

Strategies to Protect Against Potential Bone-Destroying Effects

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Gastroesophageal reflux disease (GERD), heartburn and acid indigestion are becoming some of the most common health complaints of our time. In fact, a new review of the medical literature found a significant trend for an increase in the prevalence of reflux symptoms in the general population over time, especially in the U.S., Singapore, and China.¹

"If this trend continues," the researchers wrote, "it could contribute to the rapidly increasing incidence of more serious complications associated with GERD, such as esophageal adenocarcinoma [cancer], as well as costs to healthcare systems and employers."

The standard treatment for GERD and acid reflux is proton-pump inhibitors known by the brand names Aciphex(r), Nexium(r), Prevacid(r), Prilosec(r) (called Losec(r) in Europe), and Protonix(r). These pharmaceuticals work by inhibiting the generation of acid-ions known as protons.

However, the nature by which they work-reducing stomach acid-causes a number of side effects. First, when stomach acid is lowered the gastric mucosa becomes more vulnerable to certain pathogens. Salmonella, for example, is destroyed by stomach acid and lowering the levels of acid could allow this food-borne bacterium to flourish unchecked. Helicobacter pylori, another pathogen common to our digestive tract, has been linked to the development of gastritis, ulcers and stomach cancer. However, because H. pylori is killed by stomach acid, lowering levels of stomach acid can therefore make the digestive tract more susceptible to this pathogenic bug.

Proton-pump inhibitors have also been associated with a 300 percent increase in the incidence of pneumonia in elderly subjects.²

Most recently, a new study reported on another possible side effect of long-term use of proton-pump inhibitors-their potential to weaken bones. The study, which appeared in the Journal of the American Medical Association (JAMA), included subjects over age 50 in Britain who were either users of proton-pump inhibitors or subjects who were not taking any kind of acid suppression drugs.

Researchers compared 13,556 subjects who had experienced a hip fracture with 135,386 controls. After controlling for all factors, including a diagnosis of GERD, the researchers found that the risk for hip fracture among patients prescribed high-dose proton-pump inhibitors (PPI) for more than 1 year was significantly increased. Furthermore, the increased risk grew stronger the longer a subject had been taking proton-pump inhibitors. Patients who took these drugs for more than one year had a 44 percent increased risk of breaking a hip. The most startling finding of the study was that taking the proton-pump inhibitors in high doses for long periods increased the risk of hip fracture by 245 percent.³

The researchers concluded, "Long-term PPI therapy, particularly at high doses, is associated with an increased risk of hip fracture."

The effects may be particularly exaggerated, the study authors suggested, in people already at risk of osteoporosis.

The researchers theorized that because stomach acid helps the body absorb calcium, lowering stomach acid levels with proton-pump inhibitors may stop the absorption of this important bone-building mineral.

One way to maintain healthy bones is to find an alternative approach to proton-pump inhibitors. I have seen many of my acid reflux patients improve considerably after they implemented a wholistic approach. For some acid reflux sufferers, however, their problem is so severe that abandoning proton-pump inhibitors isn't an option. Therefore the remainder of this article will discuss two different approaches. First, for anyone who feels as if they must consume an acid-blocking drug I will describe ways to protect bones against the weakening effect of proton-pump inhibitors. Second, I will discuss natural alternatives and lifestyle factors that can be very helpful in assisting those with acid reflux or GERD.

Natural Bone-Building Measures

Anyone consuming proton-pump inhibitors can protect the health of his or her bones by undertaking a bone-building nutritional support program.

First, supplementing with high-quality, bioavailable calcium can offset the depletion of this mineral caused by acid-blocking drugs. A recent study showed that many Americans reportedly are not meeting current calcium recommendations.⁴ Individuals who are not receiving enough calcium prior to consuming proton-pump inhibitors may be even more at risk of experiencing the bone-damaging effects of the drugs.

Calcium can be a particularly effective bone builder when combined with vitamin D. Vitamin D deficiency causes osteopenia, precipitates and exacerbates osteoporosis, causes the painful bone disease osteomalacia, and worsens proximal muscle strength and postural sway.⁵

Although calcium and vitamin D often steal the lion's share of attention, vitamin K, which mediates the synthesis of proteins regulating bone metabolism, is equally important to bone health. In a recent study of vitamin K2 in 325 postmenopausal women, vitamin K2 did not affect bone mineral density, but bone mineral content and femoral neck width increased in the vitamin K2 group relative to placebo. In addition, hip bone strength remained unchanged in the vitamin K2 group during the 3-year intervention whereas in the placebo group bone strength decreased significantly.⁶

Combining Ipriflavone, a synthetic isoflavone, with vitamin K, calcium and vitamin D is another way to guard against any bone-destroying effects of acid blockers. Studies have shown that Ipriflavone is supportive in bone health, especially in estrogen deficient women. In one study of ovariectomized women, subjects taking Ipriflavone 600 mg per day plus calcium for 12 months experienced a reduction in bone-destroying processes and a stabilization of bone density and radial bone density. By comparison, subjects receiving calcium alone experienced a reduction in bone density and radial bone density.⁷

Other nutrients important for anyone taking acid blockers are the mineral strontium and omega-3 fatty acids. A recent review of the medical literature found that strontium-treated patients show large increases in bone mineral density.⁸ After studying the medical literature, the reviewers wrote that strontium "is a useful addition to the range of anti-fracture treatments available for treating postmenopausal women with osteoporosis and is the only treatment proven to be effective at preventing both vertebral and nonvertebral fractures in women aged 80 year and older."

