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Gastrointestinal Reflux : Review Article



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ABSTRACT

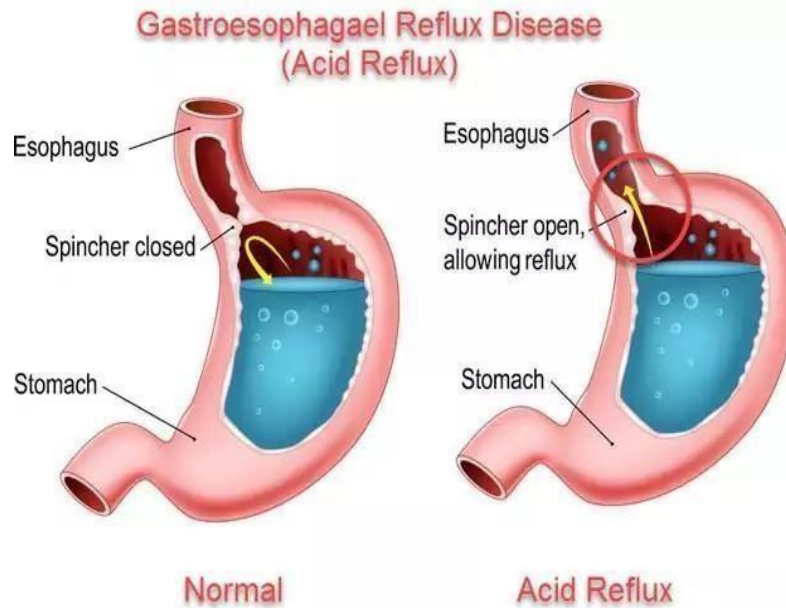
Gastroesophageal reflux disease (GERD) is a most common clinical problem, and they are commonly by both chronic and acute symptoms known as “heartburn”. Approximately 50% of the population suffers from the disease. “Patients are recognized. Acid suppressive therapy provides symptomatic relief and prevents difficulty in many individuals with GERD. Advances in the diagnostics evaluations provide the classic symptoms of heartburn and regurgitation exists in the absence of “alarm symptoms” the diagnosis Of GERD can be made clinically tested and the treatment can be started Here, we discuss the pathophysiology and the effects of GERD, and provide information on the clinical approach to the common disorder.



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INTRODUCTION



Gastroesophageal reflux disease (GERD) is a very common digestive disorder worldwide with an approximate prevalence of 18.1–27.8% in North America.

1. Approximately half of all adults will suffer from reflux symptoms at some time.
2. According to the Montreal definition, GERD is a condition of gastric acid moving into the wrong place (primarily up into the esophagus and mouth), as compared to the stomach's hypersecretion of gastric acids which leaks into the surrounding tissues.
3. Diagnosis of GERD is typically based on classic symptoms and response to the acid suppression after an empiric trial. GERD is an important health concern as it is associated with the decreased quality of life and significant morbidity.
4. Successful treatment of GERD symptoms have been associated with the significant improvement in the quality of a life, including decreased physical pain, increased vitality, physical and social function, and emotional well-being, while GERD medications are not particularly expensive, the cost of treating GERD patients has been deemed 2-fold more costly than the comparable individuals without GERD.
5. This cost of difference is likely due to higher morbidity in GERD patients and the higher cost of managing complications of inappropriately treated GERD.

EPIDEMIOLOGY AND PATHOPHYSIOLOGY

Risk factors for GERD include most commonly than 40 years of age, excessive body mass index (BMI), smoking, anxiety/depression, and less physical activity at work. 6–8 Eating habits may also contribute to GERD, including the acidity of food, as well as the size and timing of meals, particularly with respect to sleep. In GERD except for NERD and pregnancy, not much difference in the incidence between men and women. But for Barrett’s esophagus, prevalence is more in males, particularly white adult males. 6,9

Gastroesophageal reflux is primarily a disorder of the lower esophageal sphincter (LES) but there are very several factors that may contribute to its development. The factors influencing GERD are both physiologic and pathologic conditions. The most common cause is transient lower esophageal sphincter relaxations (TLESRs). TLESRs are brief moments of lower esophageal sphincter tone inhibition that are independent of a swallow.

