



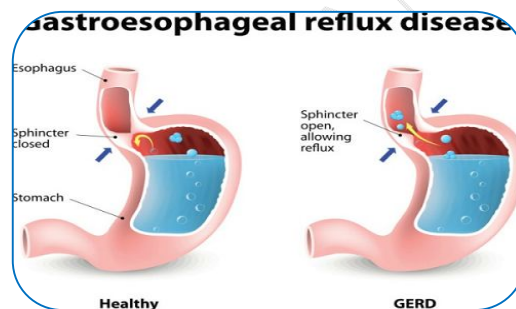
GASTRO ESOPHAGEAL REFLUX DISEASE (GERD) & HAZARDS

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ABSTRACT :

Gastroesophageal reflux disease (GERD) affects up to 30% of adults in Western populations and is increasing in prevalence. GERD is associated with lifestyle factors, particularly obesity and tobacco smoking, which also threatens the patient's general health. GERD carries the risk of several adverse outcomes and there is widespread use of potent acid-inhibitors, which are associated with long-term adverse effects. The aim of this systematic review was to assess the role of lifestyle intervention and hazards management in the treatment of GERD.



KEYWORDS : Reflux, Disease, Lifestyle and Hazards.

INTRODUCTION

Gastroesophageal reflux disease (GERD), also known as acid reflux, is a long term condition where stomach contents come back up into the esophagus resulting in either symptoms or complications. Symptoms include the taste of acid in the back of the mouth, heartburn, bad breath, chest pain, vomiting and breathing problem. Complications include esophagitis, esophageal strictures, and Barrett's esophagus. Both acid reflux and heartburn are common digestive conditions that many people experience from time to time. When these signs and symptoms occur at least twice each week or interfere with your daily normal life, or when your doctor can see damage to your esophagus, you may be diagnosed with GERD. Most people can manage the discomfort of GERD with lifestyle changes and over-the-counter medications. But some people with GERD may need stronger medications, or even surgery, to reduce symptoms.

Upper Gastrointestinal Tract: Structure and Functions

The upper gastrointestinal tract consists of mainly esophagus, liver, stomach, and Lower esophageal sphincter (LES) etc.

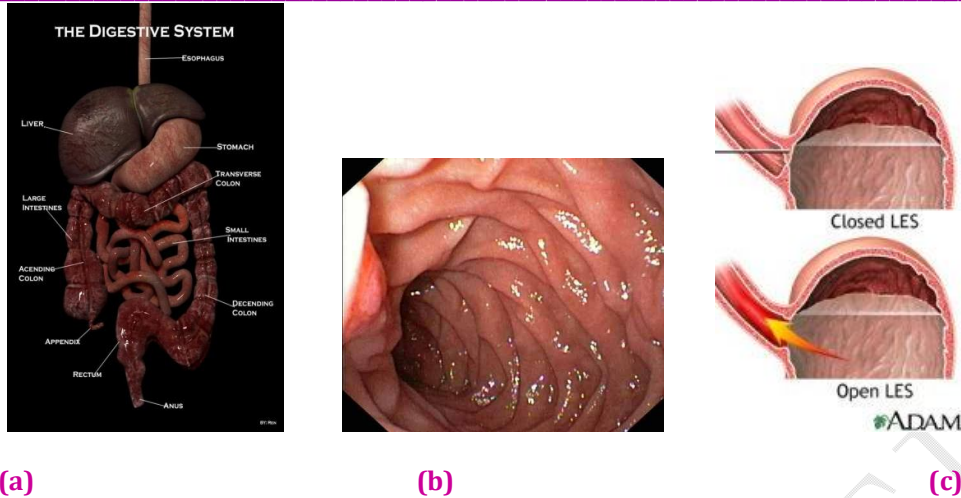


Fig. 1. (a) The whole digestive system. (b) Inside lining of normal esophagus. (c) Closed and open lower esophageal sphincter (LES).

Esophagus is a long muscular tube connecting the throat (pharynx) with the stomach. They keep food and secretions from going down to stomach. Liver is a gland and plays a major role in metabolism. It is a digestive gland and produces bile, an alkaline compound which aids in digestion. Stomach is a muscular, hollow, dilated part of the gastrointestinal tract that functions as an important organ in the digestive system. Stomach digests food with the help of different kinds of bile and enzyme in presence of strong acidic (HCl, pH=1-3) medium. LES is a muscular unidirectional valve which allows food and liquid to come into stomach for digestive purpose. It resists stomach contents not to come back in esophagus.