Finally, emerging evidence indicates that omega-3 fatty acids found in fish oil increase bone mineral density and bone formation markers in mice and reduce the generation of bone-destroying osteoclasts in bone marrow cell cultures.⁹ Nordic Naturals fish oils are especially appropriate for individuals with acid reflux as they are formulated to eliminate the regurgitation effect that occurs in some people who take standard fish oil supplements.

Natural Support for Acid Reflux

In my clinical practice, I have found that natural strategies can be quite effective in reducing or eliminating the heartburn that accompanies acid reflux and GERD. First, eliminating processed carbohydrates and sugars from the diet can offer a great deal of relief. A study in the journal *Digestive Diseases and Sciences* mirrors my clinical experience with this approach. The study indicates that obese people who restrict their carbohydrate intake can reduce the symptoms of acid reflux. Researchers studied eight obese people who were put on a low-carb diet of meat, eggs, hard cheeses and non-starch vegetables, limiting carbs to 20 grams per day. After only three to six days on this diet, subjects experienced fewer symptoms. They reported a reduced incidence of burning pain in the chest and throat, sour taste in the mouth, nausea and bloating. Furthermore, there was a shorter duration of high acidity in the lower esophagus after eating when the subjects were on the low-carb diet.¹⁰

In addition to dietary strategies, I have found that in clinical practice one of the most effective methods for decreasing acid reflux is to supplement with a combination of mastic gum and deglycyrrhizinated licorice. Mastic gum has been well studied for its anti-ulcer effects. In a double-blind controlled clinical trial on patients with symptomatic and endoscopically proven duodenal ulcers, one gram per day of mastic gum was given to 20 patients and a placebo to 18 patients over two weeks. Symptomatic relief was obtained in sixteen (80 percent) of patients given mastic and in nine (50 percent) of patients on placebo. Moreover, endoscopically proven healing occurred in fourteen (70 percent) patients on mastic and four (22 percent) patients on placebo. The difference between treatments was highly significant.¹¹

The researchers concluded that mastic was well tolerated, that it did not produce side effects and that it has "an ulcer healing effect."

While much of the research on mastic gum revolves around its ability to support the health of patients with ulcers and its ability to inhibit the bacteria *H. pylori*, clinically it has been equally useful in patients with GERD and acid reflux. Deglycyrrhizinated licorice has been used by people with gastric and peptic ulcers for nearly a hundred years. Licorice increases prostaglandin production in the endothelial cells of the stomach, which protects the gastric mucosa.¹²

Another strategy for controlling heartburn, acid reflux and GERD is one that surprises many sufferers of these conditions. This is because they are habitually told they need to lower their stomach acid in order to achieve improvement. However, in many instances, it is actually low stomach acid that may result in acid reflux and GERD.

Although conventional doctors assume that patients suffering from heartburn or GERD have high stomach acid, in reality physicians don't actually test patients to prove this is what's causing the condition. In fact, stomach acid is known to decline with age, making it even more unlikely that many individuals are producing too much acid.

Jonathan Wright, M.D, has monitored thousands of individuals complaining of heartburn and indigestion for stomach acid production using an extremely precise, research-verified procedure. He has almost never found overacidity in any of his patients, especially in those over age 35. Usually, tests show underacidity (from just a little under to no acid at all). (See the article Heartburn, Indigestion, Reflux and GERD The Digestive Failure Theory of Aging on our website.)

A successful approach therefore entails consuming a combination of hydrochloric acid (Betaine HCL), glutamic acid HCL, gentian, peppermint and pepsin. Many clinicians have successfully used this approach to reduce or eliminate acid reflux, heartburn and GERD. Peppermint relaxes the lower esophageal sphincter.¹³ Gentian root, historically used for digestive complaints such as gastritis, complements peppermint's actions. A recent study showed that both gentian root and peppermint inhibit the growth of *H. pylori* in vitro.¹⁴

Conclusion

The new study showing that proton-pump inhibitors may cause significant bone loss has caused a lot of concern among individuals suffering from heartburn, GERD and acid reflux. However, natural approaches remain a viable alternative to pharmaceutical acid blockers. Furthermore, by consuming calcium, vitamins D and K, Ipriflavone, strontium and omega-3 fatty acids, individuals who must continue to consume proton-pump inhibitors can protect the health of their bones.

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