ESOPHAGEAL AND STOMACH DISORDERS

The esophagus is a muscular pipe that carries food and liquid from the mouth to the stomach. Normally the muscles in the esophagus work, in a coordinated fashion, to propel food/liquid to the stomach in one – two smooth motions/contractions.

When the food reaches the stomach it is mixed and churned by the muscles of the stomach. Acid in the stomach helps to break the food down. This mixture is then pumped out of the stomach into the first part of the small intestine, the duodenum. Here the acid is neutralized and pancreatic enzymes (which break down protein and carbohydrates) as well as bile (which helps to break down fat) are added to the mix.

Diseases of the esophagus can be classified as non-cancerous and cancerous. Non-cancerous diseases include esophageal webs/rings, esophageal diverticuli (out-pouching), esophageal dysmotility including achalasia, esophageal spasms, and esophageal strictures. The treatment and symptoms of each are different and will be described briefly:

a. Esophageal web/ring – usually congenital, causes problems with swallowing and/or food “getting stuck”. Treatment is dilation by upper endoscopy (EGD).

b. Esophageal diverticuli – depending on where in the esophagus (upper, middle, or lower) the diverticulum is, the symptoms are different. Treatment is surgical removal of the diverticulum.

c. Esophageal dysmotility/Achalasia – A group of diseases that range in severity, all involving uncoordinated function of the esophageal muscles and the inability of the lower esophageal sphincter (a valve located at the junction of the esophagus and stomach) to relax. Symptoms are difficulty swallowing, chest pain, upper abdominal pain, food getting stuck, and/or regurgitation. Achalasia is the most severe form of esophageal dysmotility and can be treated surgically (Heller myotomy).

d. Esophageal spasms (most severe form known as “Nutcracker Esophagus” – can cause significant chest pain. Can be treated with medications to relax the esophageal muscles.

e. Esophageal strictures – narrowing or tightening of the channel inside the esophagus. Symptoms are the same as above. Usually can be treated with dilation by upper endoscopy. May require surgery in severe cases. Can be caused by acid reflux or cancer (see next section).

Esophageal cancer is an aggressive cancer that has an excellent cure rate if discovered early and treated aggressively. There are two types – adenocarcinoma (usually occurs in the lower esophagus) and squamous cell carcinoma. Risk factors for developing esophageal cancer include alcohol use, smoking, and acid reflux. Treatment of adenocarcinoma of the esophagus is primarily surgical (removal of the esophagus) with chemotherapy and radiation before, after, or both before and after surgery. After the esophagus is removed, the stomach is fashioned into a tube and pulled through the chest to reconstruct the esophagus. Treatment of squamous cell carcinoma of the esophagus is mainly with chemotherapy and radiation therapy.

Diseases of the stomach can also be classified as non-cancerous or cancerous. Non-cancerous diseases include gastroparesis, ulcers/arteriovenous malformations, and bezoars:

a. Gastroparesis is a condition in which the stomach muscles do not function correctly and the stomach does not empty in the appropriate amount of time. This typically occurs in patients with long-standing diabetes mellitus. Symptoms include nausea/vomiting and early satiety (feeling full after eating small amounts). Treatment is usually medical but surgical placement of a gastric pacemaker insertion is a last resort.

b. Ulcers and arteriovenous malformations (AVM’s) are two causes of bleeding in the stomach. Ulcer disease has become a problem of the past with the advent of anti-acid medications in the last few decades. Occasionally however bleeding from a gastric ulcer (stomach ulcer) will require surgery if the bleeding cannot be controlled by endoscopy (EGD) or interventional radiology. Helicobacter Pylori (H.Pylori) is a bacterium that has been found to be a major culprit in the formation of gastric and duodenal ulcers. Testing can be done via endoscopy
c. (EGD) and treatment is with antibiotics. An AVM is an abnormal conglomeration of arteries and veins that do not belong. A Dieulafoy lesion is a superficial AVM specifically in the stomach.

d. A bezoar is a large “ball” of food that is undigested and cannot exit the stomach thereby blocking the outlet of the stomach. This is a rare condition and quite uncommon in the Western world.

Gastric (stomach) cancer, also known as gastric adenocarcinoma, is an aggressive cancer that is very prevalent in Japan and other parts of Asia. Its prevalence in the U.S. is increasing. Treatment depends on location in the stomach but usually involves surgical removal of part or all of the stomach with the surrounding lymph nodes. A segment of small intestine is then attached to the esophagus as reconstruction.

In discussing diseases of the esophagus and stomach, two important entities should be mentioned – hiatal hernia and acid reflux or gastro-esophageal reflux disease (GERD).

Every one of us has a hiatal hernia. It is a normal part of human anatomy. The hiatus is a hole in the diaphragm (which is a muscle that separates our chest from our abdomen) that allows the esophagus to travel from the chest into the abdomen to join the stomach. A hernia is a hole. Therefore we all have a hiatal hernia. However, if the opening in the diaphragm increases in size, then organs from the abdomen can be pushed into the chest. This can cause discomfort and worsen acid reflux symptoms and can be repaired surgically. Please refer to the patient handout on GERD.

It should also be noted that another cause of bleeding from the stomach or esophagus that is not mentioned above is secondary to varices (enlarged veins that have very thin walls and are easily torn/ruptured). This almost always occurs in patients who have portal hypertension (elevated pressures in the veins that carry blood to the liver) caused by cirrhosis of the liver. The treatment for this is complex and requires a tertiary care center.