Gastrointestinal Tract
" GIT"

GIT LECTURE [4] Peptic Ulcer Disease (PUD) PART TWO

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Clinical Presentation (Signs and Symptoms) of PUD:

- Many patients = **No Ulcer Symptoms**
- Most = **long-standing sharply localized and recurrent= Epigastric pain= "burning" + Epigastric tenderness**
- **Duodenal Ulcer=** commonly on an empty stomach and frequently awakens patient in the mid night.==== Ingestion of food, milk, or antacids ==== rapid relief in most cases.
- **Gastric Ulcers =** Eating may precipitate abdominal pain in response to food.

Types of Complications of PUD:

1) **Deeper penetration or perforation of the ulcer =** **Changes in the character of pain=**

1. **Increased discomfort**
2. **Loss of antacid relief**
3. **Pain radiating to the back.**

1) **Gastric outlet (pyloric) obstruction=** **Protracted vomiting** a few hours after a meal

2) **GI hemorrhage=** = **blood loss** =**Melena (bloody stools) or black tarry stools**

Laboratory and Diagnostic Findings of PUD:

- **Different Tests for H. pylori Infection Diagnosis:**

1) ***Blood Test = Serological test =*** **antibodies for H. pylori Antige**
2) ***Stool Test =*** **for H . pylori Antigen**
3) ***Urea Breath Test =*** **gold standard test**

- **A peptic ulcer is diagnosed primarily during endoscopy:**

by fiberoptic endoscopic biopsy= From marginal mucosa

adjacent to the ulcer is performed

to confirm the diagnosis of peptic ulcer and to rule out malignancy.

- **CBC:**

- **A low RBCs count may occur in GI bleeding .**

Urea Breath Test :

= H. pylori produces an enzyme called urease: breaks urea into ammonia and carbon dioxide (CO2).

To Test presence of H. pylori in stomach: swallow a tablet containing urea >>>>> measure amount of exhaled carbon dioxide (CO2) === High Amount.

:Diagnosing H. pylori

Blood tests are most common. They detect antibodies to *H. pylori* bacteria. Blood is taken at the doctor's office through a finger stick.

:Diagnosing H. pylori

Urea breath tests are an effective diagnostic method for *H. pylori*. They are also used after treatment to see whether it worked. In the doctor's office, the patient drinks a urea solution that contains a special carbon atom. If *H. pylori* is present, it breaks down the urea, releasing the carbon. The blood carries the carbon to the lungs, where the patient exhales it. The breath is accurate.

:Diagnosing H. pylori

Stool tests detect *H. pylori* infection in the patient's fecal matter. *Helicobacter pylori* stool antigen (HPSA) test is accurate for diagnosing *H. pylori* .

Tissue tests are usually done using the biopsy sample that is removed with the endoscope.

Oral Complications and Manifestations

- **H. pylori found in dental plaque** = serve as a reservoir of infection and reinfection along the alimentary tract.
- **Good oral hygiene measures and periodic scaling and prophylaxis** may be useful in reducing the spread of this H. pylori .
- **Use of systemic antibiotics for PUD = fungal overgrowth (candidiasis) or median rhomboid glossitis in the oral cavity** =A course of antifungal agents should be prescribed to resolve the fungal infection.
- **Enamel erosion in PUD** = Because of persistent regurgitation of gastric juices into the mouth when pyloric stenosis occurs.

❑ Medications for Treatment of PUD Produce Oral Manifestations:

- **Anticholinergic drugs** =>>>>>>> **Xerostomia + Chronic Dry Mouth:**

1) >>>>> **Fungal Disease**

2) >>>>> **Bacterial Infection** **(= Caries and Periodontal Disease)**

❑ Anti-Secretory Drugs:

1) = **Altered Taste Perception** يتغير طعم الفم

2) = **Toxic Effect on Bone Marrow** >>>>

1) **Anemia= LOW RBCs Counts** >>>>>> **Oral Mucosal Pallor** شحوب

2) **Low platelets Counts = LOW Platelets Counts** >>>>>> **Gingival Bleeding** نزيف

3) **Lymphocytosis= HIGH Lymphocytes Counts** >>>>>> **Oral Mucosal Ulcerations** تقرحات

Dental Management and Recommendations:

❑ Careful History :

Dentist Before Dental Treatment must identify Intestinal Symptoms and other factors which result in GI Bleeding :

1) **Medications (e.g., aspirin and other NSAIDs, oral anticoagulants)**
2) **Alcohol consumption.**

❑ If GI symptoms are suggestive of active disease = >>> medical referral

>>>>>>> **When under control** >>>>>> **dentist follows physician guidelines** >>>>>> **Further periodic physician visits** >>>>>> For **early diagnosis of complications**.

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Risk Assessment:

Dentist: should establish presence of severe or poor control PUD === by ongoing pain, blood in stool, anemia, recent hospitalization or physician visits to relieve PUD.

- **Antibiotics:** Type of antibiotics for dental issues may need to be altered based on PUD.
- **Bleeding:** Oral Bleeding not related directly to PUD. In contrast, GI bleeding by PUD lead to significant complications that delay dental care.
- **Capacity to Tolerate Care:** Active PUD patient must not have routine dental care.
- **Analgesics Considerations:** irritative to GI epithelium >>>>>

1. lowest dose for shortest period
2. Avoid giving aspirin (Acetaminophen (Paracetamol) is instead)
3. Avoid giving other NSAIDs = (instead use COX-2–selective inhibitor)

>>>> given in combination with Anti-secretory drugs for short-term to reduce the risk of GI bleeding.

❑ Anti-secretory drugs (Antacids)=

1) Decrease metabolism of diazepam, lidocaine, tricyclic antidepressants SO increase the duration of their action.. Antacids a
2) Impair the absorption of tetracycline, erythromycin, and oral iron

Thereby >>>>>> Antibiotics and Dietary supplements should be taken 2 hours before or 2 hours after antacids taking.

❑ Follow-Up Appointments:

1) During periods of remission
2) Shorter appointments may be necessary

Medical Management:

- **If the peptic ulcer:**

1) **Confined**

2)**Uncomplicated**

3)**NO H. pylori present**

Anti-Secretory Drug:

- For 10 to 14 days;
- Extended for 4 weeks and more = if complications occur

Medical Management:

- **If the patient is infected with H. pylori:**

1….Triple Therapy = Conventional Regimen

1 Anti-Secretory Drug + Metronidazole + 1 Antibiotic Drug [Tetracycline or amoxicillin or Clarithmycin]

- **Effective Eradication of H. pylori =>90%**
- **Therapy for 10 -14 days**

2…..Quadruple Therapy=

Alternative to first-line treatment

OR For Antibiotic Resistance

1 Anti-Secretory Drug + Metronidazole + 1 Antibiotic Drug + Bismuth salt

Causes of Recurrence of Peptic Ulcer:

1)Discontinuance of drug therapy

2)Lack of behavior modification

3)Persistence of H. pylori after treatment because of:

A. Inappropriate drug choice

B. H. pylori resistance.

Surgery = for complications of PUD such as:

1) Significant Bleeding (when unresponsive to coagulant endoscopic procedures)
2) Perforation
3) Gastric Outlet Obstruction.

Aim of Surgical Treatment of Chronic Gastric and Duodenal Ulcers= To Reduce Amount of Acid Secretion By:

1) Sectioning the Vagus Nerve (Vagotomy)
2) Partial Gastrectomy = Removing the gastrin-bearing mucosa in the antrum

Thank You For Your Attention

Any questions?