GERD: A Clinical Update

Jeff Gilbert, M.D.
University of Kentucky Gastroenterology
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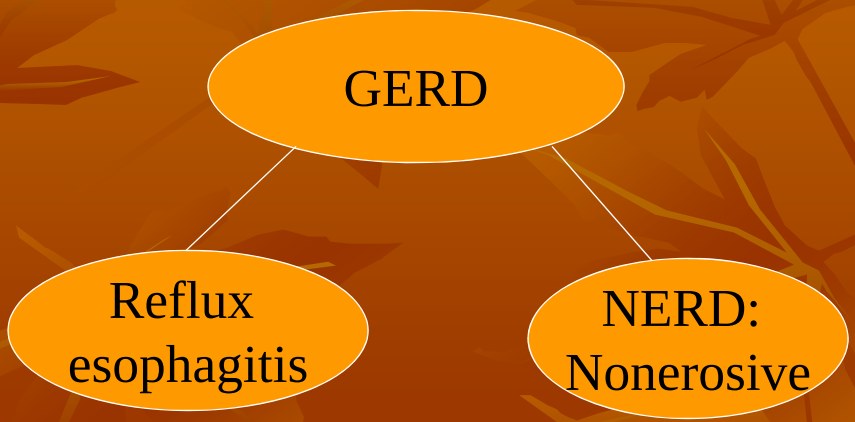
Objectives

- To review the basic pathophysiology underlying gastroesophageal reflux disease
- To highlight current therapeutic options including both medical and surgical approaches
- To delineate extra-esophageal manifestations of GERD and develop a management algorithm for these symptoms

GERD: Definition

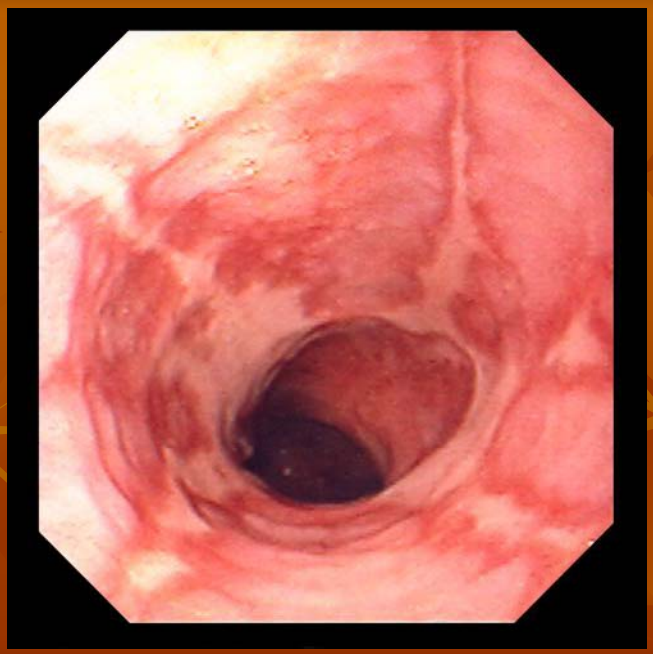
- Chronic symptoms or mucosal damage produced by abnormal reflux of gastric contents into the esophagus

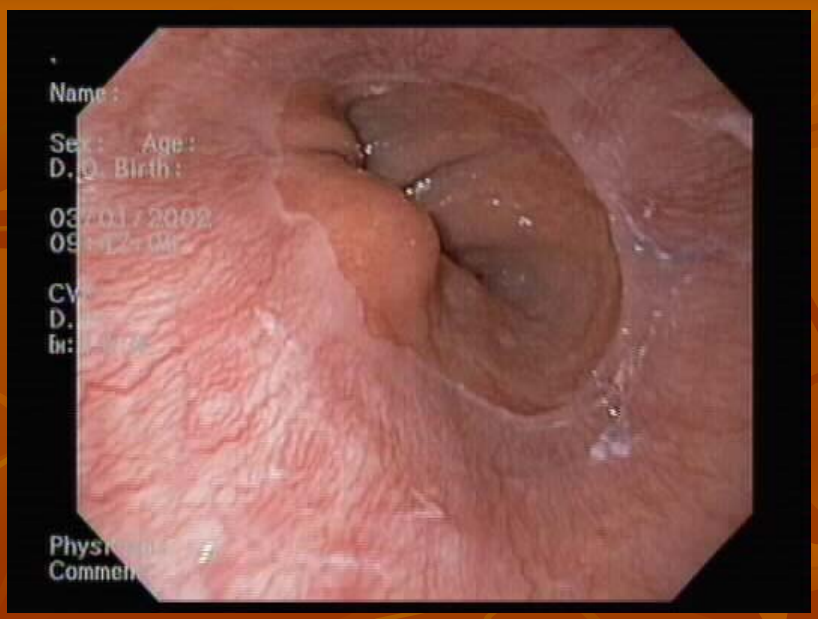
GERD: Definition



Reflux esophagitis

- Esophageal mucosal changes seen and proven via histopathologic analysis
- Requires endoscopic exam with biopsy





