

# Peptic ulcer disease Disorders of the esophagus

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# Peptic ulcer disease

- ◆ Burning epigastric pain
- ◆ Exacerbated by fasting
- ◆ Improved with meals
- ◆ Ulcer: disruption of mucosal integrity >5 mm in size, with depth to the submucosa
- ◆ Helicobacter pylori
- ◆ Duodenal ulcers
- ◆ Gastric ulcers → malignancy

# Pathophysiology

- ◆ NSAID, Aspirin
- ◆ Helicobacter pylori
- ◆ Gastric acid secretion↑: duodenal ulcer
- ◆ Gastric acid secretion↓: gastric ulcer
- ◆ H. pylori→MALT (mucosal-associated lymphoid tissue) lymphoma
- ◆ H. pylori→gastric adenocarcinoma
- ◆ Cigarette smoking
- ◆ Blood group O
- ◆ Stress
- ◆ Glucocorticoids
- ◆ Clopidogrel

# Clinical Features

- ◆ History: abdominal pain
- ◆ Careful history taking and physical examination
- ◆ Hunger pain
- ◆ Relieved by antacids or food
- ◆ Nausea, vomiting
- ◆ Sudden severe pain→ perforation
- ◆ Tarry stools or coffee-ground emesis→ bleeding

# Physical Examination

- ◆ Epigastric tenderness
- ◆ Severely tender, boardlike abdomen → perforation
- ◆ Tachycardia, orthostasis → dehydration → vomiting or active GI bleeding

# Complications

- ◆ GI bleeding
- ◆ Perforation
- ◆ Gastric outlet obstruction in the peripyloric region → endoscopic balloon dilation or surgical intervention
- ◆ Malignant transformation

# Differential Diagnosis

- ◆ Gallbladder stones
- ◆ Gastroesophageal reflux
- ◆ Acute/chronic pancreatitis
- ◆ Crohn's disease
- ◆ Functional dyspepsia

# Diagnostic Evaluation

- ◆ Barium enema double-contrast study
- ◆ Endoscopy and tissue biopsy: direct visualization of the mucosa, detection of *H. pylori*
- ◆ Urea breath test for detection of *H. pylori*

# Treatment

- ◆ Acid-suppressing drugs → Antacids: Aluminum hydroxide, Magnesium hydroxide, Sodium bicarbonate, Maalox, Mylanta, Tums
- ◆ H<sub>2</sub> receptor antagonists: Cimetidine, Ranitidine, Famotidine, Nizatidine
- ◆ Proton pump inhibitors: Omeprazole, Lansoprazole, Rabeprazole, Pantoprazole, Esomeprazole
- ◆ Mucosal cytoprotective agents: Sucralfate, Prostaglandine analogue → Misoprostol, Bismuth-containing compounds

# Regimens recommended for eradication of *H. pylori* infection

- ◆ 1. Bismut subsalicylate + Metronidazole + Tetracycline
- ◆ 2. Ranitidine bismuth citrate + Tetracycline + Clarithromycin or Metronidazole
- ◆ 3. Omeprazole + Clarithromycin + Metrodizale or Amoxicillin

# Quadruple Therapy

- ◆ Omeprazole + Bismuth subsalicylate + Metronidazole + Tetracycline
- ◆ Duration of treatment: 14 days
- ◆ Initial eradication rates: 80-85%

# Recommendations for treatment of NSAID-related mucosal injury

- ◆ Active ulcer: NSAD discontinued + H2 receptor antagonist or PPI
- ◆ Active ulcer: NSAID continued → PPI
- ◆ Prophylactic therapy: PPI
- ◆ *H. pylori* infection: eradication if active ulcer present or there is a past history of peptic ulcer disease

# Surgical therapy

- ◆ Urgent: for the treatment of an ulcer-related complication
- ◆ Nasogastric suction
- ◆ Endoscopic intervention with balloon dilation
- ◆ Vagotomy and drainage (gastroduodenostomy) → gastric acid secretion↓
- ◆ Highly selective vagotomy
- ◆ Vagotomy with antrectomy
- ◆ Laparoscopic surgery
- ◆ Billroth I: gastroduodenostomy
- ◆ Billroth II: gastrojejunostomy

# Zollinger-Ellison syndrome

- ◆ Gastrin↑
- ◆ Multiple peptic ulcers
- ◆ Gastric acid output↑ → hypersecretion
- ◆ Diarrhea
- ◆ Tumor: gastrinoma
- ◆ Tumor localization: Ultrasound, CT scan, MRI, Octreoscan
- ◆ Treatment: total gastrectomy

# Diseases of the Esophagus

- ◆ Symptoms: dysphagia, heartburn or pyrosis, odynophagia or painful swallowing, esophageal chest pain or atypical chest pain
- ◆ Regurgitation: appearance of gastric contents in the mouth
- ◆ Chronic cough
- ◆ Laryngeal aspiration
- ◆ Aspiration pneumonia

# Diagnostics tests

- ◆ Radiologic studies → barium swallow, double-contrast esophagogram
- ◆ Esophagoscopy + biopsy

# Achalasia

- ◆ Motor disorder of the esophageal smooth muscle ← loss of intramural neurons
- ◆ No peristaltic contractions
- ◆ Clinical features: dysphagia, regurgitation, weight loss
- ◆ Diagnosis: barium swallow → esophageal dilation, no peristalsis in the lower two-thirds of the esophagus
- ◆ Treatment: balloon dilatation, Heller's extramucosal myotomy

# Gastroesophageal Reflux Disease

## GERD

- ◆ Frequency: 15%
- ◆ Heartburn and regurgitation ← backflow of gastric acid into the esophagus and mouth
- ◆ Incompetent barriers at the gastro-esophageal junction
- ◆ Reflux esophagitis, peptic stricture
- ◆ Angina-like or atypical chest pain
- ◆ Esophagoscopy

# Treatment of GERD

- ◆ H2 receptor blocking agents:  
Cimetidine, Ranitidine, Famotidine,  
Nizatidine
- ◆ PPIs: Omeprazole, Lansoprazole,  
Pantoprazole, Esomeprazole,  
Rabeprazole
- ◆ Duration: 8 weeks
- ◆ PPI: 30 min before breakfast

# Barret's Esophagus

- ◆ Metaplasia of esophageal squamous epithelium → to columnar epithelium
- ◆ Complication of severe GERD
- ◆ Risk for esophageal adenocarcinoma

# Candida Esophagitis

- ◆ Odynophagia, dysphagia
- ◆ Oral thrush
- ◆ Endoscopy: small, yellow-white raised plaques
- ◆ *C. albicans*
- ◆ Treatment: Fluconazole orally, Itraconazole