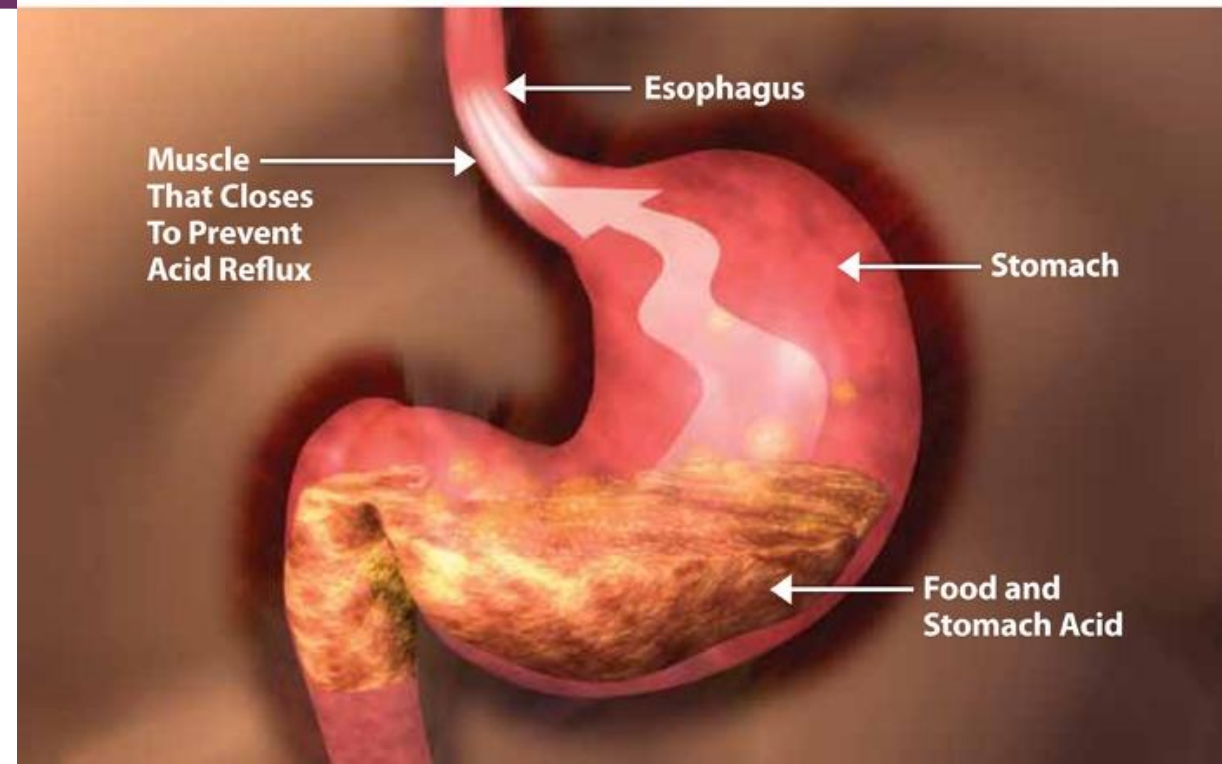


Gastroesophageal Reflux Disease

Overview and management

Introduction

- ▶ The American College of Gastroenterology (ACG) guidelines defines GERD as “symptoms or complications resulting from the reflux of gastric contents into the esophagus or beyond, into the oral cavity (including larynx) or lung.¹
- ▶ GERD is a sensorimotor disorder associated with impairment of the normal antireflux mechanisms with changes in normal physiology or, very rarely, excess gastric acid secretion (eg. Zollinger-Ellison syndrome) .²



1. Sandhu DS et al. Gut and Liver.2018;12(1) : 7-16
2. Hunt R et al. J Clin Gastroenterol . 2017; 51(6):467-478

Prevalence of GERD by age group

- Over the last decade, there has been a significant increase in the proportion of younger patients with GERD, especially those within the age

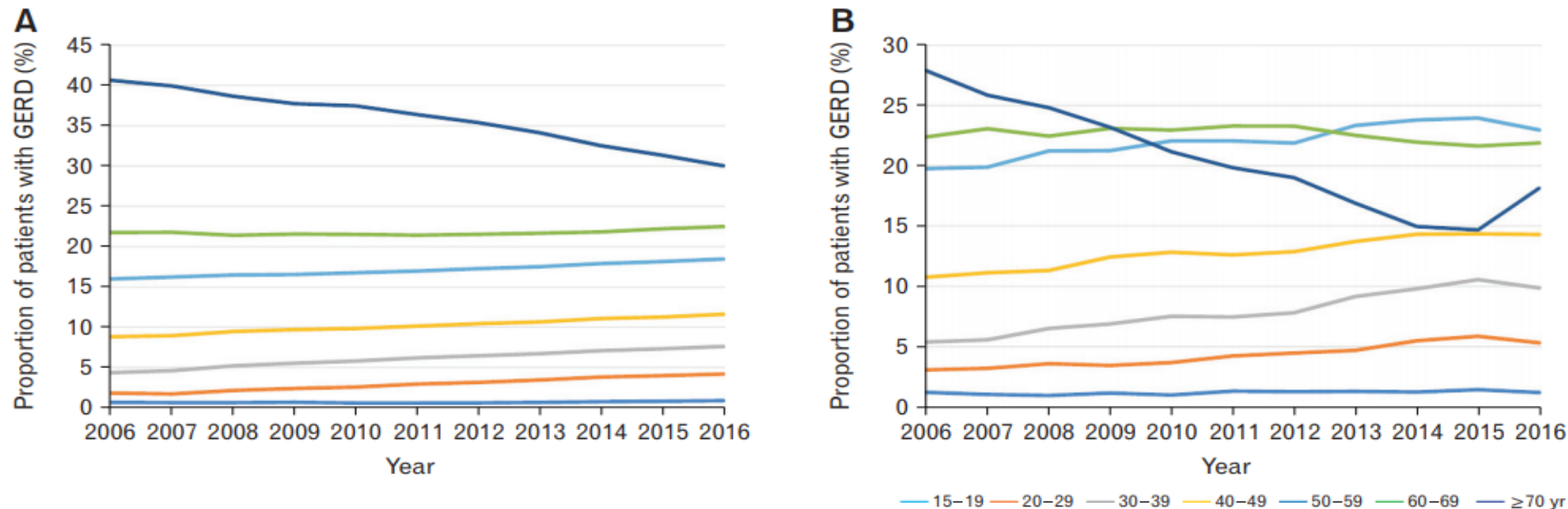


Figure The proportion of patients with gastroesophageal reflux disease (GERD) by age group between 2006 and 2016 using universal Explorys dataset (A) and Healthcare system dataset (B).

