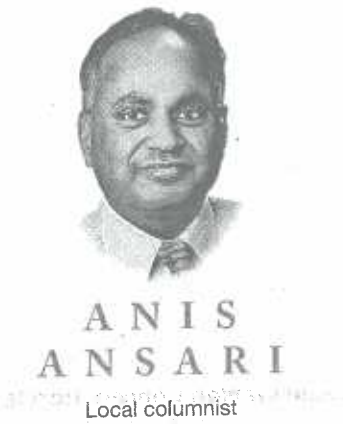


Proton pump inhibitors play role in renal failure

Proton pump inhibitors (omeprazole, pantoprazole, esomeprazol, dexilant) are medications routinely prescribed for peptic ulcer disease, esophageal reflux, dyspepsia and prevention of stomach ulcer in stomach from nonsteroidal anti-inflammatory drugs like Ibuprofen, Naproxen etc.

Most of these medications are available over the counter. Most people don't know that these medications can have serious health consequences. According to an American Journal of Kidney Diseases 2015 article, in the general population, use of PPI is associated with hypomagnesemia (low magnesium level in the blood) resulting in many electrolyte problems. This association is even stronger in patients with its prolonged use while on a loop diuretic (water pill) at the same time.

Prolong PPI use is also found to be associated with increased risk of chronic kidney disease, acute kidney



injury, hip fracture, chronic interstitial nephritis and community-acquired pneumonia.

A PPI is one of the most commonly prescribed medications in and outside of the hospital. In a hospital setting, many patients receive some type of gastrointestinal prophylaxis to prevent stress ulcers during hospitalization. Many of these patients get sent home on this medication without realizing that it may not be needed. According to a Nephrology Times March 2016 article, it was estimated

that 25 to 70 percent of patients using these medication do not have appropriate indication. These side effects are not associated with H2 receptor antagonist like famotidine, ranitidine, which can also be used for the above indications.

Approximately 13.6 percent of U.S. adults are affected by CKD, which is associated with an increased mortality and increased risk of cardiovascular events. According to research analysis the increase in risk factor for chronic kidney disease such as diabetes and hypertension do not fully explain the growing rate of chronic kidney disease, suggesting contribution from other factors.

Medication use may be a potential contributing factor, especially in patients on large number of medications.

PPI can also increase the risk of chronic kidney disease.

According to research analysis, the 10-year estimated absolute risk of CKD among the CKD baseline

PPI users was 11.8 percent compared with an expected risk of CKD of 8.5 percent if they had not used PPIs. There is no such association with the use of H2 receptor antagonists. Therefore, use of PPIs is an independent risk factor for acute and chronic kidney injury.

Judicious use of medications limited to short-term use or on an as-needed basis can minimize the side effects.

Use of a PPI must be considered in light of their benefit versus risk.

In certain situations, these benefits may outweigh the risk, like deep ulcers or bleeding ulcers or Barrett's esophagus, GERD, or a hiatal hernia.

Patients should not stop taking medications on their own due to fear of side effects.

They should discuss it with their doctors before making any changes.

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