Gastric Juice: chemical composition and functions

Gastric juice, thin, strongly acidic (pH varying from 1 to 3), almost colorless liquid secreted by the glands in the lining of the stomach. Its essential constituents are the digestive enzymes pepsin and rennin, hydrochloric acid, and mucus. Pepsin converts proteins into simpler, more easily absorbed substances; it is aided in this by hydrochloric acid, which provides the acid environment in which pepsin is most effective. Rennin aids the digestion of milk proteins. Mucus secreted by the gastric glands helps protect the stomach lining from the action of gastric juice. Gastric secretion is stimulated by a number of hormones and chemical substances, by the presence of food in the stomach, and by a number of psychological factors, such as the smell of a favorite food.

Symptoms and Long-Term Effects of GERD

- The most-widely recognized side effects of GERD in grown-ups are indigestion, an acidic preference for the mouth, and spewing forth. Less-normal side effects incorporate agony with gulping/sore throat, expanded salivation (otherwise called water reckless), queasiness, chest torment, and hacking. The long haul impacts of GERD are damage of the throat. These wounds may incorporate at least one of the accompanying:
 - • Reflux esophagitis – corruption of esophageal epithelium causing ulcers close to the intersection of the stomach and throat
 - • Esophageal strictures – the relentless narrowing of the throat brought about by reflux-incited aggravation.
 - Barrett's esophagus – intestinal metaplasia (changes of the epithelial cells from squamous to intestinal columnar epithelium) of the distal esophagus.

- Esophageal adenocarcinoma – a form of cancer.

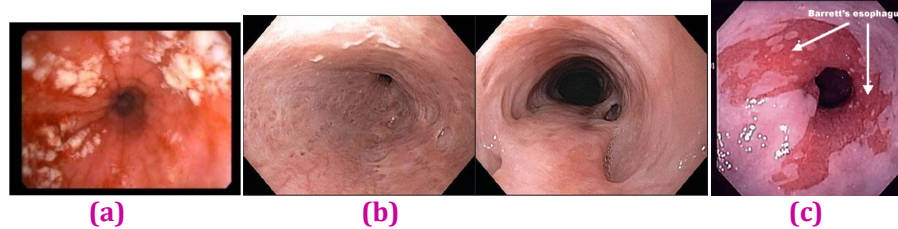


Fig. 2. Endoscopic pictures of (a) Reflux esophagitis (b) Esophageal strictures (c) Barrett's esophagus.

Hazards and Risk Factors of GERD

GERD results from a problem with the lower esophageal sphincter—the circular muscle between the esophagus and stomach that opens and closes when food or liquid is swallowed. If this muscle weakens or does not work properly, acid or bile from the stomach can move back into the esophagus (reflux). When this occurs often, damage to the esophagus can result in GERD. Common risk factors/hazards for GERD include the following:

- ❖ Obesity—Extra weight causes extra pressure on the stomach and diaphragm and can result in reflux.
- ❖ Peptic ulcers cause reflux because food does not move from the stomach to the small intestine efficiently.
- ❖ Certain foods can trigger reflux. Common foods that can worsen symptoms include onions, tomato sauce, mint, carbonated drinks, chocolate and other foods containing caffeine, as well as spicy foods and foods with a high fat content. Other triggers include alcohol, smoking, large meals, and lying down too soon after eating.
- ❖ Some medications and dietary supplements can worsen GERD symptoms. In some cases, medications interfere with how the lower esophageal sphincter works. Examples include sedatives, tranquilizers, antidepressants, calcium channel blockers, and narcotics, among others.
- ❖ Regular use of certain antibiotics and nonsteroidal anti-inflammatory drugs (NSAIDs) can increase inflammation of the esophagus, as can iron, potassium, and vitamin C supplements. A physician or pharmacist can give specific advice on whether a certain medication can affect GERD symptoms.