10. While these are physiologic in nature, there is an increase in the frequency of the postprandial phase and they can contribute greatly to the acid reflux in patients with GERD. Other factors include reduced lower esophageal sphincter (LES) pressure, Hiatal hernias, impaired esophageal clearance, and delayed gastric emptying.8,11

PHYSIOLOGIC GERD	PATHOLOGIC GERD
✓ POSTPRANDIAL	✓ SYMPTOMS
✓ SHORT-LIVED	✓ MUCOSAL INJURY
✓ ASYMPTOMATIC	✓ NOCTURNAL SX

SYMPTOMS

The classic and the most common symptom of GERD is heartburn. Heartburn is a burning sensation in the chest, usually after eating, which might be worse at night. However, only a very small percentage of the reflux events are most symptomatic. Heartburn is also most often associated with a sour taste in the back of the mouth with or without regurgitation of the reflux.

Although classic symptoms of GERD are easily recognized the extraesophageal manifestations of GERD are very common but not always recognized. Extraesophageal

symptoms are more likely due to the reflux into the larynx, resulting in throat clearing and hoarseness. It is not uncommon for patients with GERD to complain of the feeling of fullness or a lump in the back of their throat, referred to as the Globus sensation.

14. The cause of the Globus is not well understood but it is thought that the exposure of the hypopharynx to the acid leads to increased tonicity of the upper esophageal sphincter.

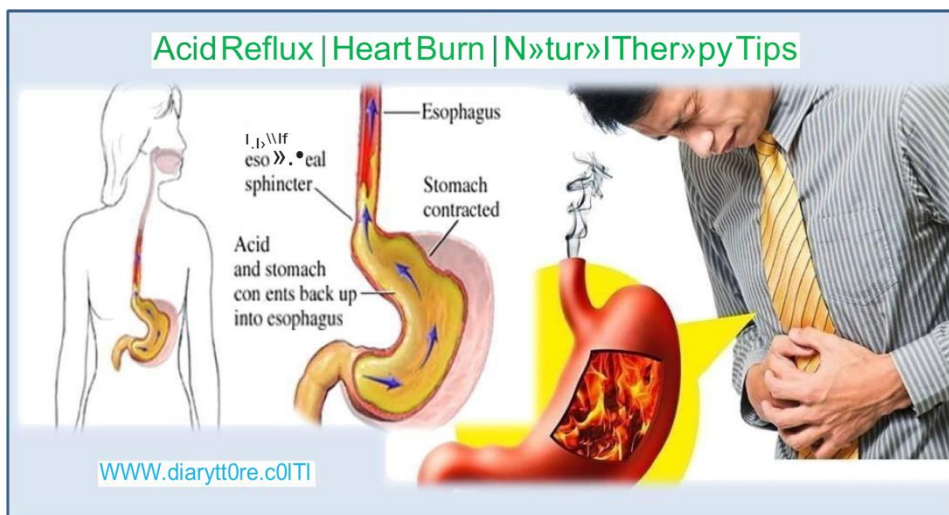
(UES).¹⁴ Furthermore, acid reflux may trigger bronchospasm, which can exacerbate underlying asthma, thereby leading to coughing, dyspnea, and wheezing.

15. Some GERD patients may also experience chronic nausea and vomiting.

It is very important to screen patients for alarm symptoms associated with GERD as these should prompt endoscopic evaluation. Alarm symptoms may suggest that it is a possible underlying malignancy. Upper endoscopy is not required in the presence of the typical GERD symptoms. However, endoscopy is recommended in the presence of alarm symptoms and for screening of the patients at high risk for the complications (i.e. Barrett's esophagus, including those with chronic and/or frequent symptoms, age > 50 years, Caucasian race, and central obesity). Alarm symptoms include dysphagia (difficulty swallowing) and odynophagia (painful swallowing), which may represent the presence of complications such as strictures, ulceration, and/or malignancy. Other alarm signs and symptoms include, but are not limited to, anemia, bleeding, and weight loss.