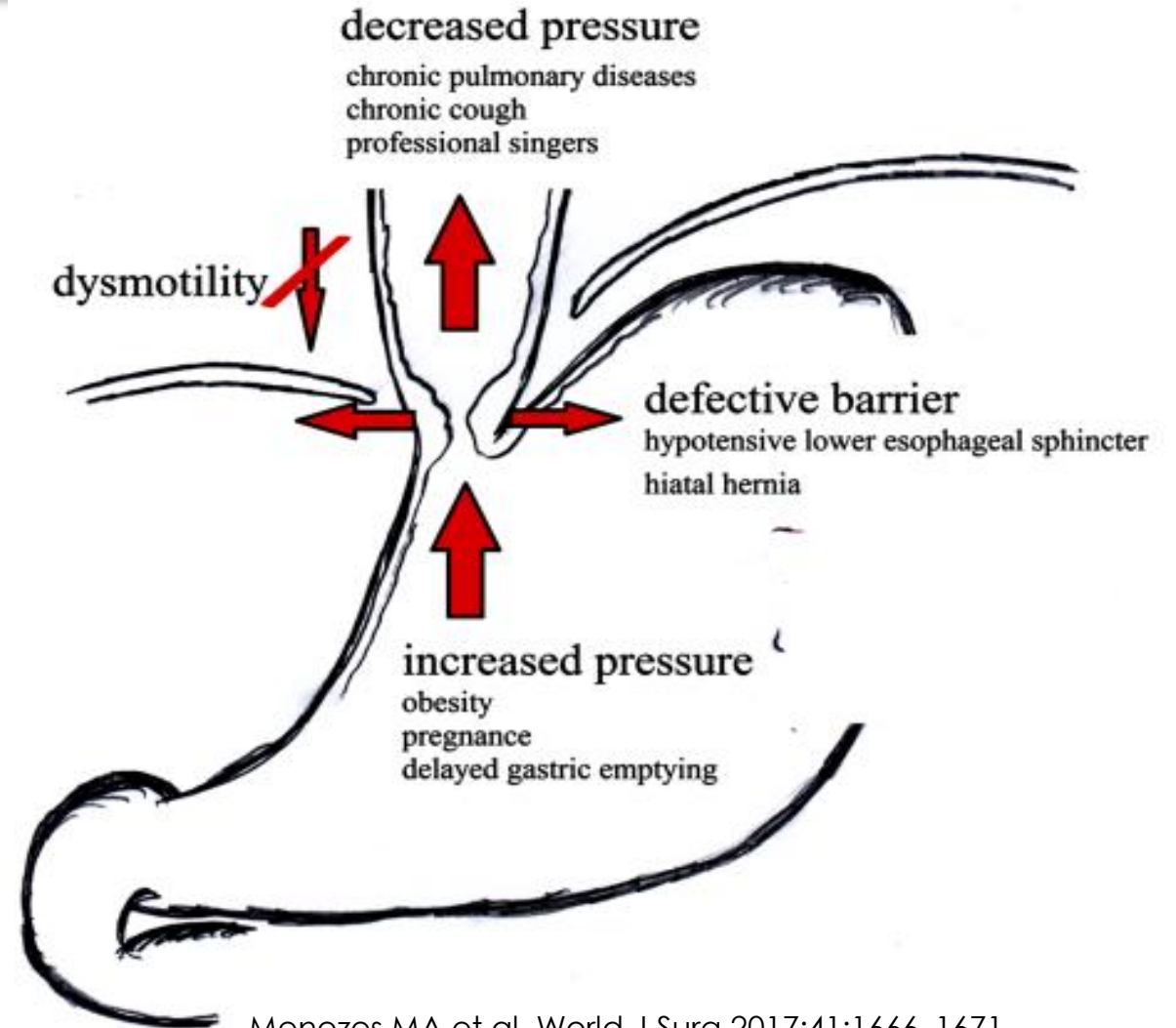
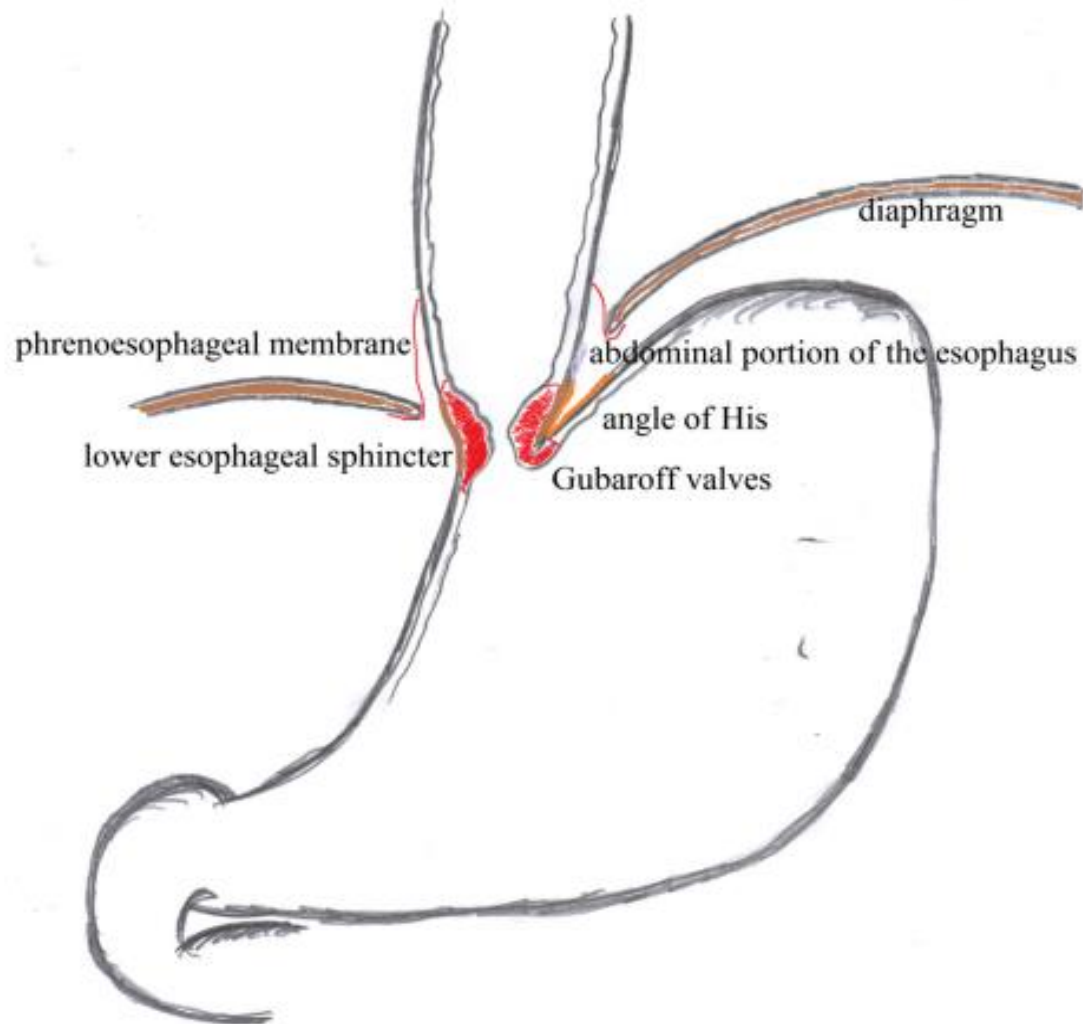
Prevalence of GERD in india

- ▶ Prevalence of GERD in India is 39.2 %.¹
- ▶ Male and female are equally affected by GERD, whereas esophagitis and barrett's esophagus are predominant in male gender.²

