

New Warnings About Medicines for GERD Are Proton Pump Inhibitors (PPIs) Safe?

In a previous article (Gastroesophageal Reflux (GERD)— A Frequent Trigger of Asthma) we discussed how GERD commonly affects 25% of the U.S. population including 2% of children, averaging \$7000 in medical expenses per patient per year. GERD can present with symptoms including chest discomfort or pain (dyspepsia), laryngitis, cough, shortness of breath and chest tightness. Indeed, the chest discomfort and pain of GERD can mimic a heart attack, and only a thorough ER evaluation including an EKG, CXR and laboratory tests can rule out a heart attack and raise the suspicion of GERD.

Fortunately, GERD is a benign disorder characterized by inflammation of the stomach lining and esophagus. If left untreated, however, microscopic changes in the esophagus can occur. In this condition, known as Barrett's esophagus, normal squamous epithelium lining of the esophagus is replaced with a precancerous metaplastic columnar epithelium and goblet cells. Barrett's esophagus increases the chances of developing esophageal adenocarcinoma, which can be life threatening. In the last 40 years, the incidence of esophageal adenocarcinoma has been increasing, and Barrett's esophagus is found in 5–15% of patients who seek medical care for GERD. Diagnosis of Barrett's esophagus requires upper endoscopy (an examination of the esophagus and stomach) and a biopsy.

Treatments are available to reduce and prevent GERD. In addition to avoidance of specific foods (including alcohol and foods high in caffeine) and meals before bed, two classes of drugs are most commonly used: 1) histamine receptor antagonist (H2RAs) including Zantac (ranitidine) which block the effect of histamine on microscopic tissue receptors and reduce acid production, and 2) proton pump inhibitors (PPIs) such as Nexium (esomeprazole) and Prilosec (omeprazole) which reduce stomach acid by deactivating acid production directly. PPIs may take 1 to 4 days to be fully effective and are not intended for immediate relief of heartburn. Antacids such as Tums and Maalox work by neutralizing acid

already present in the stomach. They do not prevent heartburn but can provide quick relief of heartburn.

Unlike H2RAs, PPIs recently have been reported to have multiple, significant side effects particularly with long-term use including: 1) rebound acid hypersecretion, with more acid secretion and dependence on the PPI; 2) an increase in osteoporosis and bone fractures of the spine, wrist and hip with PPI use greater than 1 year; 3) an increased risk of infections, such as diarrhea with *C. difficile* bacteria and community-acquired pneumonia, and 4) hypomagnesia leading to muscle twitches or spasms, heart beat irregularities, or seizures particularly when used in patients already taking fluid pills (diuretics) for high blood pressure or swelling.

So, should PPIs be avoided as treated for GERD? Short term therapy with PPIs (eight weeks or less), if used correctly under the care of a provider, shouldn't pose a problem in most cases. But if long term treatment (> than 1 year) for GERD is anticipated, it may be best to switch to H2RAs to avoid complications.

As always, it is best to check with your primary care provider or stomach specialist for specific recommendations concerning your unique health care treatment plan. He/she may wish to order specific tests to assess for any side-effects if long-term use of PPIs is anticipated.