NERD

- Nonerosive reflux disease
- Subgroup of patients with the typical symptoms of GERD but no visible injury at endoscopy
- Estimated 50-70% patients in community-based practices

GERD: Epidemiology

- Little data – no true diagnostic gold standard
- Mayo study of Olmsted County: 60% prevalence of heartburn/regurgitation at least once/yr
- Once/weekly symptoms: 20%
- Daily symptoms: 7%

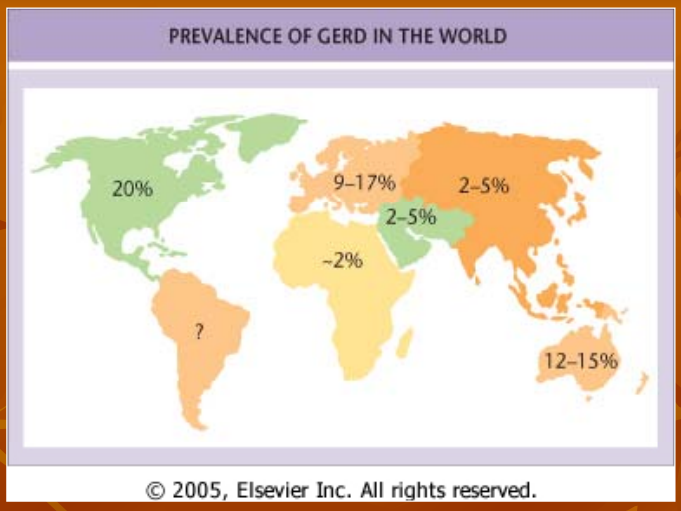


Figure 29.1 Prevalence of GERD in the world.

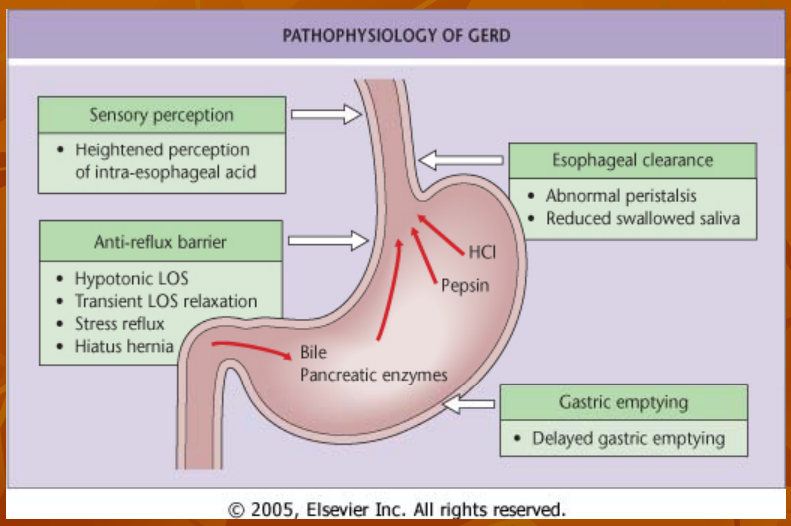
GERD: Pathophysiology

- Combination of factors:

1. Disruption to esophagogastric junction – increased LES relaxations, hiatal hernia
2. Impaired esophageal acid clearance – peristalsis and saliva
3. Gastric contents – acid/pepsin, as well as bile acids/pancreatic enzymes
4. Delayed gastric emptying