1) Rai RR et al. Int J Basic Clin Pharmacol. 2017 ;6(1):194-202

2) Anshuman S et al. Int Surg J. 2019 ;6(4):1153-1158

Natural versus GERD mechanism



Pathophysiology

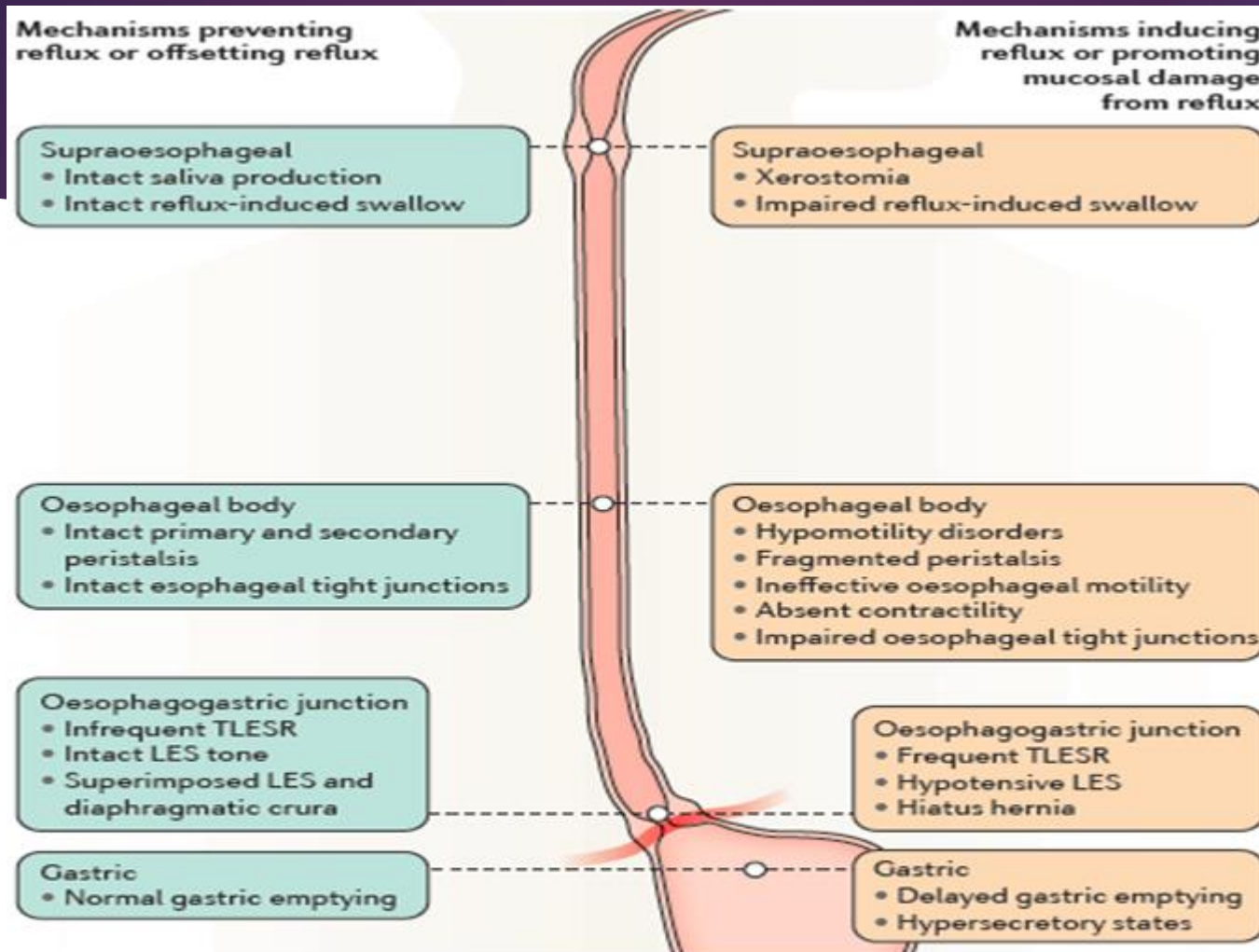


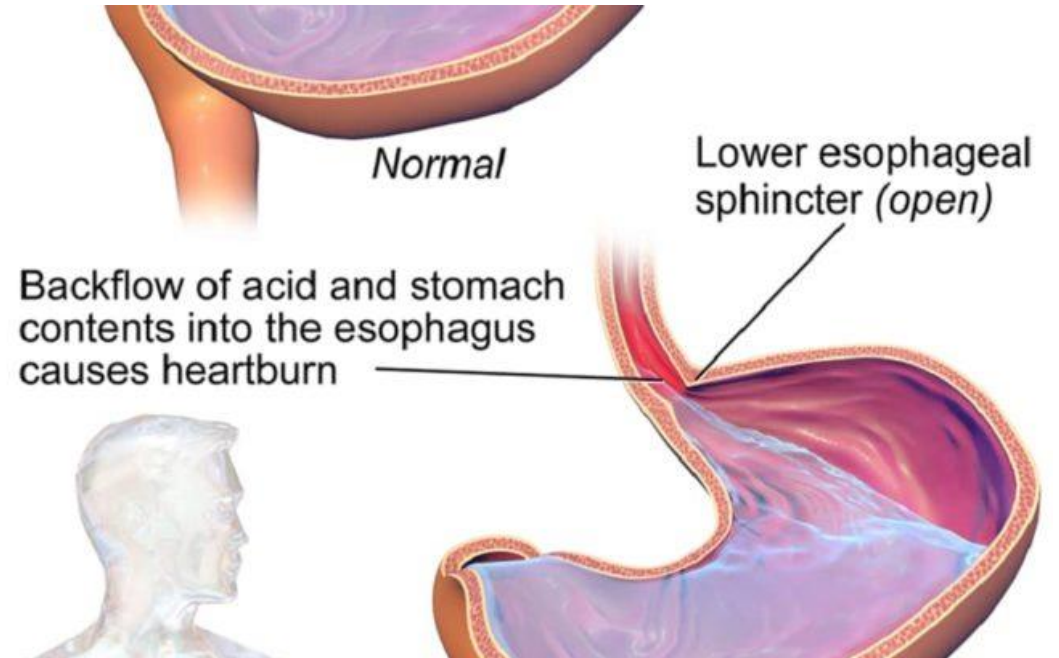
Figure 1 Pathophysiology of GERD at the oesophagogastric junction and oesophageal body. The left side describes mechanisms preventing or off-setting gastro-oesophageal reflux, whereas the right side elaborates mechanisms inducing gastro-oesophageal reflux or promoting mucosal damage from reflux. LES, lower oesophageal sphincter; TLESR, transient lower oesophageal sphincter relaxation.

American college of Gastroenterology - Classification

- 1) GERD symptoms without erosions on endoscopic examination (nonerosive disease or NERD)
- 2) GERD symptoms with erosions present –Erosive Disease (ERD)

Clinical presentation of GERD – common symptoms

- ▶ **Heartburn**
- ▶ **Acid regurgitation**
- ▶ **Burning sensation:** in the retrosternal area, radiating toward the neck, throat and occasionally the back.



Less common symptoms

- ▶ Less-common symptoms of GERD include dysphagia, chest pain, water brash, odynophagia, burping, hiccups, nausea, and vomiting.¹
- ▶ Atypical presentations are cough, laryngitis, asthma and dental erosion syndromes.²

1) Richter JE et al. Gastroenterology. 2018 ;154(2):267-276.

2) Pandit S et al. Pathophysiology. 2018 ;25(1):1-11

Conditions mimicking GERD

Condition	Manifestations	Evaluation	Characteristic findings on oesophageal function tests
Achalasia	Dysphagia, regurgitation of ingested foods, chest-pain, weight loss	Clinical history, conventional manometry, HRM, HRIM, barium radiographs	Oesophageal outflow obstruction, with or without retained oesophageal body peristalsis
Rumination syndrome	Post-prandial regurgitation of gastric content as a learned behaviour	Clinical history, conventional manometry, HRM, HRIM, pH-impedance	Simultaneous increase in pressure in intra-abdominal and thoracic cavity ('r' wave)
Supragastric and gastric belching	Air swallowing, followed by belching of air	Clinical history, HRIM, pH-impedance	Antegrade air movement followed by retrograde belching of air
Infectious oesophagitis	Dysphagia	Endoscopy with biopsies	No characteristic motor finding
Eosinophilic oesophagitis	Abnormal oesophageal wall compliance or presence of strictures with consequent dysphagia, bolus impaction and regurgitation	Clinical history, endoscopy with biopsies	No characteristic motor finding
Oesophageal diverticula	Post-prandial regurgitation of ingested foods	Clinical history, endoscopy, barium radiographs	Spastic features distal to diverticula, oesophageal outflow obstruction
Functional oesophageal syndromes	Any oesophageal symptom, including heartburn, chest pain or dysphagia	Clinical history, endoscopy, barium radiographs, conventional manometry, HRM, HRIM, pH-impedance	Normal oesophageal function tests, or minor motor disorders on manometry

HRIM, high-resolution impedance manometry; HRM, high-resolution manometry.

Causes of GERD

- ▶ Impaired lower esophageal sphincter function, Phrenicoesophageal ligament
- ▶ Impaired esophageal peristalsis
- ▶ Increased intragastric pressure
- ▶ Increased abdominothoracic pressure gradient
- ▶ Zollinger-Ellison syndrome

Risk factors

- ▶ Hiatus hernia
- ▶ Obesity
- ▶ High fat diet
- ▶ Tobacco smoking
- ▶ Alcohol consumption
- ▶ Pregnancy
- ▶ Genetics
- ▶ Drugs -anticholinergics, smooth muscle relaxants such as Beta adrenergic agonists, Aminophylline, Nitrates, Calcium channel blockers, and phosphodiesterase inhibitors.

Alarming features in GERD

- ▶ Dysphagia ,Odynophagia
- ▶ Recurrent bronchial symptoms, aspiration pneumonia ,
- ▶ Dysphonia
- ▶ Recurrent or persistent cough
- ▶ Gastrointestinal tract bleeding
- ▶ Frequent nausea and/or vomiting
- ▶ Persistent pain
- ▶ Iron-deficiency anemia
- ▶ Progressive unintentional weight loss
- ▶ Epigastric mass

Differential Diagnosis for GERD

- ▶ Peptic ulcer disease.
- ▶ Upper GI malignancy.
- ▶ Functional heartburn—Schatzki ring, stricture—esophageal web.
- ▶ Achalasia of the cardia.
- ▶ Esophageal body motility disorders—scleroderma; diffuse esophageal spasm.
- ▶ Eosinophilic esophagitis.
- ▶ Infection—Candida, herpes simplex, etc.
- ▶ Drug induced esophagitis- like Aspirin/NSAIDs, iron, benzodiazepines, dopamine., nitrates, progesterone, theophylline.
- ▶ Cardiac disease—Hunt R et al. J Clin Gastroenterol. 2017;51(6):467-478. ischemic heart disease, pericardial disease.

Diagnostic Options for GERD

Diagnostic test	Indication	Recommendation
Empirical PPI therapy (“PPI trial”)	Classic symptoms, no alarm features. For extraesophageal GERD	A negative trial does not rule out GERD
Urea breath test or <i>Helicobacter pylori</i> stool antigen test	For uninvestigated dyspepsia, in populations in which the <i>H. pylori</i> prevalence is high (> 20%): “test-and-treat” strategy	This approach is subject to local cost-benefit considerations It should be based on a noninvasive test of active infection ³⁹ (UBT, monoclonal stool antigen test)
Endoscopy	For alarm symptoms, screening of high-risk patients, chest pain Differentiates EE from NERD Diagnoses other causes or upper gut symptoms	Consider early for elderly, those at risk for BE, noncardiac chest pain, patients unresponsive to PPI Prompt endoscopy is recommended in areas with high incidence of upper GI cancer ⁵¹
Esophageal biopsy	To exclude non-GERD causes for symptoms—for example EoE. For suspected BE (ESEM)	Not indicated for diagnosis of GERD
Gastric biopsy	For unknown <i>H. pylori</i> status in patients undergoing EGD for upper GI symptoms	Indicated for the diagnosis of unexplained, previously uninvestigated upper GI symptoms (dyspepsia) and to detect <i>H. pylori</i> infection before long-term PPI therapy. Eradicate infection if detected
Esophageal manometry	To diagnose motility disorders in endoscopy-negative patients unresponsive to PPI therapy Preoperative evaluation for surgery Location of pH probe	Not recommended for GERD diagnosis When achalasia/scleroderma is being considered Preoperative
pH or impedance pH monitoring	For atypical symptoms For PPI-refractory GERD symptoms Preoperatively, for nonerosive disease	Correlate symptoms with reflux, document abnormal acid exposure or reflux frequency
Barium swallow	For evaluation of dysphagia and occasionally for characterization of hiatal hernia	Not useful for GERD diagnosis Do not use unless evaluating for complications (stricture, ring, dysmotility)

* BE indicates Barrett esophagus; EE, erosive esophagitis; EGD, esophagogastroduodenoscopy; EoE, eosinophilic esophagitis; ESEM, endoscopic suspicion of esophageal metaplasia; GERD, gastroesophageal reflux disease; GI, gastrointestinal; NERD, nonerosive reflux disease; PPI, proton-pump inhibitors; UBT, urea breath test.

