A Case of Proton Pump Inhibitor-Induced Acute Interstitial Nephritis

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Proton pump inhibitors (PPIs) are some of the most commonly prescribed medications. Patients are given PPIs in the hospital as GI prophylaxis or sometimes as long-term therapies to reduce the symptoms of gastroesophageal reflux disease and gastrointestinal ulcers¹. There has been increasing data, including case reports implicating PPIs with acute interstitial nephritis and acute renal failure³.

A 26-year-old female with no past medical history presented to the emergency department (ED) complaining of the inability to voiding urine, facial swelling, and non-radiating, bilateral flank pain for three days. The patient was seen in the ED 10-days prior due to gastritis and was subsequently discharged with pantoprazole. Initial labs revealed eosinophilia, creatinine:15.20 and BUN:57. Labs acquired 10-days prior showed a creatinine:1.05 and BUN:8. Urinalysis showed 200mg/dL(proteins), 13(WBCs/hpf) and 14(RBCs/hpf). Renal ultrasound revealed increased echotexture consistent with medical renal disease and without obstructions. Catheterization liberated minimal urine thus prompting emergent hemodialysis. Urine microscopy revealed WBCs casts. She underwent four hemodialysis sessions showing significant clinical improvement and was discharged on day 12 with a Cr:2.4 and producing >2L/day of urine.

Although, the effectiveness of PPI treatment is undisputable, there is a growing body of evidence documenting their association with adverse effects⁴. This clinical vignette showcases the rare but potential, rapid onset acute interstitial nephritis associated with the use of PPIs. Therefore, prompt recognition of this adverse effect is imperative to improve patients' outcomes. We recommend exercising caution when prescribing PPIs by performing close monitoring of renal function and stay vigilant for other side effects.

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