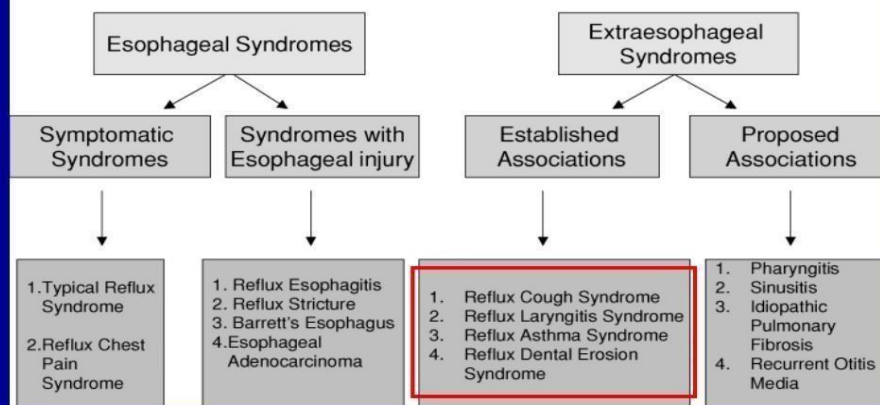
16. GERD symptoms should be considered that they are distinct from dyspepsia. Dyspepsia is defined as epigastric discomfort, without heartburn or acid regurgitation, lasting longer than one month. It can be associated with bloating/epigastric fullness, belching, nausea, and vomiting. Dyspepsia is an entity that may be managed differently from the GERD and may prompt endoscopic evaluation, as well as the testing for H. Pylori.²⁰

ESOPHAGEAL	EXTRAESOPHAGEAL
- Heartburn	-Cough
-Dysphagia	-Wheezing
-Odynophagia	-Hoarseness
-Regurgitation	-Sore throat
-belching	-Epigastric sensation



Montreal Classification of GERD

GERD is a condition which develops when the reflux of gastric content causes troublesome symptoms or complications



COMPLICATIONS

Left untreated, the GERD can result in several serious complications, including esophagitis and Barrett's esophagus. Presence of columnar epithelium above the gastroesophageal junction associated with adenocarcinoma of the esophagus. Esophagitis can vary widely in severity with severe cases resulting in extensive erosions, ulcerations, and narrowing of the esophagus.¹⁷In the anemia from chronic low-grade bleeding of inflamed mucosa in patients with severe reflux esophagitis. Esophagitis may also lead to gastrointestinal (GI) bleeding, upper GI bleeding may be present as anemia, hematemesis, coffee-ground emesis, melena, and when especially brisk, hematochezia. Chronic esophageal inflammation from the ongoing acid exposure may also lead to scarring and the development of peptic strictures, usually by presenting with the chief complaint of dysphagia.

17. Patients with persistent acid reflux may be at the risk for Barrett's esophagus, defined as intestinal metaplasia of the esophagus. In Barrett's esophagus, the normal squamous cell epithelium of the esophagus is replaced by columnar epithelium with the goblet cells, as a response to the acid exposure.

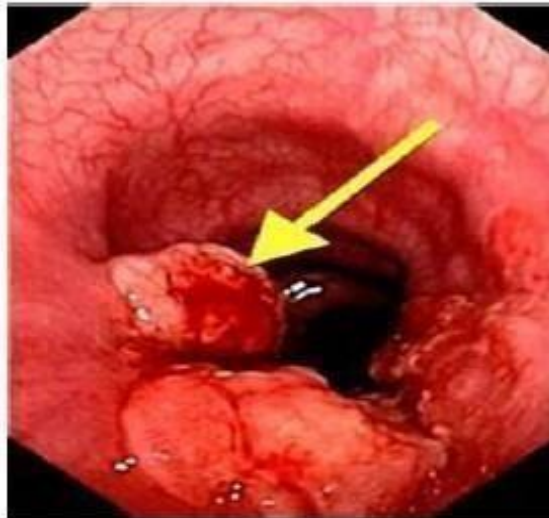
18. Changes of Barrett's esophagus may be extended proximally from the gastroesophageal junction (GEJ) and have the potential to progress to esophageal adenocarcinoma, making the early detection are very important in the prevention and management of malignant transformation.