GERD: Pathophysiology

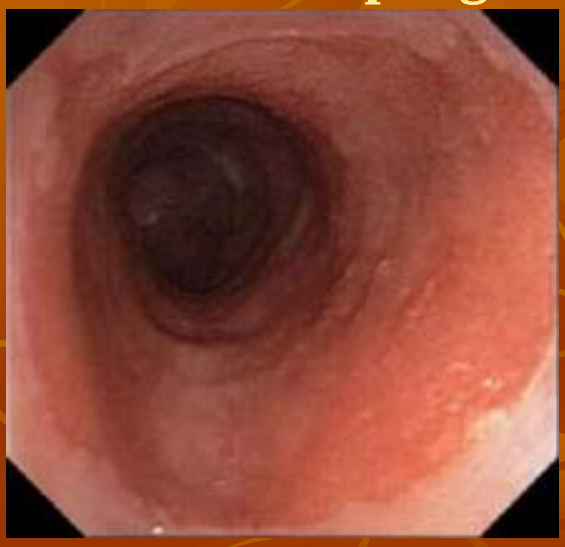
- Dietary factors: alcohol, certain foods
- Smoking can increase reflux episodes and decrease LES pressure
- Smoking cessation, however, does not decrease esophageal acid exposure



GERD: Complications

- Erosive esophagitis
- Strictures
- Barrett's esophagus
- Extraesophageal manifestations

Barrett's esophagus

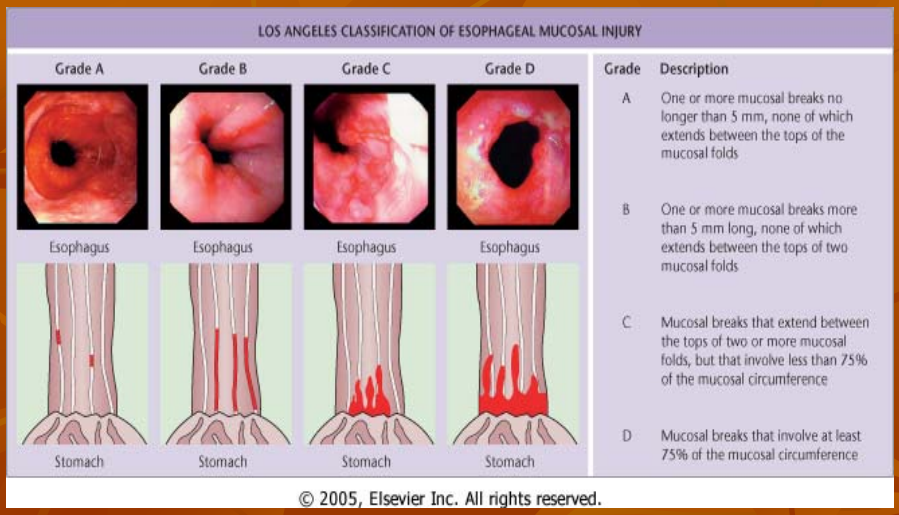


GERD: Diagnosis

- No diagnostic gold standard
- Usually consider endoscopy or 24/48 hr pH monitoring as diagnostic
- Empiric trial of PPI: 80% sensitivity, 57% specificity for GERD

GERD: Endoscopy

- Best test to evaluate mucosa
- Only test to screen for Barrett's
- Can be therapeutic for GERD complications, primarily strictures
- However, sensitivity only 30-50% in general population (NERD accounts for rest)



GERD: pH monitoring

- Previously thought to be “gold standard”
- Normal in 25% pts with erosive esophagitis
- Normal in 33% pts with NERD
- No association with amount of reflux and severity of mucosal injury

GERD: BRAVO

- 48 hr pH monitor
- Patients can follow normal routine
- Well-tolerated
- Symptom correlation capable (not always helpful)

GERD: pH monitoring

- Clinical useful for:

1. Patients refractory to therapy with negative endoscopy
2. Prior to antireflux surgery if endoscopy negative
3. Evaluation of atypical symptoms nonresponsive to PPI trial

- Ideally extend trial for both on and off therapy periods

GERD: Impedance testing

- Permits detection of both liquid and gas flow through esophagus, as well as pH
- Can be useful to document non-acid reflux (such as bile)
- Has symptom correlation as well
- Useful in patients refractory to therapy

GERD: Therapy

- Lifestyle modifications:

1. Raise head bed
2. Discontinue cigarettes/alcohol
3. Weight loss
4. Avoid exacerbating foods (caffeine, peppermint, chocolate, etc)

- May be helpful in patients with mild symptoms but overall low yield

GERD: Antacids

- Rapid, transient relief of symptoms
- No evidence of esophagitis healing
- No evidence prevent complications

GERD: Sucralfate

- Creates complex with exudate from esophageal mucosa
- Limited efficacy
- Dosed four times daily

