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Proton Pump Inhibitors (PPIs): A Review of the Efficacy, Usage, and Current Literature Recommendations

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Finally, I would like to thank my wife Sara for her encouragement, support, and patience while I completed this project.

References

Proton Pump Inhibitors (PPIs): A Review of the Efficacy, Usage, And Current Literature Recommendations

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Proton pump inhibitors (PPIs) are commonly prescribed medications throughout family practice clinics. Many different PPIs are now available over-the-counter as well. There are many possible diagnoses that may warrant PPI treatment and many patients take these medications for extended periods without medical provider supervision. Recently, studies have concluded that PPIs may have greater risks for patients than previously thought. This has led to the exploration of other treatment plans for these common GI conditions and complaints. Researchers hope to answer the following research questions and determine if PPIs are a safe and effective treatment for common GI conditions such as GERD, both duodenal and pyloric ulcers, and Helicobacter pylori infections. More research is needed to understand the interaction between these conditions and the reason for increased symptoms across the population. There also may be alternative methods of treatment not yet investigated or fully understood.

Abstract

In patients with GERD, duodenal and pyloric ulcers, or Helicobacter pylori infections, treatment with PPIs more efficacious than treatment with histamine H2-receptor antagonists. In patients with HER-2+ breast cancer, PPI use was associated with a substantially increased risk of requiring osteoporosis medication due to PPI use. In a study by Katz et al. (2013) determined that PPI use was associated with an increased risk of myocardial infarction for both 7- and 14-day window periods. In a study by Van der Hoorn et al. (2015) also determined that PPI use was associated with a substantially increased risk of requiring osteoporosis medication due to PPI use. Research revealed PPIs are more efficacious than treatment with histamine H2-receptor antagonists and proton pump inhibitors. H2RAs, however, were found to be superior to PPIs in speed of relief of symptoms and are recommended for occasional use for short-term therapy. The most commonly used PPIs include omeprazole, lansoprazole, rabeprazole, and esomeprazole. Research is currently being conducted on a new class of reversible PPIs, although none are available yet. (Jan, et al., 2007)

Proton Pump Inhibitors (PPIs)

Possible Complications of Proton Pump Inhibitor Use

There may be drug interactions leading to decreased absorption of some drugs like proton pump inhibitors, or PPIs. PPI use was associated with an increased risk of myocardial infarction for both 7- and 14-day window periods. In a study by Van der Hoorn et al. (2015) also determined that PPI use was associated with a substantially increased risk of requiring osteoporosis medication due to PPI use. In a study by Katz et al. (2013) determined that PPI use was associated with an increased risk of myocardial infarction for both 7- and 14-day window periods. In a study by Van der Hoorn et al. (2015) also determined that PPI use was associated with a substantially increased risk of requiring osteoporosis medication due to PPI use.

Discussion

Research on the possible complications of PPI use and alternative treatments. Research has concluded PPIs are more efficacious than treatment with histamine H2-receptor antagonists and proton pump inhibitors. H2RAs, however, were found to be superior to PPIs in speed of relief of symptoms and are recommended for occasional use for short-term therapy. The most commonly used PPIs include omeprazole, lansoprazole, rabeprazole, and esomeprazole. Research is currently being conducted on a new class of reversible PPIs, although none are available yet. (Jan, et al., 2007)

Proton pump inhibitors (PPIs)

Proton pump inhibitors (PPIs) are a class of agents that reduce acid secretion by partially blocking the return of hydrogen ions to the stomach from systemic circulation and are activated by the action of gastrin on parietal cells in the stomach. The stomach is the primary location of digestion, which is achieved through the

Introduction

The stomach is the primary location of digestion, which is achieved through the release of acids and enzymes. Acid is secured by the parietal cells.

Acid-secreting disease is attributable to unbalanced factors like acid, pepsin, and Helicobacter pylori infection, and local mucosal defenses with the secretion of stomach acid. In western countries, duodenal ulcers are the most common gastrointestinal complaint, whereas in eastern countries, gastric ulcers are more common.

We can treat acid-peptic disease by reducing the aggressive factors, which is the most common method, or we can bolster the mucosal defenses in the stomach and duodenum.

GERD, pyloric ulcer, duodenal ulcers, Zollinger-Ellison syndrome, gastritis, and H. pylori infections are all treated by lowering gastric acid secretion. Acid secretion is currently reduced by blocking the acid-secretory effect of histamine. As Klepser, Collier, and Cochran (2013) noted, PPIs are a class of agents that reduce acid secretion by partially blocking the return of hydrogen ions to the stomach from systemic circulation and are activated by the action of gastrin on parietal cells in the stomach.

Na+ K+ ATPase

CCCP

CCK

Stomach

Helicobacter pylori

Acid secretion is currently reduced by blocking the acid-secretory effect of histamine. As Klepser, Collier, and Cochran (2013) noted, PPIs are a class of agents that reduce acid secretion by partially blocking the return of hydrogen ions to the stomach from systemic circulation and are activated by the action of gastrin on parietal cells in the stomach. The stomach is the primary location of digestion, which is achieved through the irreversibly bind to the active proton pumps at the final step of acid secretion. If left untreated, disorders causing elevated gastric acid secretion can have serious infections. More research is needed to understand the