Cascades for the Diagnosis of

Resource Level	Low <i>Helicobacter pylori</i> Prevalence	High <i>H. pylori</i> Prevalence
Limited resources	1. Empirical antacid therapy + /- alginate 2. Empirical H₂RA therapy 3. PPI therapy (od) if no response 4. Consider <i>H. pylori</i> testing	1. <i>H. pylori</i> “test-and-treat” eradication therapy until confirmed cure 2. Empirical acid suppression therapy 3. PPI therapy (od) if no response
Medium resources	1. Empirical PPI therapy (od) (consider <i>H. pylori</i> testing) 2. PPI therapy (bid) if no response 3. EGD if no response to ≥ 16 wk of PPI therapy (od, bid) 4. Screening EGD for BE if white, male patient > 50 y	1. <i>H. pylori</i> “test-and-treat” eradication therapy until confirmed cure 2. PPI therapy (od) if no response 3. PPI therapy (bid) if no response 4. EGD if no response to ≥ 16 wk of PPI therapy (od, bid) 5. Screening EGD for BE if white, male patient > 50 y
High resources	1. Empirical PPI therapy (od) (consider <i>H. pylori</i> testing) 2. PPI therapy (bid) if no response 3. EGD if no response to ≥ 16 wk PPI therapy (od, bid) 4. Esophageal manometry if EGD is normal 5. pH monitoring/impedance if persistent symptoms (or antireflux surgery is possible) 6. Screening EGD for BE if patient > 50 y	1. <i>H. pylori</i> “test and treat” eradication therapy until confirmed cure 2. PPI therapy (od) if no response 3. PPI therapy (bid) if no response 4. EGD if no response to > 16 wk PPI therapy (od, bid) 5. Esophageal manometry if EGD is normal 6. pH monitoring/impedance if persistent symptoms (or antireflux surgery is possible) 7. Screening EGD for BE if patient > 50 y

BE, Barrett esophagus; bid, bis in die (twice a day); EGD, esophagogastroduodenoscopy; GERD, gastroesophageal reflux disease; H₂RA, histamine H₂-receptor antagonists; od, omni die (daily); PPI, proton-pump inhibitor.

Erosive Esophagitis

Erosive esophagitis

Risk factors:

Advanced age

Male gender

Smoking

Absence of *H. pylori*

Male gender

Hiatal hernia

Alcohol use

Los angeles classification of Erosive Esophagitis

Grade A	One or more mucosal breaks, no longer than 5 mm, none of which extends between the tops of the mucosal folds
Grade B	One or more mucosal breaks, more than 5mm long, none of which extends between the tops of 2 mucosal folds
Grade C	Mucosal breaks that extend between the tops of 2 or more mucosal folds, but which involve <75% of the esophageal circumference
Grade D	Mucosal breaks that involve at least 75% of the esophageal circumference



