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November is GERD awareness month. Gastroesophageal reflux disease (GERD) is very common, with 10-20 percent of the United States population suffering from GERD.

GERD can lead to complications such as a bleeding ulcer or strictures—narrowed areas of the esophagus—that make swallowing difficult.

GERD may also cause hoarseness, chronic cough, and conditions such as asthma. It may also lead to a condition called Barrett's esophagus, which can develop into a rare but deadly type of cancer of the esophagus.

Normally, there is a muscle called the lower esophageal sphincter which wraps like a rubber band around the top of the stomach and bottom of the esophagus. This keeps acid in the stomach. The stomach lining has special glands which allow it to withstand stomach acid.

The esophagus is a muscular tube designed to move food from the mouth to the stomach. It is made of epithelial tissue like the skin and mouth. Epithelial tissue has an uninterrupted layer of cells which are attached to each other and designed to withstand movement. This is surrounded by muscle layers which push the food in waves down into the stomach.

Occasionally, acid from the stomach can come up into the esophagus or even into the mouth. A bad, sour taste in the mouth is a common symptom. "Heartburn" or a burning sensation in the upper stomach or chest can also occur. If these symptoms occur persistently more than twice a week, it is called GERD.

People who have GERD symptoms should consult with a physician. If GERD is left untreated over a long period of time, it can lead to complications such as a bleeding ulcer. Scars from tissue damage can lead to strictures—narrowed areas of the esophagus—that make swallowing difficult. GERD may also cause hoarseness, chronic cough, and conditions such as asthma.

People who have had GERD for more than five years are at risk of developing Barrett's esophagus, which affects one percent of the U.S. population (10 percent of people affected by GERD). Barrett's esophagus is a type of metaplasia. Metaplasia is not precancerous. Metaplasia simply means that one type of tissue changes to another.

With longstanding reflux, the relaxation of the sphincter bathes the esophagus in acid. The epithelial tissue in the esophagus starts to develop glands like the glandular stomach tissue because it is exposed to the acid. This change from the continuous epithelial tissue to the glandular stomach tissue is a type of metaplasia called Barrett's esophagus.

If Barrett's esophagus is suspected because of a history of reflux for more than five years, an EGD (esophagogastroduodenoscopy) also called upper GI scope—is recommended. In an upper GI endoscopy, after the patient is sedated, the doctor inserts a flexible tube called an endoscope, which has a light and a miniature camera, into the esophagus.

During the EGD, the endoscopist looks for problems with the duodenum (small intestine), stomach (ulcers or gastritis—irritation of the stomach lining), the GE junction where the stomach and esophagus meet (Barrett's esophagus or hiatal hernia), and the esophagus (problems with movement or esophagitis—irritation of the esophageal lining).

If these problems are seen, the doctor removes several small pieces using a pincher-like device that is passed through the endoscope. This biopsy specimen is then sent to a special lab so a pathologist (a doctor who specializes in tissues) can examine the specimen under the microscope and determine the diagnosis.

Based on the diagnosis from the pathologist, recommendations can be made regarding the need for further EGD's.

If the diagnosis is Barrett's, repeat surveillance is needed. If the Barrett's has no dysplasia (precancerous changes), recommendations are made for a recheck EGD including biopsies within a year to see if dysplasia has developed in the meantime. If the repeat EGD shows Barrett's with no dysplasia, EGD's with biopsies every three years are recommended.

Why so many tests? Because the tissue has changed, it may be unstable and change in different ways. The exact cascade of events is unknown, but doctors believe the continued exposure to stomach acid can cause additional changes called dysplasia (precancerous changes). Treatment with an acid-blocking medicine (proton-pump inhibitor or PPI) such as Protonix or Nexium may keep the Barrett's esophagus from developing dysplasia.

There is less than a one percent chance per year that people with Barrett's esophagus will develop esophageal cancer. However, there is not a better way to find esophageal cancer, and the mortality rate from esophageal cancer is very high unless caught early.

If dysplasia (precancerous change of cells) is found, surveillance is needed more frequently. Low-grade dysplasia (less likely to become cancer) needs a repeat EGD with biopsies within six months. High-grade dysplasia (cell change related to increased risk of cancer) needs a repeat EGD with biopsies within three months.

Treatment for high-grade dysplasia may include removal of the tissue by surgery which may be open, laparoscopic, or endoscopic. Smaller areas may be treated by ablation (burning the affected area using cryotherapy, radiofrequency therapy, or photodynamic therapy). Esophageal adenocarcinoma may be treated using surgery, chemotherapy, radiation, or a combination of these measures.

However, the best treatment is early prevention and detection. Warning signs include reflux for more than five years, trouble swallowing, hoarseness, chronic cough, uncontrolled asthma, and chest pain or burning sensation.

People who have these warning signs should talk to a doctor about whether they might need an upper GI endoscopy (EGD). Detecting and treating GERD complications early is encouraged during November—our GERD awareness month.

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