

Flight Surgeon Notes #8

Upper Gastrointestinal Problems of Aging

Aging increases the risk for an assortment of ailments and conditions. The gastrointestinal tract is not exempt. The muscles of the stomach and intestine lose their elasticity and become weaker and less efficient. Some of the most common problems include heartburn, peptic ulcers and reflux of acid into the lower esophagus (**Gastro Esophageal Reflux Disease** or **GERD**). **GERD** tends to be more serious in seniors, but older adults may show less common reflux symptoms, such as coughing or wheezing from aspiration into the bronchus and lungs, according to studies from the University of Maryland Medical Center.

A brief review of anatomy is appropriate. Food is ingested through the mouth and transferred through the esophagus into the stomach via a muscular valve (lower esophageal sphincter), which normally keeps the entrance to the stomach closed. It relaxes and opens when you swallow. This vital function is to prevent acid from the stomach from regurgitating into the esophagus, which is intolerant of acid from the stomach. The stomach is the only organ of the human body capable of manufacturing and tolerating acid. **GERD** happens when the valve between the stomach and esophagus opens up when you aren't swallowing. This allows the acid contents of your stomach to backflow into the esophagus. Your doctor may also use any of the following terms for **GERD**:

1. Acid reflux
2. Acid regurgitation
3. Heartburn
4. Reflux esophagitis

About 20% of the U.S. population experiences **GERD**, according to the National Institute of Diabetes and Digestive and Kidney Diseases. This compares to 5% of the population in Asia.

Causes and Risk Factors for GERD:

Aging results in a loss of elasticity in all tissues. Nowhere is this more evident than in the gastroesophageal valve. Thus, anything that distorts or deforms this valve, such as abdominal enlargement, will impair its function. Obvious examples are pregnancy, obesity and postural deformity of aging. Other causes include: 1. Over filling the stomach with a large meal, 2. Lying down within 2 hours after a meal, 3. Increased acid formation with alcohol, spicy foods, carbonated beverages and smoking generate more acid to spill over into the esophagus.

Mechanical Remedies/Anti-gravity Measures:

1. Elevating the head of the bed with six-inch blocks of wood plus adding a board at the foot of the bed for support.
2. Weight loss to reduce abdominal size.
3. Maintaining good posture. **Postural Changes of Aging:** Since the male spine is of heavier construction compared to women, men become barrel-chested with age. The less sturdy spinal structure in women becomes more kyphotic resulting in a rounded profile in response to forward flexion in response to gravity. Men have heavier chest muscles, the weight of which bends them forward. In women, breasts become more pendulous to bend them over. All of these changes in posture deform the gastroesophageal valve and make it incompetent to restrict acid to the stomach.
4. Avoid eating before lying down.

Dietary Factors to Avoid and Lifestyle Changes:

1. Avoid large meals that overfill the stomach.
2. Avoid smoking.
3. Limit certain foods, such as chocolate, citrus fruits, onions, peppermint, tomato, fried or spicy foods.

Complications of Chronic GERD:

GERD is not usually life-threatening, but it can result in complications such as:

1. **Esophageal Stricture** or narrowing of the esophagus from scar tissue formed from acid burns.
2. **Barrett's Esophagus** is a pre-cancerous condition, in which the lining of the esophagus changes to more closely resemble the lining of the intestines. Over the long term, this increases your risk of esophageal cancer by a factor of 30. **Esophageal Cancer** is frequently fatal.
3. **Aspiration Pneumonia** may result from regurgitation of acid and food that extends from the esophagus into the bronchus and lungs.

GERD Symptoms and Diagnosis:

A diagnosis of **GERD** is based on the symptoms that you have and how often you have them. The most common symptoms of **GERD** include frequent heartburn, regurgitating your stomach's contents, and having a sore throat or sense of irritation in the esophagus. If your symptoms occur more frequently than once or twice a week, you may be diagnosed with **GERD**. There are tests to confirm the diagnosis. The acid content of the esophagus can be measured, while examining the esophagus for damage. The muscle contractions of the esophagus can be measured and the entire upper gastrointestinal tract can be visualized.

A number of over-the-counter drugs are available to treat **GERD** and its symptoms. These range from antacids, which offer prompt, but mild relief, to proton pump inhibitors (PPIs), which effectively suppress stomach acid and help heal your esophagus. However, caution must be utilized with use of these drugs.

Zantac (ranitidine) and other brands of generic ranitidine, is a popular drug used to treat heartburn, ulcers of the stomach and intestines, and other problems. More than 15 million people have Zantac prescriptions, and many more use over-the-counter ranitidine medications.

On April 1, 2020, the U.S. Food and Drug Administration (FDA) announced that manufacturers should immediately pull all prescription **Zantac** and over-the-counter ranitidine drugs from the market due to the risk of causing cancer.

And, what you may not know is that the most popular of these acid-blocking medications, proton pump inhibitors (PPIs), carry an **FDA warning** that they **should not be used for more than 14 consecutive days or more than 42 total days over the course of a year**. In many cases these limitations are frequently ignored.

The primary purpose of most heartburn remedies is to block stomach acid by inhibiting proton pump cells from producing this acid. And they usually do this quite effectively. But **stomach acid is essential** for the proper absorption of vital nutrients to maintain overall health.

As we age, acid levels fall, BUT heartburn *increases*. When we're younger, we produce almost 200 milligrams of stomach acid every hour. But as we get older, we produce less and less. In his book, *Why Stomach Acid Is Good for You*, Jonathan V. Wright, M.D., reveals what he's found in 24 years of treating patients with acid reflux and other symptoms... *"When we carefully test people over age 40, who are having heartburn, indigestion and gas, over 90% of the time we find inadequate acid production by the stomach."*

If high acid levels were the cause, then acid reflux would be a young person's affliction. We produce more acid in our 20s than in our 40s. If high acid were the cause, it would be confined to people in their teens and 20s. But it's not. Today, more than 20 million Americans over the age of 40 spend more than \$14 billion every year on acid-blocking medications.

All of these considerations alter our perception of **GERD** and heartburn. The presence of lawsuits, sure to occur, following the above issues, makes it mandatory to discuss your case with a Gastroenterologist or Internist, knowledgeable in these issues.

Future columns will note other issues of aging. Suggestions are welcome!

Guy S. Clark, M.D., Flight Surgeon