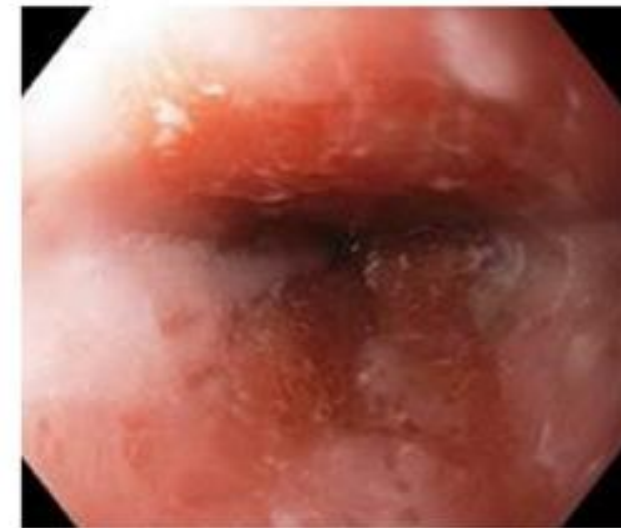
Grade A



Grade B

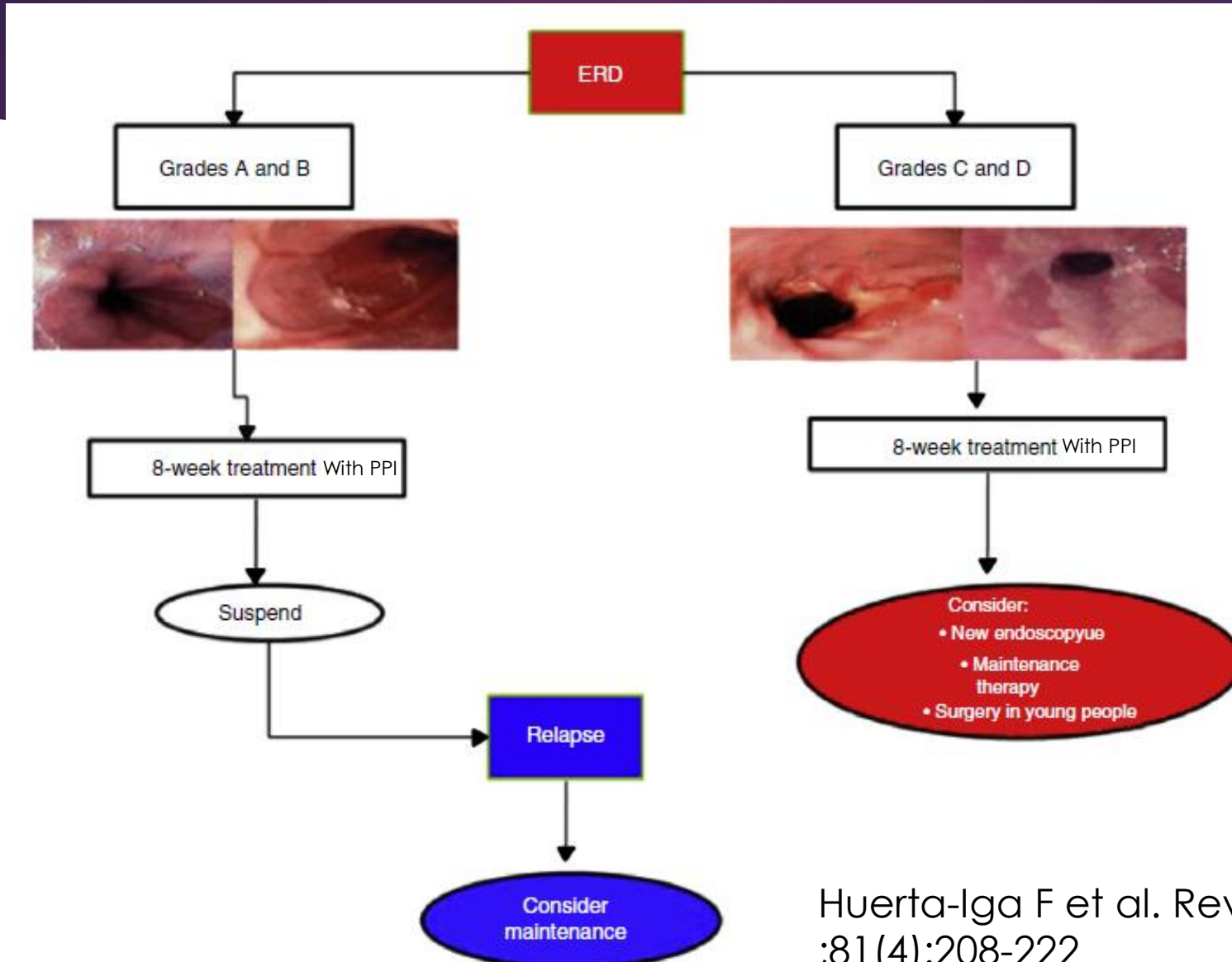


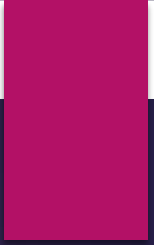
Grade C



Grade D

Erosive reflux disease management



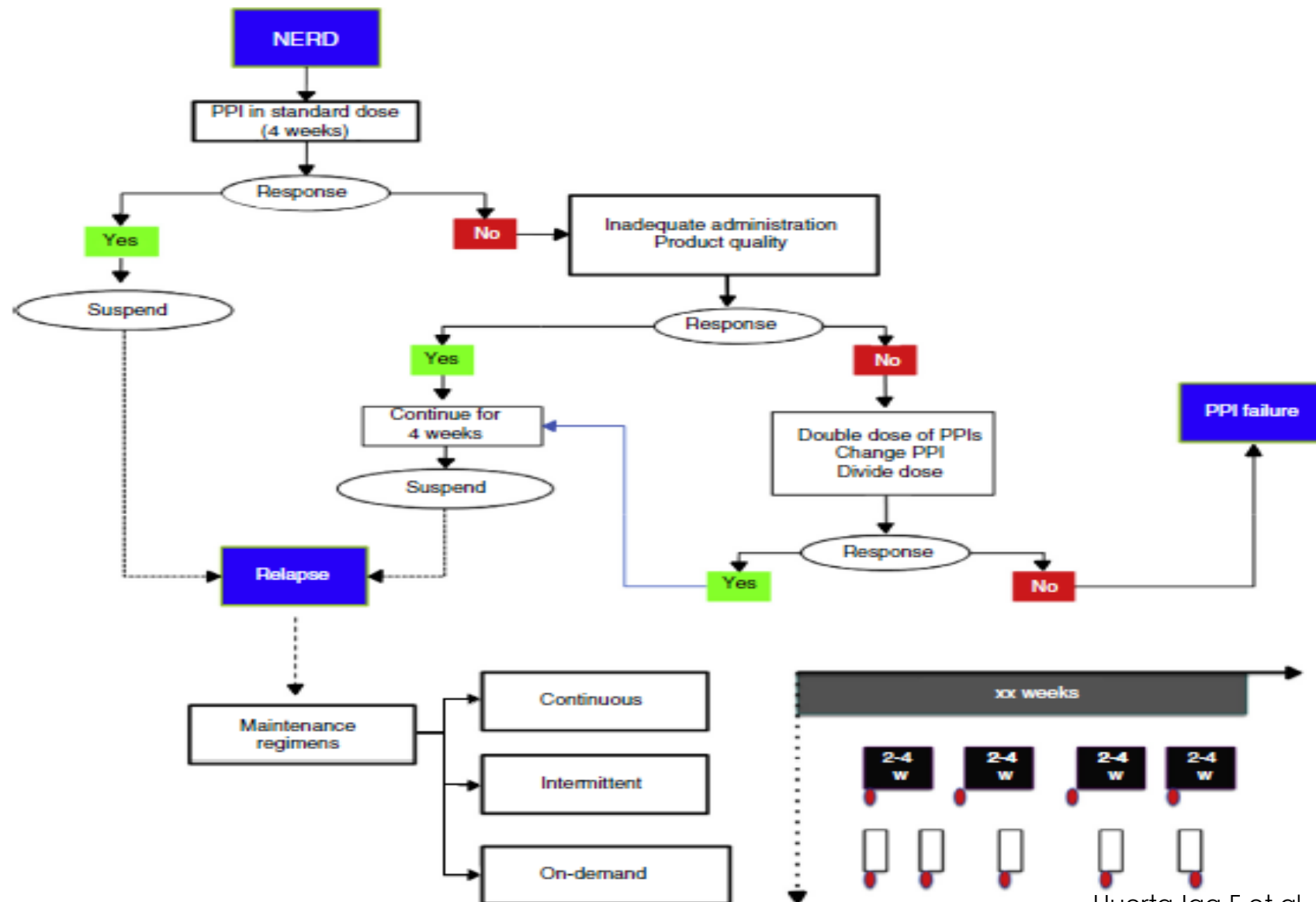


Non erosive reflux disease

Non erosive reflux disease

- ▶ NERD, the most common form of GERD with similar symptoms as other forms but does not involve endoscopic esophageal mucosal damage or erosion.
- ▶ Symptoms are heartburn, acid reflux, and other typical symptoms of reflux
- ▶ It is associated with non-esophageal symptoms, such as chronic cough, pharyngitis, precordial pain, and asthma.

Non erosive reflux disease management



Barrett's Esophagus

- ▶ Barrett's esophagus (BE) is defined by the replacement of the normal squamous epithelium of the distal esophagus with metaplastic intestinal-type columnar epithelium.
- ▶ Barrett's Esophagus is an adverse event of chronic GERD and the premalignant condition for esophageal adenocarcinoma.

Comparison of guidelines in the diagnosis of Barrett's oesophagus

Diagnostic feature	British Society of Gastroenterology, 2014	American College of Gastroenterology, 2016	International Consensus (BOBCAT), 2015
Definition	Endoscopically visible metaplastic columnar epithelial ≥ 1 cm above the GOJ plus biopsy confirmation of columnar metaplasia	Endoscopically visible metaplastic columnar epithelial ≥ 1 cm above the GOJ plus biopsy confirmation of IM	Endoscopically visible metaplastic columnar epithelial ≥ 1 cm above the GOJ, and pathologist should clearly state whether IM is present on biopsies above the GOJ
Endoscopic landmark for localizing GOJ	Proximal extent of the gastric folds	Proximal extent of the gastric folds	Proximal extent of the gastric folds
Reporting the extent of Barrett's oesophagus	Usage of Prague C&M criteria	Usage of Prague C&M criteria	Usage of Prague C&M criteria
Biopsy Protocol for suspected Barrett's oesophagus	Random 4 quadrant biopsies every 2 cm plus biopsy of visible lesions	Random 4 biopsies every 2 cm or 8 random biopsies to maximize IM yield. For suspected short segment BO where 8 biopsies is unattainable, a minimum of 4 biopsies/cm circumferential extent and 1 biopsy/cm Barrett's tongue is recommended	Random 4 quadrant biopsies every 2 cm plus biopsy of visible lesions
Normal Z line or Z line < 1 cm from GOJ	Routine biopsy not recommended	Routine biopsy not recommended	Not discussed
Confirmation of Dysplasia	Cases of suspected dysplasia need to be confirmed by a second GI pathologist	Cases of suspected dysplasia need to be confirmed by a second GI pathologist	Cases of suspected dysplasia need to be confirmed by a second GI pathologist
Use of p53 biomarker to aid dysplasia diagnosis	Should be considered as adjunct to current diagnostic tools in the diagnosis of dysplasia	Not recommended	Not recommended for routine use, but can be considered as adjunct to aid diagnosis if done in specialist centres

Management Non nodular Barrett's Esophagus

American college of gastroenterology

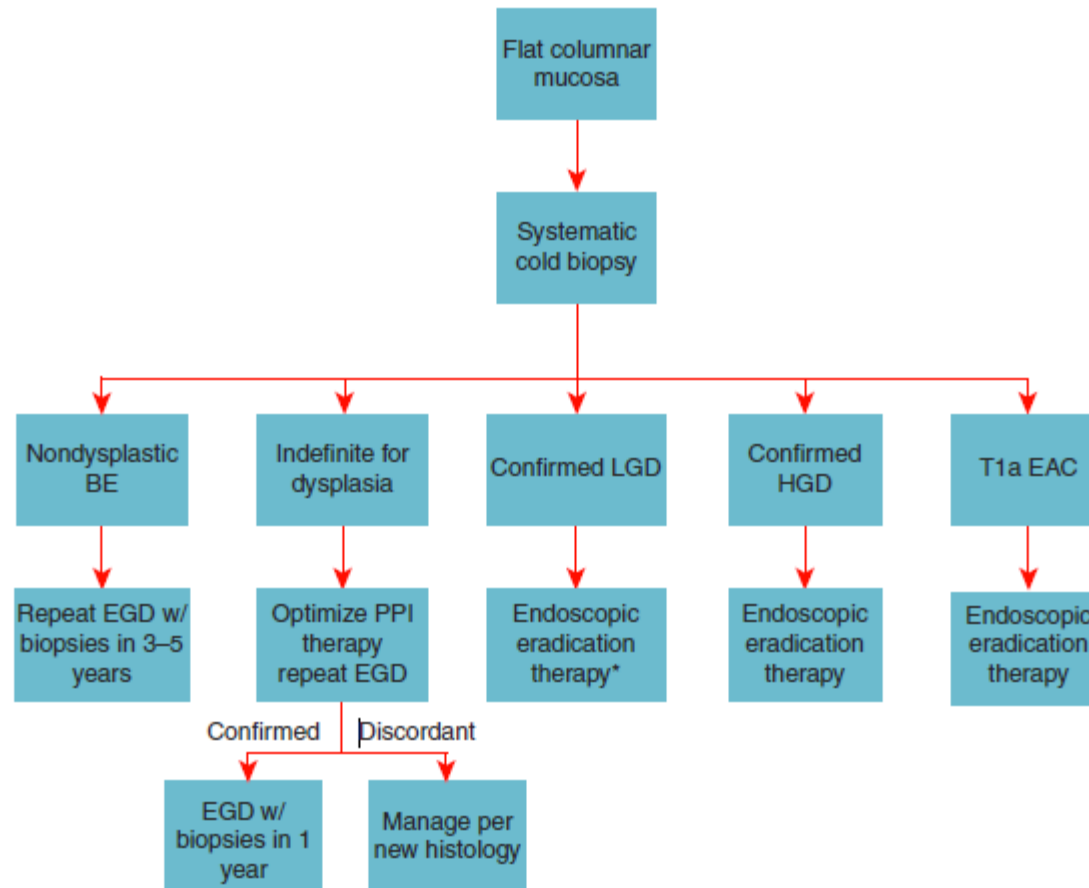


Figure Management of nonnodular Barrett's esophagus (BE). *Although endoscopic eradication therapy is associated with a decreased rate of progression, surveillance upper endoscopy at 1-year intervals is an acceptable alternative. The above schema assumes that the T1a esophageal adenocarcinoma (EAC) displays favorable characteristics for endoscopic therapy, including well-differentiated histology and lack of lymphovascular invasion. EGD, esophagogastroduodenoscopy; HGD, high-grade dysplasia; LGD, low-grade dysplasia; PPI, proton pump inhibitor.