GERD: H2 Blockers

- Competitively inhibits histamine receptors on parietal cells
- Effective in controlling symptoms (60%)
- Can heal mild to moderate esophagitis (50%)
- Have much more rapid effect compared PPI
- Can lose effectiveness

GERD: PPIs

- Mainstay of treatment
- Most effective symptom control
- Superior healing of erosive esophagitis (84%)
- Empiric therapy can diagnose GERD

PPI risks

- Association with hip fractures, CAP and *C. difficile* infections
- Data not entirely clear
- Absolute risk increases are small
- Not likely to change clinical practice

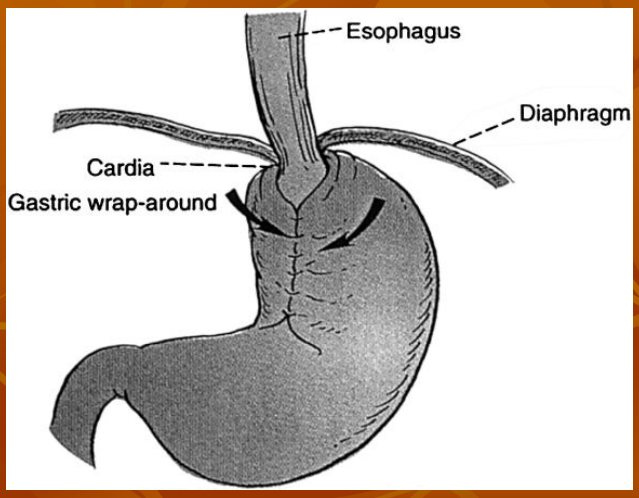
Baclofen

- GABA receptor agonist
- Reduces frequency of transient relaxations of LES
- Frequent side effects
- Data limited

GERD: Surgical management

1. Restore intra-abdominal esophagus
2. Reconstruct diaphragmatic hiatus
3. Reinforcement of LES by fundoplication

Nissen fundoplication



GERD: Surgical management

- Ideal patient:

1. Typical symptoms
2. Complete response to PPI
3. Young/healthy

- Predominant regurgitation symptoms may be good candidate
- Primary benefit is avoidance of cost PPI (also avoid risks medications)

GERD: Surgical management

- Randomized, controlled trial of antireflux surgery versus PPI therapy
- 5 year trial
- No significant difference in remission of GERD symptoms if PPI dose titration allowed

GERD: Surgical management

- Routine surgical risks
- 25% patients with post-operative dysphagia, decreases to 5% at 6 months
- Late complications include

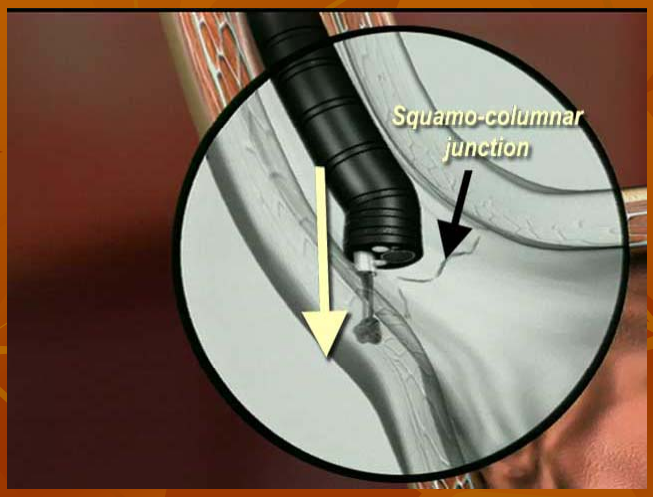
1. Dysphagia
2. Gas bloat syndrome
3. Increased flatus
4. Diarrhea

GERD: Surgical management

- Bottom line: Antireflux surgery and PPI therapy are equivalent options for GERD therapy

GERD: Endoscopic therapy Enteryx

- Ethylene vinyl alcohol
- Injected into esophagogastric junction
- Hypothesized that fibrosis reaction increased LES pressure



