

Irrational proton pump inhibitor use during corticosteroid therapy

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Proton pump inhibitors (PPIs) are among the most widely used drugs worldwide. PPIs have been widely used as treatment for gastroesophageal reflux disease, nonerosive reflux disease, erosive esophagitis, dyspepsia, and peptic ulcers.

Inappropriate and injudicious use of PPIs is common, in both the hospital and outpatient setting. More than one-third of the PPI prescriptions in the ambulatory setting are not associated with a documented indication for PPI treatment [1]. One study showed that 23.1% of prescriptions of PPIs were unjustified, and PPIs were prescribed alongside antidiabetics, antihypertensives, and hypolipidemics. The annual unjustified cost of PPI use was estimated to be US \$2 202 590 [2].

It is a common practice to co-prescribe PPI alongside glucocorticoid therapy, to taper the theoretical risk of peptic ulcer associated with glucocorticoid therapy. However, peptic ulcer is a rare complication of systemic glucocorticoid therapy and occurs in less than 0.4–1.8% of patients. With such low risks, there is no indication for routine prophylaxis with PPIs in this situation [3].

In fact, increased risk for gastrointestinal bleeding has been shown to be statistically significant only for hospitalized patients, and not for ambulatory patients, who by logical extension would not require routine PPI prophylaxis [4].

Even with low incidence of adverse effects, it has been shown that PPI use can be associated with increased risk for enteric infections, fractures, and nutritional deficiencies that might have clinical consequences, especially in the elderly [5]. Long-term PPI therapy has been shown to be associated with diffuse or

focal enterochromaffin-like cell hyperplasia, the clinical implications of which are uncertain [6]. Moreover, PPIs have been associated with type 1 hypersensitivity reactions including urticaria, angioedema, and anaphylaxis, as well as toxic epidermal necrolysis, multiorgan failure, and rarely, death [1]. In fact, corticosteroids increase the risk of fractures and infection, and these adverse effects are also associated with PPI use [1].

PPIs are known to increase intragastric pH which in itself can have clinical implications. Co-administration of pantoprazole sodium with mycophenolate mofetil results in lowered plasma concentrations of latter (but not of enteric coated mycophenolate). PPIs may elevate and prolong serum methotrexate levels and/or hydroxymethotrexate [7,8]. These can have implications for rheumatological patients who are frequently treated with such drugs. However, presently the clinical relevance of this data is missing. Despite this, there has been a lack of awareness in the medical community, with 82% of physicians considering corticosteroids ulcerogenic, and 75% administering concomitant antisecretory treatment [9]. Such wrong practice needs to be terminated, considering its potential adverse consequences, and health care costs.

Conclusion

The irrational use of Proton Pump Inhibitors alongside glucocorticoids to taper the theoretical risks of peptic ulcer is not just an unjustified practice but rather harmful.

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Conflicts of interest

There are no conflicts of interest.

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