Management of Nodular Barrett's Esophagus

American college of gastroenterology

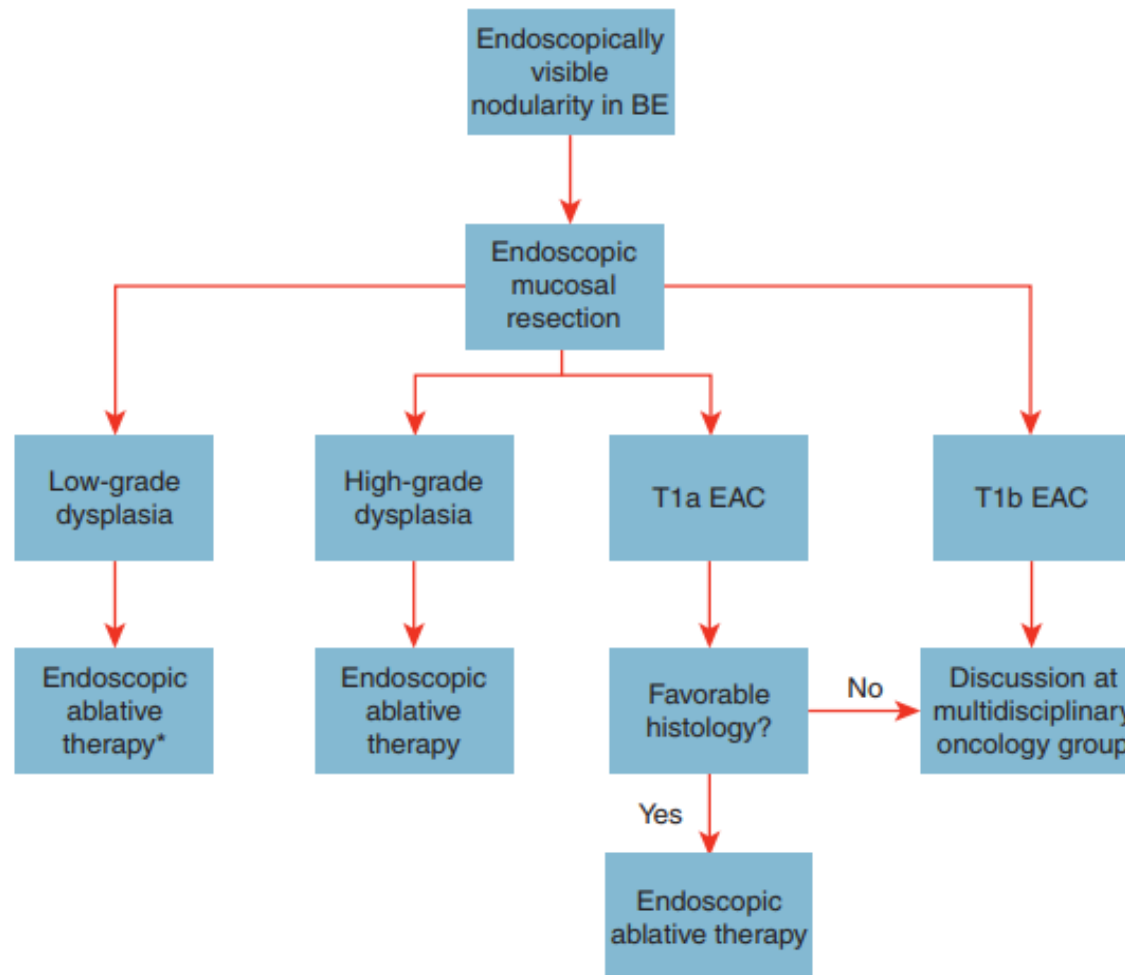


Figure . Management of nodular Barrett's esophagus (BE). *Little data exist on the clinical course of patients with low-grade dysplasia (LGD) managed by endoscopic surveillance following endoscopic mucosal resection (EMR), although this is an alternative treatment strategy. Endoscopic submucosal dissection is an alternative to EMR. Favorable histology consists of no lymphatic or vascular invasion and moderate- to well-differentiated disease. EAC, esophageal adenocarcinoma.

Treatment of GERD -World Gastroenterology Organisation Global Guidelines

Low resources

- Step-up therapy—AA, H2RA, PPI od, PPI bid— as available
- Stop therapy after 8wk to assess response
- Resume therapy, as needed, at lowest effective dose
 - a) Intermittent b) On demand
- Continuous therapy for patients with (a) frequent symptoms, (b) stricture, (c) BE (to control symptoms)
- Consider *Helicobacter pylori* “test-and-treat” for patients on continuous PPI therapy

AA indicates alginate-antacid; BE, Barrett esophagus; bid, (twice a day); GERD, gastroesophageal reflux disease; H2RA, histamine H2- receptor antagonist; PPI, proton-pump inhibitor.

Treatment of GERD -World Gastroenterology Organisation Global Guidelines

Medium Resources

- PPI od for 8-12 wk, then reassess
- PPI bid for 8-12 wk for persistent symptoms
- Switch PPIs to a modified-release PPI (effect lasting >14h/d, MR-PPI) if available (od or bid)
- Continuous therapy for patients with (a) frequent symptoms, (b) stricture, (c) BE (to control symptoms)
- Consider *H. pylori* “test-and-treat” for patients on continuous PPI therapy
- Laparoscopic antireflux surgery for structural disease (hiatus hernia) or volume reflux causing regurgitation, aspiration, stricture, or persistent nocturnal symptoms despite PPI bid

BE, Barrett esophagus; bid, (twice a day); GERD, gastroesophageal reflux disease; PPI, proton-pump inhibitor.

Hunt R et al. J Clin Gastroenterol. 2017;51(6):467-

Treatment of GERD -World Gastroenterology Organisation Global Guidelines

High resources

- MR-PPI od for 8 to 12 wk, then reassess
 - MR-PPI bid for 8 to 12wk for persistent symptoms
 - Continuous therapy for patients with (a) frequent symptoms, (b) stricture, (c) BE (to control symptoms)
 - Consider H. pylori “test-and-treat” for patients on continuous PPI therapy
 - Laparoscopic antireflux surgery for structural disease (hiatus hernia) or volume reflux causing regurgitation, aspiration, stricture, or persistent nocturnal symptoms despite PPI bid
- MR-PPI, modified-release proton-pump inhibitor; od, (once daily); PPI, proton-pump inhibitor

Proton pump inhibitors

- ▶ PPIs are membrane permeable acid-labile weak bases.
- ▶ PPIs require the active canaliculi expression of H⁺/K⁺ ATPases for binding which occurs in response to a meal.
- ▶ PPIs are effective with respect to postprandial and nocturnal intragastric pH control.

Regimens for GERD

Table Proton pump inhibitor regimens and types of doses.

Proton pump inhibitor	Standard dose	Double dose	Divided dose ^a
<i>Conventional</i>			
Omeprazole	20 mg 30 min before breakfast	20 mg 30 min before breakfast and before dinner	10 mg 30 min before breakfast and before dinner
Lansoprazole	15 mg 30 min before breakfast	15 mg 30 min before breakfast and before dinner	-
Rabeprazole	20 mg 30 min before breakfast	20 mg 30 min before breakfast and before dinner	10 mg 30 min before breakfast and before dinner
Pantoprazole	40 mg 30 min before breakfast	40 mg 30 min before breakfast and before dinner	20 mg 30 min before breakfast and before dinner
Esomeprazole	40 mg 30 min before breakfast	40 mg 30 min before breakfast and before dinner	20 mg 30 min before breakfast and before dinner