19. DIAGNOSIS

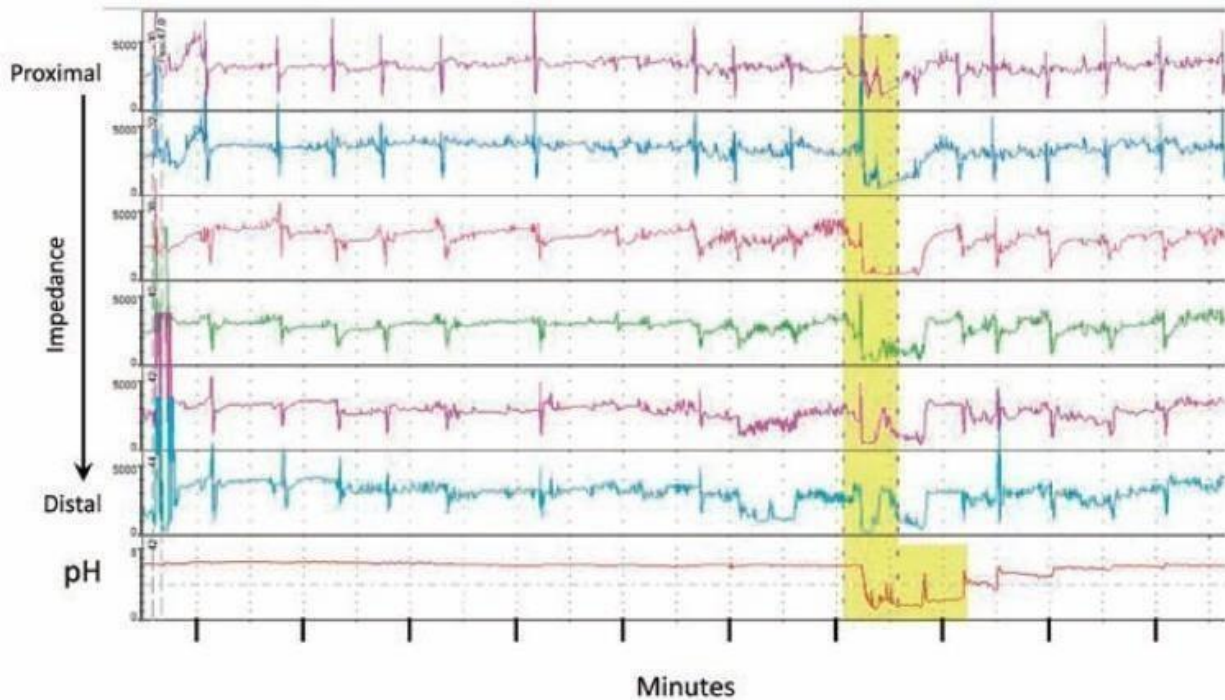
GERD is usually diagnosed clinically with classic symptoms and return to acid suppression. Heartburn with or without regurgitation is typically sufficient to the suspect of GERD, particularly the response to acid suppressions as well as the objective testing with the upper endoscopy and esophageal monitoring for ex the combination of moderate to severe typical symptoms and endoscopic changes are highly specific (97%) for GERD.

20. The beginning of the treatment with the histamine type 2 (H₂) receptor blockers or proton pump inhibitors (PPIs) with the following ending of the symptoms is considered as diagnostic. In patients, who are responding to the empiric treatment, in the absence of the alarm features or the symptoms, no further workup is required.

21. In some patients, reflux symptoms will persist despite treatment with high-dose PPIs. Additional tests may be warranted to evaluate for other causes of their symptoms and to screen for the possible complications of the GERD. It is important to note that the severity of the reflux symptoms does not necessarily correlate with the extent of mucosal damage. The most utilized diagnostic test for the evaluation of GERD and its possible complications is the uppermost gastrointestinal endoscopy, or esophagogastroduodenoscopy (EGD). The primary benefit of the endoscopy is direct visualization of the esophageal mucosa. This assists in the diagnosis of the complications of GERD such as esophagitis, strictures, and Barrett's esophagus. One endoscopic grading system of the GERD severity is the Los Angeles classification, graded from A to D, with D being the most severe (Figure1).



