SAWA UNIVERSITY

Peptic Ulcer

جامعة ساوة

كلية التقنيات الصحية والطبية

قسم تقنيات التخدير

المرحلة الثالثة

الطبيب الاختصاص

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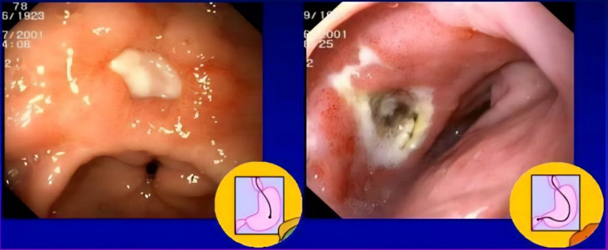
المحاضرة الثانية

Definition

A circumscribed ulceration of the gastrointestinal mucosa occurring in areas exposed to acid and pepsin and most often caused by Helicobacter pylori infection

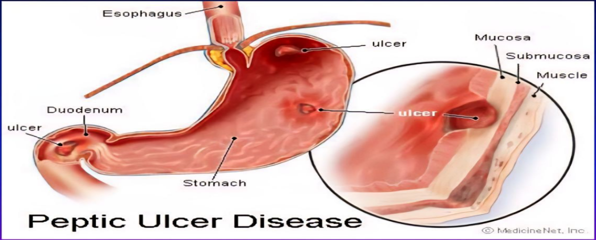
Peptic Ulcers: Gastric & Dudodenal



PUD Demographics

- **Higher prevalence in developing countries**
- H. Pylori is sometimes associated with socioeconomic status and poor hygiene
- **In the US:**
- Lifetime prevalence is ~ 10%.
- PUD affects ~4.5 million annually.
- Hospitalization rate is ~30 pts per 100,000 cases.
- Mortality rate has decreased dramatically in the past 20 years
- approximately 1 death per 100,000 cases

Comparing Duodenal and Gastric Ulcers



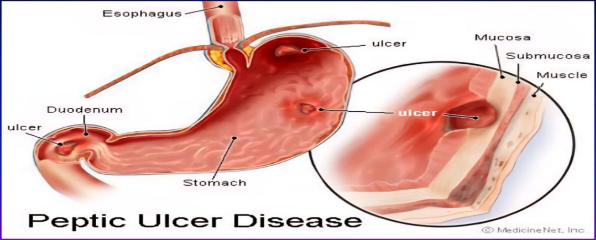
Duodenal Ulcers

- duodenal sites are 4x as common as gastric sites
- most common in middle age
- peak 30-50 years
- Male to female ratio—4:1
- Genetic link: 3x more common in 1st degree relatives
- more common in patients with blood group O
- associated with increased serum pepsinogen
- H. pylori infection common
- up to 95%
- smoking is twice as common

Gastric Ulcers

- common in late middle age
- incidence increases with age
- Male to female ratio—2:1
- More common in patients with blood group A
- Use of NSAIDs - associated with a three- to four-fold increase in risk of gastric ulcer
- Less related to H. pylori than duodenal ulcers - about 80%
- 10 - 20% of patients with a gastric ulcer have a concomitant duodenal ulcer

Comparing Duodenal and Gastric Ulcers



Etiology

- A peptic ulcer is a mucosal break, 3 mm or greater, that can involve the stomach or duodenum.
- The most important contributing factors are H pylori, NSAIDs, acid, and pepsin.
- Additional aggressive factors include smoking, ethanol, bile acids, aspirin, steroids, and stress.
- Important protective factors are mucus, bicarbonate, mucosal blood flow, prostaglandins, hydrophobic layer, and epithelial renewal.
- Increased risk when older than 50 d/t decrease protection
- When an imbalance occurs, PUD might develop.

Subjective Data

- Pain-"gnawing", "aching", or "burning"
- Duodenal ulcers: occurs 1-3 hours after a meal and may awaken patient from sleep. Pain is relieved by food, antacids, or vomiting.
- Gastric ulcers: food may exacerbate the pain while vomiting relieves it.
- Nausea, vomiting, belching, dyspepsia, bloating, chest discomfort, anorexia, hematemesis, &/or melena may also occur.
- nausea, vomiting, & weight loss more common with Gastric ulcers

Objective Data

- Epigastric tenderness
- Guaic-positive stool resulting from occult blood loss
- Succussion splash resulting from scaring or edema due to partial or complete gastric outlet obstruction
- A succussion splash describes the sound obtained by shaking an individual who has free fluid and air or gas in a hollow organ or body cavity.
- Usually elicited to confirm intestinal or pyloric obstruction.
- Done by gently shaking the abdomen by holding either side of the pelvis. A positive test occurs when a splashing noise is heard, either with or without a stethoscope. It is not valid if the pt has eaten or drunk fluid within the last three hours.