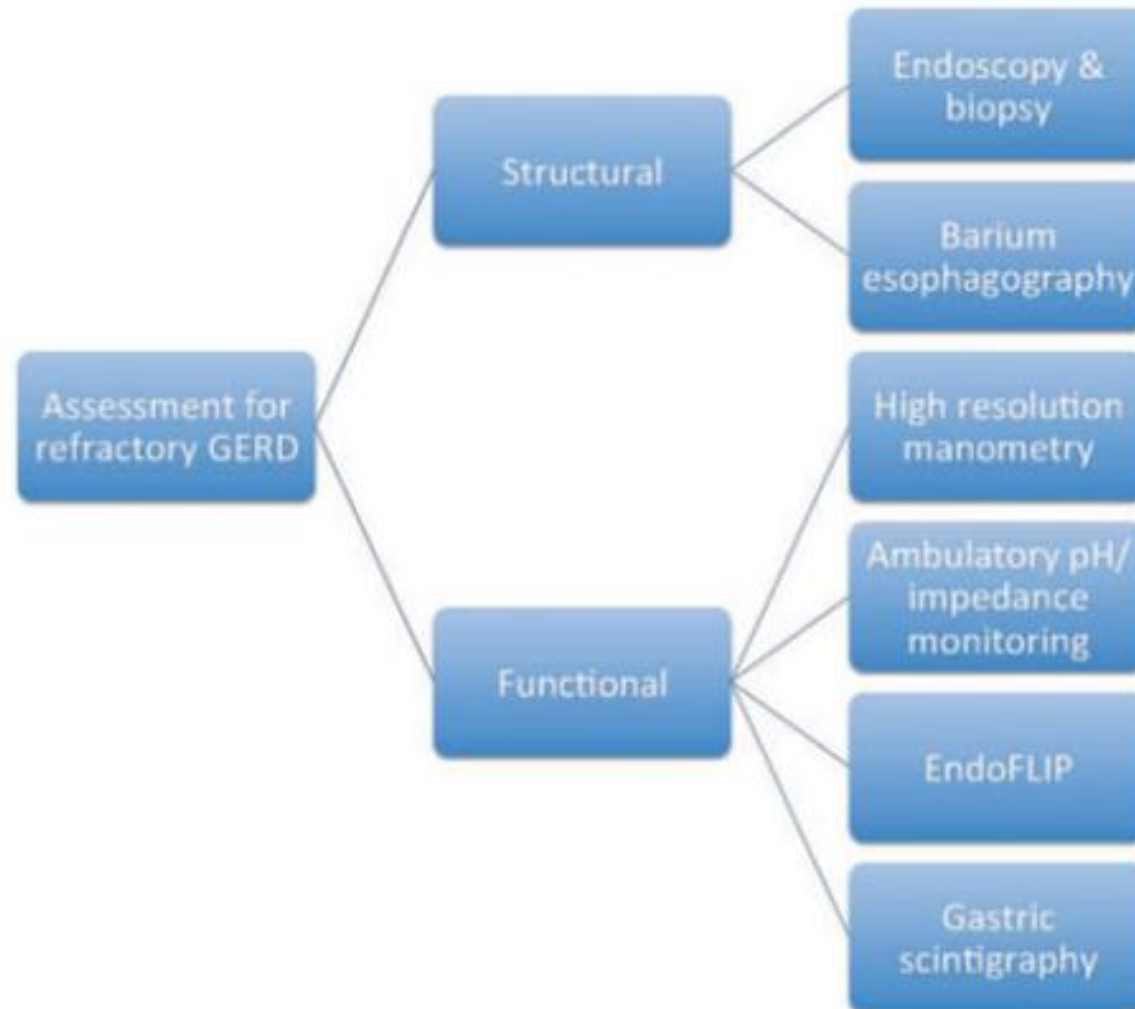
Advantages of Esomeprazole

- ▶ Esomeprazole 40mg produced significantly longer time of intragastric acid suppression maintaining PH >4 compared to other PPI's.
- ▶ Esomeprazole is effective in prevention of mucosal breaks of the oesophagus at 8 weeks, than other PPI's with lesser adverse effects.
- ▶ Greater efficacy at 4 weeks compared to Pantoprazole.
- ▶ Esomeprazole 40mg has the highest probability for heartburn relief at 4 weeks compared to other PPI's.

Refractory gastroesophageal reflux disease – Risk factors

- ▶ Increased body mass index
- ▶ Sliding hiatal hernia
- ▶ Increased frequency of gas, liquid or volume reflux
- ▶ Ineffective PPI-induced control of gastric acid secretion
- ▶ Pepsin and bile acid content of gastric juice
- ▶ Hypotensive lower esophageal sphincter
- ▶ Ineffective esophageal peristalsis
- ▶ Low post-reflux swallow-induced peristaltic wave index
- ▶ Esophageal hypersensitivity (central or peripheral)
- ▶ Ultrastructural and functional changes in the esophageal epithelium

Structural and functional assessment of GERD



Therapy for refractory GERD

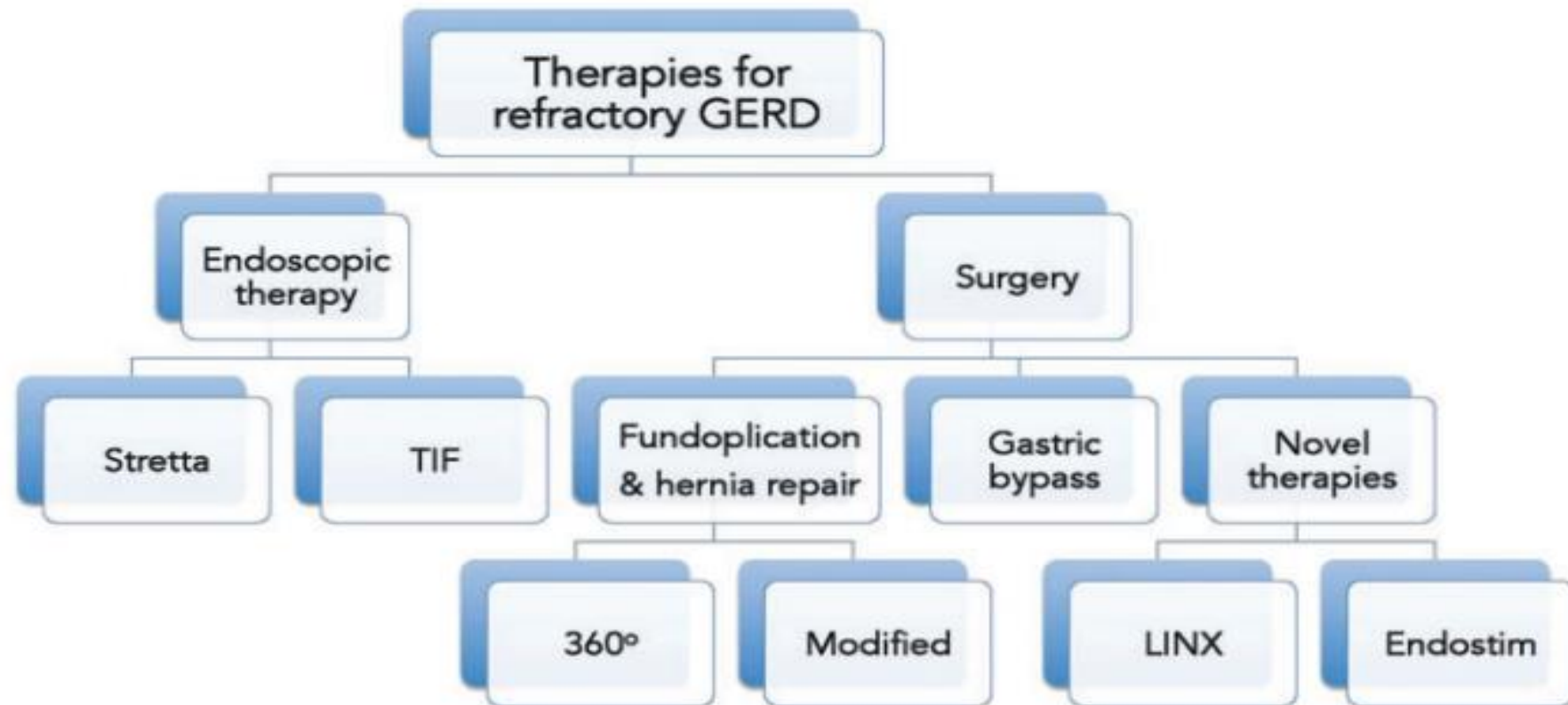


Figure Available endoscopic and surgical therapies for refractory gastroesophageal reflux disease.
TIF = transoral incisionless fundoplication.

Surgical options for GERD

- ▶ Nissen fundoplication
- ▶ Laparoscopic Nissen fundoplication
- ▶ Nissen modification,
- ▶ Belsey Mark IV
- ▶ Hill Gastropexy
- ▶ Gastric bypass
- ▶ Angelchik prosthesis,
- ▶ LINX prosthesis
- ▶ Endoscopic method

Indications for surgery

- 1) have failed medical management (inadequate symptom control, severe regurgitation not controlled with acid suppression, or medication side effects)
- 2) opt for surgery despite successful medical management (due to quality of life considerations, lifelong need for medication intake, expense of medications, etc.)
- 3) have complications of GERD (e.g., Barrett's esophagus, peptic stricture)
- 4) have extra-esophageal manifestations (asthma, hoarseness, cough, chest pain, aspiration) .

Home S et al. SAGES Guidelines Committee.
Guidelines for surgical treatment of
gastroesophageal reflux disease. Surgical

Surgery for refractory GERD

- ▶ **Laparoscopic fundoplication**
- ▶ Antireflux surgery can be considered for patients who either fail PPI therapy or have complications of reflux, such as severe esophagitis, stricture, or risk of aspiration.
- ▶ Surgery may also be appropriate for patients who cannot tolerate or comply with long-term pharmacotherapy.
- ▶ The primary surgical intervention for the treatment of GERD is laparoscopic fundoplication.

Endoscopic procedures of GERD

1) Stretta : Stretta improves refractory GERD symptoms by delivering radiofrequency energy to the LES, leading to increased basal pressure and reduced compliance.

Stretta has been shown to improve the antireflux barrier, as well as decrease refluxate volume, intraesophageal pH, and esophageal acid exposure.

2) Transoral incisionless fundoplication (TIF) TIF is performed using the EsophyX device inserted transorally with the endoscope.

EsophyX allows for creation of a fundoplication at the level of the gastroesophageal junction. Long - term data suggests that TIF may be effective for symptom control and decreased PPI use for 2–6

Novel procedures

1) **LINX**- The LINX is a magnetic augmentation device that is surgically positioned around the LES. Multiple prospective studies have demonstrated the safety and efficacy of LINX in treating patients with refractory GERD symptoms.

2) **LES electrical stimulation therapy :**

The LES stimulation system consists of an implantable pulse generator (IPG), a bipolar lead with two electrodes, and an external programmer. The IPG generates electrical stimulation to the LES 8–12 times per day for 30 minutes per session.