Ambulatory pH monitoring is considered the gold standard in the diagnosis of acid reflux.



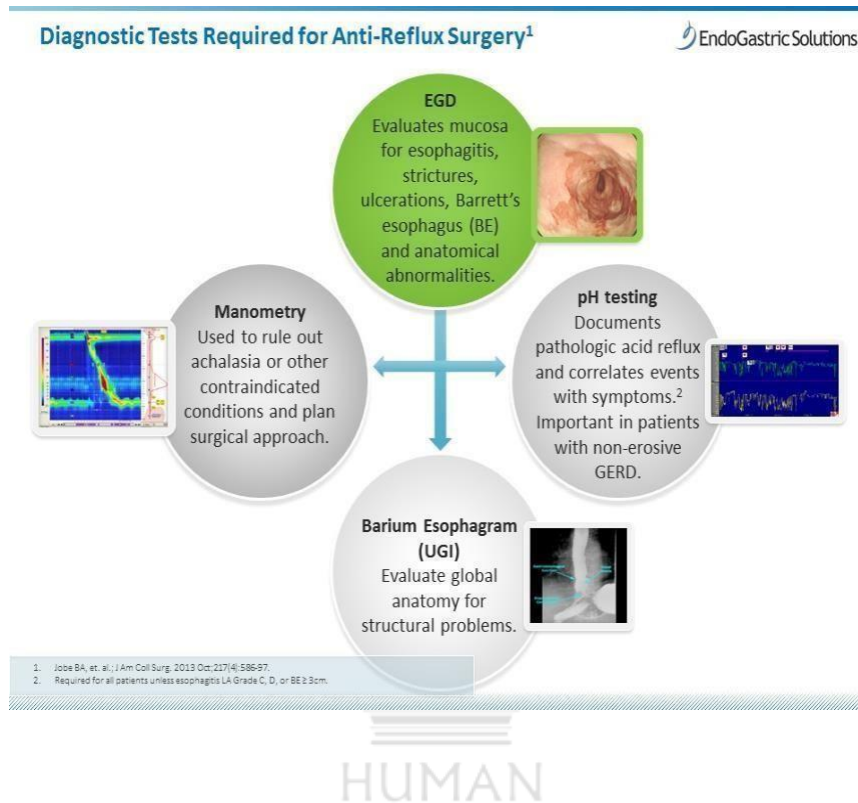
22. Nomadic pH monitoring is considered for the objective finding of the acid reflux events and the associations with the symptoms (Figure2). the uncomplicated GERD may be diagnosed on the patient history of typical symptoms. It is particularly helpful in symptomatic patients with normal endoscopic findings. Ambulatory pH testing can be done with good reproducibility (84– 93%), sensitivity (96%), and specificity (96%).

23. For the ambulatory Absence of the endoscopic features does not exclude a GERD decision. The endoscopy can visualize inflammation, lesions erosions. It has the most benefit of exposing the dynamic changes in the pH while upright and recumbent. Moreover, the pH probes record the number of reflux events, the proximal extent of reflux, as well as the duration of the reflux events. The Symptom connection is also noted between the reflux and the symptoms. This test can be performed on the basis of on or off PPI therapy.

While it has some uses in assessing patients with dysphagia, the barium esophagram has a deficient screening test for GERD. It has very poor sensitivity (26%) and specificity (50%) for gentle esophagitis compared to the endoscopy. Reflux of the barium often does not correspond well with reflux of acid in symptomatic patients, and in up to 20% of cases is positive in normal individuals.

16. Sensitivity can be better by using the maneuvers to the illicit reflux such as coughing, Valsalva, and rolling from the supine to the right lateral position.

