

PHB



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Chapter– 6 Gastro-Intestinal Disorders

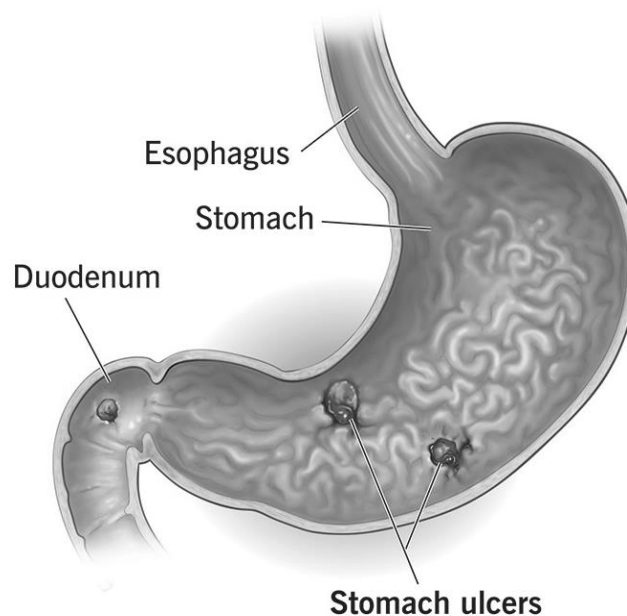
Topic: PEPTIC ULCER DISEASE

6.1

Introduction

Peptic Ulcer Disease (PUD) is a chronic condition characterized by the development of ulcers in the lining of the stomach, duodenum (the first part of the small intestine), or esophagus.

Peptic ulcer disease



6.2

Etiopathogenesis

The exact mechanisms of PUD are complex and multifactorial. However, the main factors involved are:

- 1. Helicobacter pylori (H. pylori) infection:** *H. pylori* bacteria can infect the stomach lining and cause inflammation, leading to ulcer development.
- 2. Nonsteroidal anti-inflammatory drugs (NSAIDs):** Long-term use of NSAIDs, such as aspirin and ibuprofen, can damage the stomach lining and lead to ulcer development.
- 3. Gastroesophageal reflux disease (GERD):** GERD can cause stomach acid to flow back up into the esophagus, leading to inflammation and ulcer development.

4. Genetic predisposition: Some people may be more susceptible to PUD due to genetic factors.

6.3**Types**

PUD can be classified into several types based on the location and severity of the ulcers:

- 1. Gastric ulcers:** Ulcers that develop in the stomach lining.
- 2. Duodenal ulcers:** Ulcers that develop in the duodenum, the first part of the small intestine.
- 3. Esophageal ulcers:** Ulcers that develop in the esophagus.
- 4. Peptic ulcer disease with complications:** PUD can lead to complications such as bleeding, perforation, and obstruction.

6.4**Symptoms**

The symptoms commonly includes:

- 1. Abdominal pain:** Pain in the upper abdomen, often described as burning or gnawing.
- 2. Nausea and vomiting:** Feeling queasy and vomiting, especially after eating.
- 3. Bleeding:** Vomiting blood or passing black, tarry stools.
- 4. Weight loss:** Unintentional weight loss due to decreased appetite and difficulty eating.
- 5. Bloating and gas:** Feeling bloated and gassy, especially after eating.

6.5**Causes**

- 1. H. pylori infection:** H. pylori bacteria can infect the stomach lining and cause inflammation, leading to ulcer development.
- 2. NSAIDs:** Long-term use of NSAIDs, such as aspirin and ibuprofen, can damage the stomach lining and lead to ulcer development.
- 3. GERD:** GERD can cause stomach acid to flow back up into the esophagus, leading to inflammation and ulcer development.
- 4. Smoking:** Smoking can damage the stomach lining and increase the risk of PUD.
- 5. Stress:** Stress can exacerbate PUD symptoms and increase the risk of complications.

6.6

Diagnosis

Diagnostic procedures may include:

- 1. Endoscopy:** A flexible tube with a camera is inserted through the mouth to visualize the stomach and duodenum.
- 2. Upper GI series:** A series of X-rays are taken after drinking a barium solution to visualize the stomach and duodenum.
- 3. Blood tests:** Blood tests are done to check for H. pylori infection and to rule out other conditions.
- 4. Stool tests:** Stool tests are done to check for H. pylori infection and to rule out other conditions.

6.7

Pharmacological managements

Medications:

- 1. Antibiotics:** Antibiotics are used to treat H. pylori infection.
- 2. Proton pump inhibitors (PPIs):** PPIs are used to reduce stomach acid production and promote healing.
- 3. H₂ blockers:** H₂ blockers are used to reduce stomach acid production and promote healing.
- 4. Antacids:** Antacids are used to neutralize stomach acid and provide quick relief.
- 5. Cytoprotective agents:** Cytoprotective agents, such as sucralfate, are used to protect the stomach lining and promote healing.

