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Gastroesophageal reflux disease (GERD): is there more to the story?

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Abstract

Gastroesophageal reflux disease (GERD) affects both men and women worldwide, with the most common symptom of GERD being frequent heartburn. If left untreated, more serious diseases including esophagitis and/or esophageal cancer may result. GERD has been commonly held to be the result of gastric acid refluxing into the esophagus. Recent work, however, has shown that there are acid-producing cells in the upper aerodigestive tract. In addition, acid-producing bacteria located within the upper gastrointestinal tract and oral cavity may also be a contributing factor in the onset of GERD. Proton pump inhibitors (PPIs) are commonly prescribed for treating GERD; these drugs are designed to stop the production of gastric acid by shutting down the H(+)/K(+)-ATPase enzyme located in parietal cells. PPI treatment is systemic and therefore significantly different than traditional antacids. Although a popular treatment choice, PPIs exhibit substantial interpatient variability and commonly fail to provide a complete cure to the disease. Recent studies have shown that H(+)/K(+)-ATPases are expressed in tissues outside the stomach, and the effects of PPIs in these nongastric tissues have not been fully explored. Likewise, acid-producing bacteria containing proton pumps are present in both the oral cavity and esophagus, and PPI use may also adversely affect these bacteria. The use of PPI therapy is further complicated by the two philosophical approaches to treating this disease: to treat only symptoms or to treat continuously. The latter approach frequently results in unwanted side effects which may be due to the PPIs acting on nongastric tissues or the microbes which colonize the upper aerodigestive tract.

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