

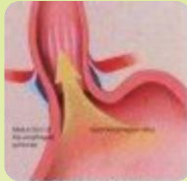
Ranitak & GERD

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Definition



Is defined as chronic symptoms or mucosal damage produced by the abnormal reflux of gastric contents into the esophagus.

This is commonly due to transient or permanent changes in the barrier between the esophagus and the stomach. This can be due to incompetence of the lower esophageal sphincter (LES), transient LES relaxation, impaired expulsion of gastric reflux from the esophagus, or association with a hiatal hernia.

Symptoms

Adults

a. **Heartburn** (burning discomfort behind the breastbone (sternum)).

b. **Esophagitis** (reflux esophagitis) (Inflammatory changes in the esophageal lining (mucosa))

c. **Dysphagia** (Difficulty swallowing), and chronic chest pain.

Atypical symptoms of GERD include **cough**, hoarseness, changes of the voice, chronic ear ache, acute sharp chest pains, or **sinusitis**.

Children

GERD in children may cause repeated vomiting, effortless spitting up, coughing, and other respiratory problems. Inconsolable crying, failure to gain adequate weight, refusing food and bad breath are also common.

Children may have one symptom or many — no single symptom is universally present in all children with GERD.

It is estimated that of the approximately 8 million babies born in the U.S. each year, upwards of 35% of them may have difficulties with reflux in the first few months of their life.



Babies' Immature digestive systems are usually the cause, and most infants stop having acid reflux by the time they reach their first birthday, a small but significant number of them will not outgrow the condition.

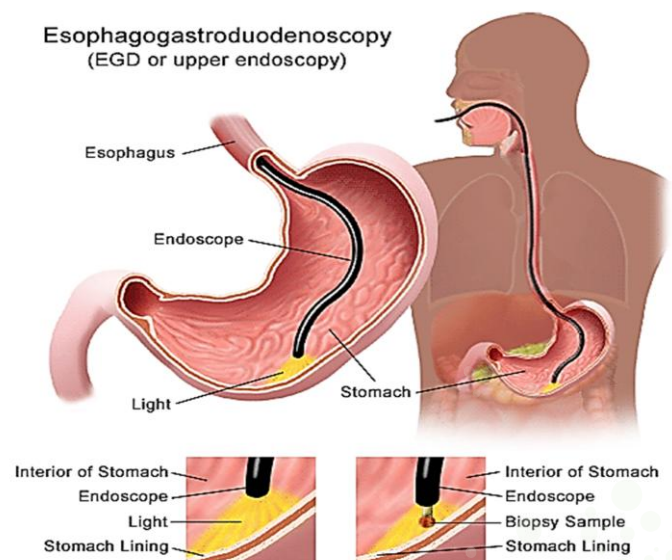
Diagnosis

A detailed history taking is vital to the diagnosis:

► Useful investigations may include barium swallow X-rays, esophageal manometer, 24 hour esophageal pH monitoring and Esophagogastroduodenoscopy (EGD)*.

In general, an EGD is done when the patient does not respond well to treatment, or has alarm symptoms including: dysphagia, anemia, blood in the stool (detected chemically), wheezing, weight loss, or changes in the voice. Some physicians advocate once in a lifetime endoscopy for patients with longstanding GERD, to evaluate for the presence of Barrett's esophagus, a precursor lesion for esophageal adenocarcinoma.

Esophagogastroduodenoscopy (EGD or upper endoscopy)



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- ▶ Biopsies can be performed during gastroscopy and these may show Edema and basal hyperplasia (non-specific inflammatory changes)
- ▶ Neutrophil inflammation (usually either reflux or Helicobacter gastritis)
- ▶ Elongation of the papillae
- ▶ Lymphocytic inflammation (non-specific)
- ▶ Thinning of the squamous cell layer
- ▶ Eosinophilia inflammation (usually due to reflux)
- ▶ Carcinoma
- ▶ Dysplasia or pre-cancer
- ▶ Goblet cell intestinal metaplasia or Barrett's esophagus

Pathophysiology

Having GERD indicates incompetence of the lower esophageal sphincter. Increased acidity or production of gastric acid can contribute to the problem, as can obesity, tight-fitting clothes and pregnancy. It is also thought that yeast infections of the digestive tract can cause GERD-like symptoms. Another paradoxical cause of GERD-like symptoms is not enough stomach acid (hypochlorhydria).

The valve that empties the stomach into the intestines is triggered by acidity. If there is not enough acid, this valve does not open and the stomach contents are churned up into the esophagus. There is still enough acidity to cause irritation to the esophagus.