Diagnostic Plan

- Stool for fecal occult blood
- Labs: CBC (R/O bleeding), liver function test, amylase, and lipase.
- H. Pylori can be diagnosed by urea breath test, blood test, stool antigen assays, & rapid urease test on a biopsy sample.
- Upper Gl Endoscopy: Any pt >50 yo with new onset of symptoms or those with alarm markings including anemia, weight loss, or Gl bleeding.
- Preferred diagnostic test b/c its highly sensitive for dx of ulcers and allows for biopsy to rule out malignancy and rapid urease tests for testing for H. Pylori.

Differential Diagnosis

- Neoplasm of the stomach
- Pancreatitis
- Pancreatic cancer
- Diverticulitis
- Nonulcer dyspepsia (also called functional dyspepsia)
- Cholecystitis
- Gastritis
- GERD
- MI—not to be missed if having chest pain

Treatment Plan: H. Pylori

- Medications: Triple therapy for 14 days is considered the treatment of choice.
- Proton Pump Inhibitor + clarithromycin and amoxicillin
- Omeprazole (Prilosec): 20 mg PO bid for 14 d or Lansoprazole (Prevacid): 30 mg PO bid for 14 d or Rabeprazole (Aciphex): 20 mg PO bid for 14 d or Esomeprazole (Nexium): 40 mg PO qd for 14 d plus Clarithromycin (Biaxin): 500 mg PO bid for 14 and Amoxicillin (Amoxil): 1 g PO bid for 14 d
- Can substitute Flagyl 500 mg PO bid for 14 d if allergic to PCN
- In the setting of an active ulcer, continue qd proton pump inhibitor therapy for additional 2 weeks.
- Goal: complete elimination of H. Pylori. Once achieved reinfection rates are low. Compliance!

Treatment Plan: Not H. Pylori

• Medications-treat with Proton Pump Inhibitors or H2 receptor antagonists to assist ulcer healing .

• H2: Tagament, Pepcid, Axid, or Zantac for up to 8 weeks .

• PPI: Prilosec, Prevacid, Nexium, Protonix, or Aciphex for 4-8 weeks.

Lifestyle Changes

- Discontinue NSAIDs and use Acetaminophen for pain control if possible.
- Acid suppression--Antacids
- Smoking cessation
- No dietary restrictions unless certain foods are associated with problems.
- Alcohol in moderation
- Men under 65: 2 drinks/day
- Men over 65 and all women: 1 drink/day
- Stress reduction

Prevention

- Consider prophylactic therapy for the following patients:
- Pts with NSAID-induced ulcers who require daily NSAID therapy
- Pts older than 60 years
- Pts with a history of PUD or a complication such as Gl bleeding
- Pts taking steroids or anticoagulants or patients with significant comorbid medical illnesses
- Prophylactic regimens that have been shown to dramatically reduce the risk of NSAID-induced gastric and duodenal ulcers include the use of a prostaglandin analogue or a proton pump inhibitor.
- Misoprostol (Cytotec) 100-200 mcg PO 4 times per day
- Omeprazole (Prilosec) 20-40 mg PO every day
- Lansoprazole (Prevacid) 15-30 mg PO every day

Complications

- Perforation & Penetration-into pancreas, liver and retroperitoneal space
- Peritonitis
- Bowel obstruction, Gastric outflow obstruction, & Pyloric stenosis
- Bleeding--occurs in 25% to 33% of cases and
accounts for 25% of ulcer deaths.
- Gastric CA

Surgery

- People who do not respond to medication, or who develop complications:
- Vagotomy - cutting the vagus nerve to interrupt messages sent from the brain to the stomach to reducing acid secretion.
- Antrectomy - remove the lower part of the stomach (antrum), which produces a hormone that stimulates the stomach to secrete digestive juices. A vagotomy is usually done in conjunction with an antrectomy.
- Pyloroplasty - the opening into the duodenum and small intestine (pylorus) are enlarged, enabling contents to pass more freely from the stomach. May b performed along with a vagotomy.

Evaluation/Follow-up/Referrals

- H. Pylori Positive: retesting for tx efficacy
- Urea breath test—no sooner than 4 weeks after therapy to avoid false negative results
- Stool antigen test—an 8 week interval must be allowed after therapy.
- H. Pylori Negative: evaluate symptoms after one month. Patients who are controlled should cont. 2-4 more weeks.
- If symptoms persist then refer to specialist for additional diagnostic testing.