26 Fluoroscopic barium has the testing better yield in the determination of acute esophagitis, peptic strictures, and hiatal hernia. However, even for this manifestation it still takes a relatively poor sensitivity and specificity for the determination of acid reflux in comparison to the ambulatory pH testing. Therefore, the biopsy can confirm the diagnosis of GERD.¹⁶



TREATMENT

GERD patients should be estimated for the alarm features, as it should cause urgent endoscopic evaluation. If no alarm symptoms exist in the initial management of GERD should be regulated toward lifestyle modification. However, it is important to note that the seniority of studies on the lifestyle and in the dietary changes of GERD has not been well powered. Nevertheless, the lifestyle alters and remains first-line management of the GERD with the main goal of symptom reduction and development in the quality of life.^{27,28}

The only demonstration of lifestyle modification for the management of GERD patients should be guessed for the alarm arrival, like these, it should give rise to fast endoscopic evaluation. If no alarm symptoms are present, the opening of the management of the GERD should be balanced toward lifestyle modification.

However, it is important to note that the majority of studies on lifestyle and dietary changes in GERD have not been well powered. Nevertheless, the lifestyles alter in the first-line

management of the GERD with a main goal of the symptom reduction and for the development in the quality head of the bed (HOB) elevation.

29. The weight should be reduced if it has an overweight problem. In addition, is it advised that factors contributing to the occurrence of TLESRs should also be decreased or else avoided? These include smoking, heavy alcohol depletion, large evening meals, nighttime snacks, and high dietary fat intake.

27. Weight loss is strongly uplift in the overweight of GERD patients, but there is no archive benefit in those with normal weight.

30. Although obesity is the riskiest factor for GERD, most bariatric surgeries exacerbate reflux. Additionally, all patients with GERD should avoid non-steroidal anti-inflammatory drugs (NSAIDs) because of their role in disrupting physiologic mucosal protection mechanisms.

Many patients with heartburn try over-the-counter antacids prior to seeking medical attention. The main acid-suppressive medications should include H₂ blockers and proton pump inhibitors. H₂ blockers decrease gastric excretion by impeding the histamine stimulation of the parietal cell. Proton pump inhibitors work to decrease the amount of acid excreted from parietal cells into the gastric lumen. H₂ blockers have been shown to have some symptomatic benefit above the place, but for individuals without contraindication, PPIs are the most constructive therapy.³² There is no clear role for prokinetic agents, such as metoclopramide, in the treatment of GERD.¹⁶

Proton pump inhibitors are the most potent class of antacid medications. They are dosed once or twice daily and are most successful if taken 30 to 60 minutes in advance to meals. Many patients will have restored symptoms after the cessation of PPI, therefore lifelong therapy is often required. ¹⁶ Recently, there has been a rise in the concern of PPIs participating in the development of bone fractures, electrolyte deficiencies, infections (e.g., *Clostridium difficile*, pneumonia), and renal insufficiency.^{33,34} Given the theoretical risk the side effect from PPI therapy, the smallest dose are required for maintenance and it should be used and periodic trials of weaning should be attempted.³³

In GERD patients the stubborn to twice daily PPI dosing, there is some verification to show that adding a nighttime H₂ blocker can be beneficial.^{16,35} In refractory cases, other disorders should be examined, notably: eosinophilic esophagitis, pill esophagitis, retard gastric

emptying, duodenogastric/bile reflux, irritable bowel syndrome, psychological disorders, achalasia, and Zollinger-Ellison syndrome.³⁶

AGENT	EQUIVALENT DOSES	DOSAGE
Esomeprazole	40mg daily	20-40mg daily
Omeprazole	20mg daily	20mg daily
Lansoprazole	30mg daily	15-10mg daily
Pantoprazole	40mg daily	40mg daily
Rabeprazole □H2RAs v/s PPIs	20mg daily	20mg daily
-12weeks is freedom from the symptoms		

.48% vs 77%

-speed of healing

.6%/wk. vs 12%/wk.



SUMMARY

Gastroesophageal reflux disease (GERD) is the most common clinical problem, and they are commonly by both chronic and acute symptoms.

GERD is a common clinical problem with remarkable morbidity and potentially reduced quality of life. Early recognition of symptoms is integral to preventing complications of GERD. Behavioral changes and advances in acid suppression remain integral to its treatment.

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