Scleroderma and systemic sclerosis, which can feature esophageal dysmotility.

Factors that can contribute to GERD are Hiatus hernia, which increases the likelihood of GERD due to mechanical and motility factors.

Zollinger-Ellison syndrome, which can be present with increased gastric acidity due to gastrin production.

Hypercalcemia, which can increase gastrin production, leading to increased acidity.

Treatment

The rubric "**life style modifications**" is the term physicians use when recommending non-pharmaceutical treatments for GERD .

A 2006 review suggested that evidence for most dietary interventions is anecdotal; only weight loss and elevating the head of the bed.

Foods

Certain foods and lifestyle are considered to promote gastro-esophageal reflux:

▶ Coffee, alcohol, calcium supplements, and excessive amounts of Vitamin C supplements are stimulants of gastric acid secretion. Taking these before bedtime especially can promote evening reflux. Calcium containing antacids are in this group.

▶ Foods high in fats and smoking reduce lower esophageal sphincter competence, so avoiding these tends to help, as well. Fat also delays emptying of the stomach.

▶ Having more but smaller meals also reduces the risk of GERD, as it means there is less food in the stomach at any one time.

So; Avoid:

- ▶ Spicy foods
- ▶ Eating for 2 hours before bedtime
- ▶ Soft drinks that contain caffeine
- ▶ Chocolate and peppermint
- ▶ Acidic foods like oranges and tomatoes (okay when fresh.)
- ▶ Cruciferous vegetables: onions, cabbage, cauliflower, broccoli, Brussel sprouts
- ▶ milk and milk-based products contain calcium and fat, so should be avoided before bedtime.
- ▶ Food for 2 hours before bedtime and not lying down after a meal are frequently recommended lifestyle modifications.

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Positional therapy

Elevation to the head of the bed is the next-easiest to implement. If one implements pharmacologic therapy in combination with food avoidance before bedtime and elevation of the head of the bed over 95% of patients will have complete relief. Additional conservative measures can be considered if there is incomplete relief. Another approach is to advise all conservative measures to maximize response.



The height of the elevation is critical and must be at a minimum of 6 to 8 inches (15 to 20 cm) in order to be at least minimally effective in hindering the backflow of gastric fluids. It should be noted that some innerspring mattresses do not work well when inclined and tend to cause back pain thus foam based mattresses are to be preferred. Moreover, some use higher degrees of incline than provided by the commonly suggested 6 to 8 inches (15 to 20 cm) and claim greater success.

Drug Treatment

A number of drugs are registered for the treatment of GERD, and they are among the most-often-prescribed forms of medication in most Western countries. They can be used in combination with other drugs, although some antacids can impede the function of other medications:

Antacids before meals or symptomatically after symptoms begin can reduce gastric acidity (increase the pH). Alginic acid may coat the mucosa as well as increase the pH and decrease reflux.

Gastric H₂ receptor blockers such as ranitidine e.g. **Ranitak** or famotidine e.g. **Famotak** can reduce gastric secretion of acid. These drugs are technically antihistamines. They relieve complaints in about 50% of all GERD patients.

Proton pump inhibitors such as omeprazole e.g. **Omepak** are the most effective in reducing gastric acid secretion, as they stop the secretion of acid at the source of acid production, i.e. the proton pump. To maximize effectiveness of this medication the drug should be taken a half hour before meals.

Prokinetics strengthen the LES and speed up gastric emptying. Cisapride, a member of this class, was withdrawn from the market for causing Long QT syndrome.

Ranitak

► Duodenal and Gastric ulcers:

Treatment : oral 150 mg Twice Daily or 300 mg at bed time for at least 4 - 6 weeks

Maintenance : Oral 150 mg at bed time for more than one year if required.

► Gastro- Esophageal Reflux:

Treatment : Oral 150 mg twice daily for not more than 6 weeks.

► Gastric Hypersecretory Syndrome :

Zollinger Ellison Syndrome, Systemic Mastocytosis, Multiple Endocrine Adenomas
Treatment : Oral 150 mg Twice / 3 times & may be increased up to 6 gms daily in severe cases.

► **Upper Gastrointestinal stress - induced ulceration & bleeding** : Treatment & prophylaxis : Oral 150 mg Twice daily, or parental therapy may be used.

► Aspiration Syndrome :

Prophylaxis : Oral 150 mg may be given 2 hours before the induction of anesthesia or at the start of labour to reduce the danger of aspiration of acidic gastric contents & may be repeated at intervals of 6 hours if required.