Understanding Gastroesophageal Reflux Disease (GERD): Diagnosis

Your doctor may be able to diagnose gastroesophageal reflux disease, or GERD, from your description of symptoms. The doctor may also suggest tests to rule out other possible causes of your symptoms, to monitor the degree of damage, or to determine the best treatment for you. The three main tests used when GERD is suspected or known are esophageal pH monitoring, endoscopy, and manometry. With pH monitoring, the doctor measures the amount of acid in the esophagus over a 24-48 hour period. This test is used mainly to rule out GERD if symptoms are not typical for acid reflux. It is also very helpful in identifying patients who may need surgery as a treatment for GERD. Endoscopy uses a flexible tube with a light and video camera on the end. The tube is passed through the throat into the esophagus so the doctor can examine the esophagus for esophagitis (inflammation of the esophagus), strictures (narrowing of the esophagus), and for Barrett's esophagus (a specific, abnormal change in the lining of the esophagus). This is important to recognize because -- rarely -- Barrett's can lead to cancer of the esophagus. Endoscopy usually is not done if symptoms are mild. If they are more severe, prolonged, or do not respond to treatments, including lifestyle changes and medications, your doctor may want an endoscopy. If you have Barrett's esophagus or severe esophagitis, your doctor may suggest regular endoscopy monitoring to screen for cancer.

Manometry identifies problems with motility and valve pressure in the esophagus. This study allows doctors to measure function of the lower esophageal valve (LES). Manometry can also be helpful in evaluating GERD patients for surgery.

Treatments for GERD

GERD is a chronic disease, and the goal of treatment is to manage it; that means reducing the amount of acid in the stomach and the amount of reflux that occurs. The medicines for GERD incorporate way of life adjustments, drugs, and potentially medical procedure. Starting treatment is much of the time with a proton-siphon inhibitor, for example, omeprazole.

Way of life: Certain sustenances and way of life are considered to advance gastroesophageal reflux, however most dietary intercessions have small supporting proof. Shirking of explicit nourishments and of eating before resting ought to be prescribed just to those in which they are related with the manifestations. Sustenances that have been ensnared incorporate espresso, liquor, chocolate, greasy nourishments, acidic nourishments, and zesty sustenances. Weight reduction and hoisting the leader of the bed are commonly valuable. Moderate exercise improves symptoms; however in those with GERD vigorous exercise may worsen them. Stopping smoking and not drinking alcohol do not appear to result in significant improvement in symptoms.

Medications: The essential meds utilized for GERD are proton-siphon inhibitors, H₂ receptor blockers and stomach settling agents with or without alginic corrosive. Proton-siphon inhibitors (PPIs, for example, omeprazole, are the best, trailed by H₂ receptor blockers, for example, ranitidine. On the off chance that a once every day PPI is just in part compelling they might be utilized two times per day. They ought to be taken one half to one hour before a supper. There is no noteworthy distinction between specialists in this class. At the point when these drugs are utilized long haul, the most minimal powerful portion ought to be taken. They may likewise be taken just when side effects happen in those with continuous issues. H₂ receptor blockers lead to about a 40% improvement.

Surgery: The standard careful treatment for serious GERD is the Nissen fundoplication. In this technique, the upper piece of the stomach is folded over the lower esophageal sphincter to reinforce the sphincter and avert indigestion and to fix a hiatal hernia. It is suggested just for the individuals who don't improve with PPIs. Advantages are equivalent to therapeutic treatment in those with perpetual manifestations. Also, in the short and medium term, laparoscopic fundoplication improves personal satisfaction contrasted with restorative administration. When contrasting diverse fundoplication procedures, halfway back fundoplication medical procedure is more successful than incomplete front fundoplication medical procedure.

CONCLUSION

To help prevent gastroesophageal reflux disease, people should avoid heartburn triggers and should not smoke. It also is important to maintain a healthy weight and make healthy lifestyle choices (e.g., exercise regularly). In addition to triggering acid production, fried and fatty foods slow digestion so these must be avoided. Drinking plenty of water with rich meals helps to dilute the acid and keep food moving through your digestive tract. Over-the-counter H₂-blockers and proton pump inhibitors that decrease the production of acid can provide heartburn relief in a pinch, but avoid calcium-carbonate antacids, which can trigger more acid production in some people.

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