6.8

Non - Pharmacological managements

- 1. Lifestyle modifications:** Lifestyle modifications, such as quitting smoking, reducing stress, and avoiding NSAIDs, can help manage PUD symptoms and prevent complications.
- 2. Dietary changes:** Dietary changes, such as avoiding spicy and fatty foods, can help manage PUD symptoms and promote healing.
- 3. Stress management:** Stress management techniques, such as meditation and yoga, can help reduce stress and promote healing.
- 4. Quit smoking:** Quitting smoking can help reduce the risk of PUD complications and promote healing.

6.9

Complications

Complications of ALD may include:

- 1. Bleeding:** PUD can lead to bleeding, which can be life-threatening if not treated promptly.
- 2. Perforation:** PUD can lead to perforation, which can cause peritonitis and sepsis.
- 3. Obstruction:** PUD can lead to obstruction, which can cause vomiting, abdominal pain, and weight loss.

Practice Questions

MULTIPLE CHOICE QUESTIONS

1. Peptic ulcer disease (PUD) primarily affects which part of the gastrointestinal tract?
 - A) Esophagus
 - B) Stomach
 - C) Colon
 - D) Small intestine
2. The majority of peptic ulcers are caused by:
 - A) Helicobacter pylori infection
 - B) Nonsteroidal anti-inflammatory drugs (NSAIDs)
 - C) Excessive alcohol consumption
 - D) Smoking cigarettes
3. Which of the following is NOT a common symptom of peptic ulcer disease?
 - A) Dysphagia
 - B) Epigastric pain
 - C) Nausea and vomiting
 - D) Hematemesis (vomiting blood)
4. The gold standard diagnostic test for detecting Helicobacter pylori infection in patients with suspected peptic ulcer disease is:
 - A) Serum gastrin level
 - B) Upper endoscopy (esophagogastroduodenoscopy or EGD)
 - C) Stool antigen test
 - D) Breath test (urea breath test)
5. Complications of untreated or severe peptic ulcer disease may include:
 - A) Gastric outlet obstruction
 - B) Osteoporosis
 - C) Vitamin B12 deficiency
 - D) Pulmonary embolism
6. Treatment strategies for peptic ulcer disease may include:
 - A) Antacids to neutralize gastric acid

- B) Proton pump inhibitors (PPIs) to reduce gastric acid production
C) Antibiotics to eradicate *Helicobacter pylori* infection
D) All of the above
7. Which of the following dietary factors is NOT typically associated with exacerbating peptic ulcer symptoms?
A) Spicy foods
B) Citrus fruits
C) Coffee and caffeine-containing beverages
D) High-fiber foods
8. The presence of which of the following symptoms may indicate a complication of peptic ulcer disease, such as perforation or penetration?
A) Dysphagia
B) Melena (black, tarry stools)
C) Hematochezia (bright red blood in stool)
D) Flatulence and bloating
9. The most common location for peptic ulcers within the stomach or duodenum is:
A) Fundus of the stomach
B) Lesser curvature of the stomach
C) Greater curvature of the stomach
D) Proximal duodenum (duodenal bulb)
10. Lifestyle modifications that may help manage peptic ulcer disease include:
A) Smoking cessation
B) Avoiding NSAIDs and aspirin
C) Reducing stress levels
D) All of the above

FILL IN THE BLANKS

1. The most common cause of peptic ulcers is _____ infection. (*H. pylori*)
2. Nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen can also cause.....ulcers. (**Peptic**)
3. The main symptom of peptic ulcer disease is.....(**Abdominal pain**)
4. Treatment for *H. pylori*-induced ulcers typically involves a combination of (**Antibiotics and proton pump inhibitors**)

5. Endoscopy is a procedure used to diagnose peptic ulcers by directly visualizing the (*Ulcers*)

SHORT ANSWER TYPE QUESTIONS

1. What is peptic ulcer disease (PUD)?
2. What are the primary causes of peptic ulcer disease?
3. What are the common symptoms of peptic ulcer disease?
4. How is peptic ulcer disease diagnosed?
5. What are the treatment strategies for peptic ulcer disease?

LONG ANSWER TYPE QUESTIONS

1. Describe the etiology and pathophysiology of peptic ulcer disease.
2. Discuss the role of *Helicobacter pylori* infection in the development of peptic ulcer disease.
3. How nonsteroidal anti-inflammatory drugs (NSAIDs) cause peptic ulcer disease.
4. How is peptic ulcer disease complications diagnosed?
5. Compare and contrast the treatment options for peptic ulcer disease.

MCQ Answer

1.	B	3.	A	5.	A	7.	D	9.	D
2.	A	4.	D	6.	D	8.	B	10.	D