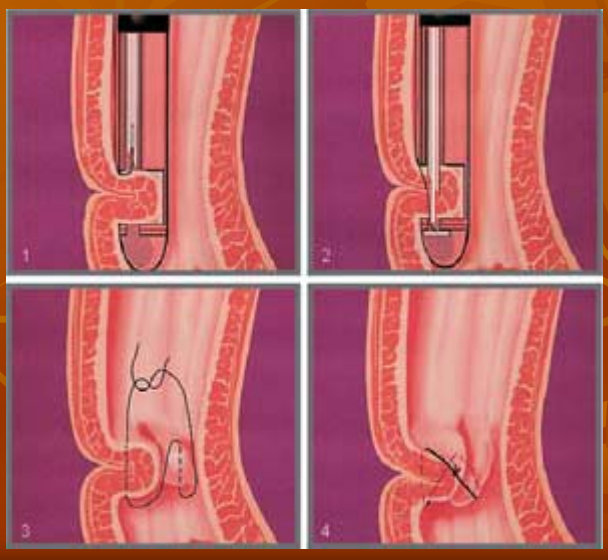
GERD: Endoscopic therapy Enteryx

- October 2005 FDA recall
- Unrecognized transmural/aortic injections
- Severe complications, possible death

GERD: Endoscopic therapy EndoCinch

- Endoscopic plication
- Reduces symptoms and PPI usage
- Does not appear to reduce esophageal acid exposure
- Long-term data lacking

GERD: Endoscopic therapy EndoCinch



GERD: Endoscopic therapy Stretta procedure

- Use of radiofrequency ablation at LES
- Multiple rounds of therapy required
- Curon Medical filed bankruptcy 2006
- Not currently available

GERD: Endoscopic therapy

- Currently endoscopic therapy limited
- Unlikely to see dramatic shift in near future

GERD: Extraesophageal manifestations

- Unexplained chest pain
- Pulmonary:

  Asthma, chronic bronchitis, OSA, fibrosis, aspiration pneumonitis
- ENT:

  Cough, sore throat, hoarseness, laryngitis, sinusitis, globus, laryngeal cancer

GERD: Extraesophageal manifestations

- Majority lack classic GERD symptoms
- No diagnostic gold standard: overall low prevalence of esophagitis
- Exception in asthmatics

GERD: Extraesophageal manifestations: Cardiac

- GERD present up to 60% noncardiac chest pain
- After appropriate cardiac eval (EKG, stress test), trial PPI bid
- Recommend 1-4 weeks therapy prior to additional testing
- If fails, pH study

GERD: Extraesophageal manifestations: Pulmonary

- Asthma and GERD frequently coexist
- Possible clues:

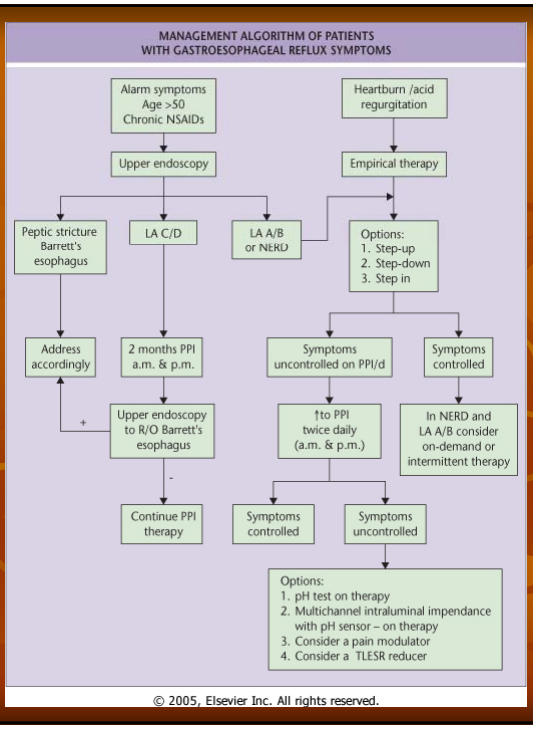
1. Adult onset
2. Nonallergic
3. Poor response to medical therapy
4. Nocturnal cough
5. Increase in symptoms after meals/exercise, supine

GERD: Extraesophageal manifestations: Pulmonary

- Trial PPI for 3 months
- If no response, pH/impedance testing

GERD: Extraesophageal manifestations: ENT

- GERD frequently implicated as etiologic factor in cough, hoarseness, sore throat, globus
- Very difficult to clinically differentiate
- No clear evidence on approach
- Generally recommend 3-4 month trial PPI bid
- If respond, titrate dose down
- If fails, pH/impedance testing



When to scope

- Alarm symptoms:

1. Bleeding/iron deficiency anemia
2. Weight loss/anorexia
3. Dysphagia/odynophagia

- Long-standing symptoms (at least 5 years): primarily to screen for Barrett's
- Failed trial bid PPI