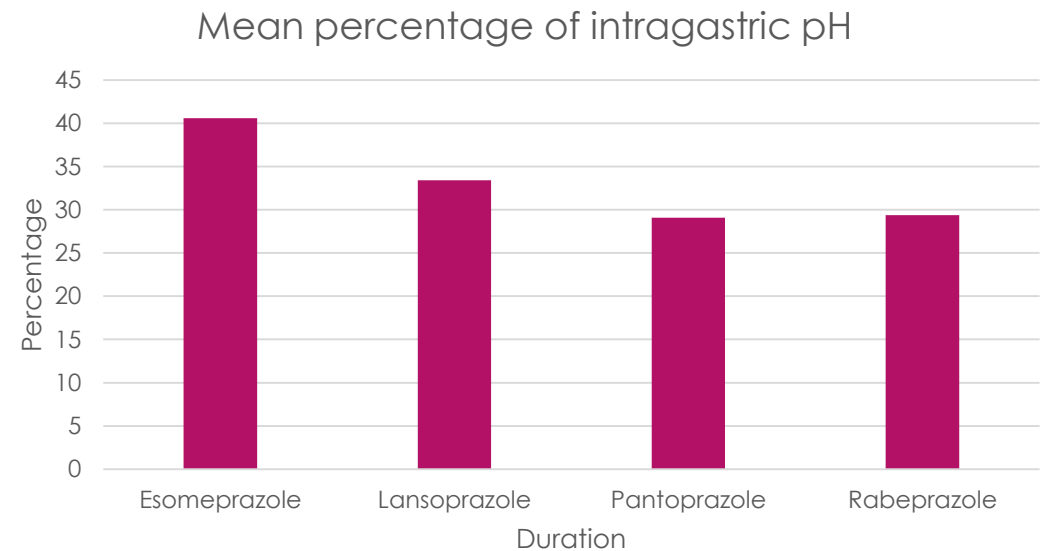
3) **Medigus ultrasonic surgical stapler (MUSE)** The MUSE is an endoscopically inserted device that can be used to form a skin flap within the esophagus similar to Transoral incisionless fundoplication .

Clinical trials

Comparison of Esomeprazole Vs Lansoprazole, omeprazole, Pantoprazole, Rabeprazole in GERD

► Materials and methods:

- Randomised crossover studies
 - Patients with symptoms of GERD received once-daily treatment with esomeprazole 40 mg or lansoprazole 30 mg, omeprazole 20 mg, pantoprazole 40 mg and rabeprazole 20 mg for 5 days.
 - Percentage of time over 24 h with intragastric pH greater than 4 was noted.
- Conclusion: Esomeprazole 40 mg provides greater acid control in more patients and maintains intragastric pH greater than 4 for a longer period than other PPI's.**



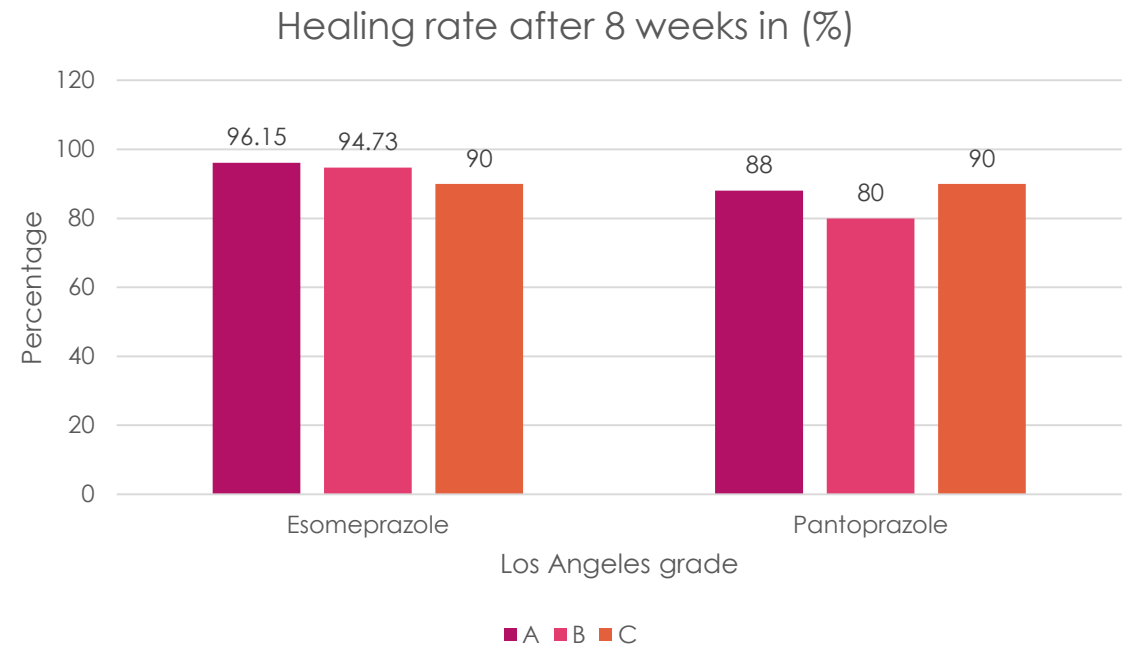
■ Mean percentage of intragastric pH

Results: Esomeprazole 40 mg OD maintained intragastric pH greater than 4 for a significantly higher mean percentage of the 24-h period compared with all other proton pump inhibitors.

Comparative study of pantoprazole and esomeprazole for erosive gastroesophageal reflux disease

- ▶ **Materials and Methods:** A prospective, randomized, single center, and observational study.
- ▶ 110 patients with Erosive esophagitis(EE) were randomized to receive 8 weeks of 40 mg pantoprazole (n=55) twice before food for first 7 days followed by once daily

Conclusion: Esomeprazole 40 mg provides more effective healing of heartburn symptoms in patients with endoscopically proven reflux esophagitis than pantoprazole 40 mg after 4 weeks of treatment.



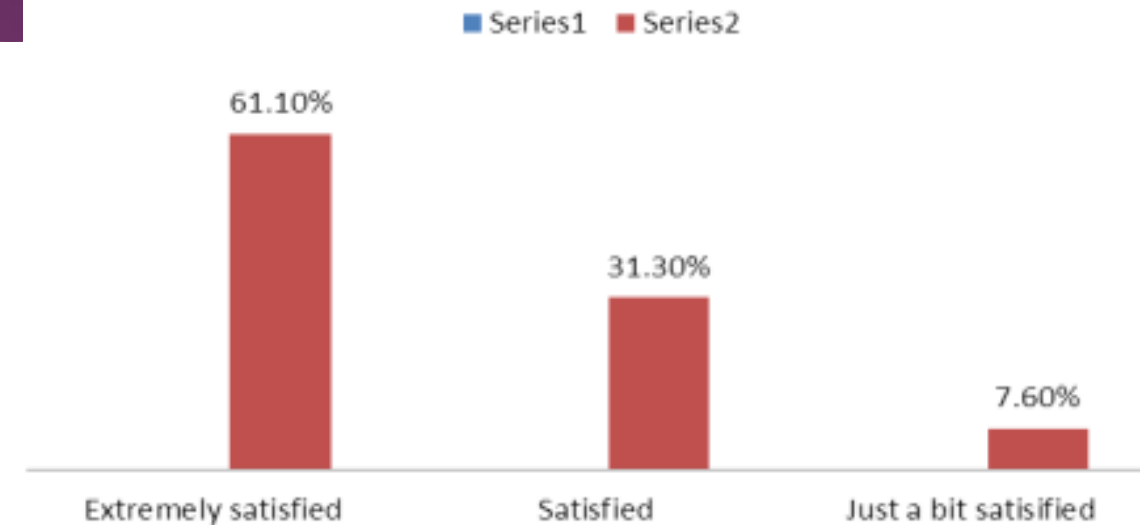
Results: Healing rate with Esomeprazole 40 mg after 8 weeks treatment was better than

Efficacy, tolerability and safety of a combination of Esomeprazole and Domperidone in GERD

Materials and methods :

- ▶ This prospective study was conducted in 137 patients with dyspepsia associated with GERD (diagnosed as per the Rome II criteria)
- ▶ Patients were treated with a fixed – dose combination on Esomeprazole 20 mg + Domperidone 30 mg administered once daily for 2 weeks.
- ▶ Efficacy was assessed on the basis of improvement in the symptoms,

Conclusion: Combination of Esomeprazole 20 mg and sustained release (SR) Domperidone 30 mg is an effective and well tolerated in symptomatic relief of dyspepsia associated with GERD



Results: 92.4% of the total cases were extremely satisfied or satisfied with the therapy and only 7.6% were just a bit satisfied. $p < 0.05$. adverse effects were mild and transient in all the cases.

Summary

- ▶ GERD is one of the most common diseases encountered in outpatient and inpatient settings.
- ▶ A presumptive diagnosis of GERD can be made based on typical symptoms such as heartburn, regurgitation, and chest pain.
- ▶ Cardiac causes must be ruled out inpatients presenting with chest pain before starting gastroenterological workup.
- ▶ Complications commonly associated with GERD are Erosive Esophagitis, Barrett's esophagus, and peptic stricture, which should be evaluated and monitored via upper endoscopy and biopsy as per recommended guidelines.
- ▶ Empiric therapy with a PPI should be initiated for patients with symptoms.

GERD is a complex disease with a heterogeneous symptom profile has to be treated early to prevent complications and provide better quality of life.