

## PEPTIC ULCER DISEASE:

A peptic ulcer is a defect in the mucosal surface of the stomach or duodenum that extends through the muscularis mucosa into the submucosa or into deeper layers.

Epidemiology: Approximately 70% of ulcers occur in patients between the ages of 25 and 64 years.

### Mechanisms of peptic ulcer formation

- 1-Mucosal exposure to gastric acid and pepsin.
- 2- Most are associated with *H pylori* infection (virtually all duodenal ulcers and 70% of gastric ulcers). NSAIDs(like aspirin) are the second most common cause of gastric peptic ulcers. Smoking increases the risk for peptic ulcer disease,so those are the main risk factors for this problem.
- 3- Peptic ulcers arise from an imbalance between the forces protecting the gastric or duodenal mucosa and those trying to damage the mucosa. In many patients, acid secretion is normal.

### Complications of peptic ulcer disease

- 1- Hemorrhage into the gastrointestinal tract in 15–20% of cases.
- 2- Perforation causing peritoneal hemorrhage or peritonitis in 5% of cases.
- 3- Obstruction in 2% of cases.
- 3- Malignant transformation is very rare.

Important associated condition: Zollinger-Ellison syndrome also called Gastrin-secreting tumor. Most of the cases Located at “Gastrinoma triangle” (i.e., at the second and third portions of the duodenum, junction of the head and neck of the pancreas, and cystic duct).

Approximately 75% of tumors are sporadic; 25% are a component of multiple endocrine neoplasia type 1 (MEN 1) syndrome.

Suspect Zollinger-Ellison syndrome in patients with recurrent peptic ulcers without *H pylori* infection or NSAID use; or in patients with multiple duodenal ulcers; or in patients with ulcers in unusual locations (e.g., jejunum).

The underlying pathophysiology of ZES is that ,gastrinoma is a tumor of G-cells which are endocrine cells in the antrum of stomach that secrete excess of gastrin which acts on parietal cells in the fundus that lead to uncontrolled gastric acid secretion as a predisposing factor for PU.

### Morphology of peptic ulcer disease

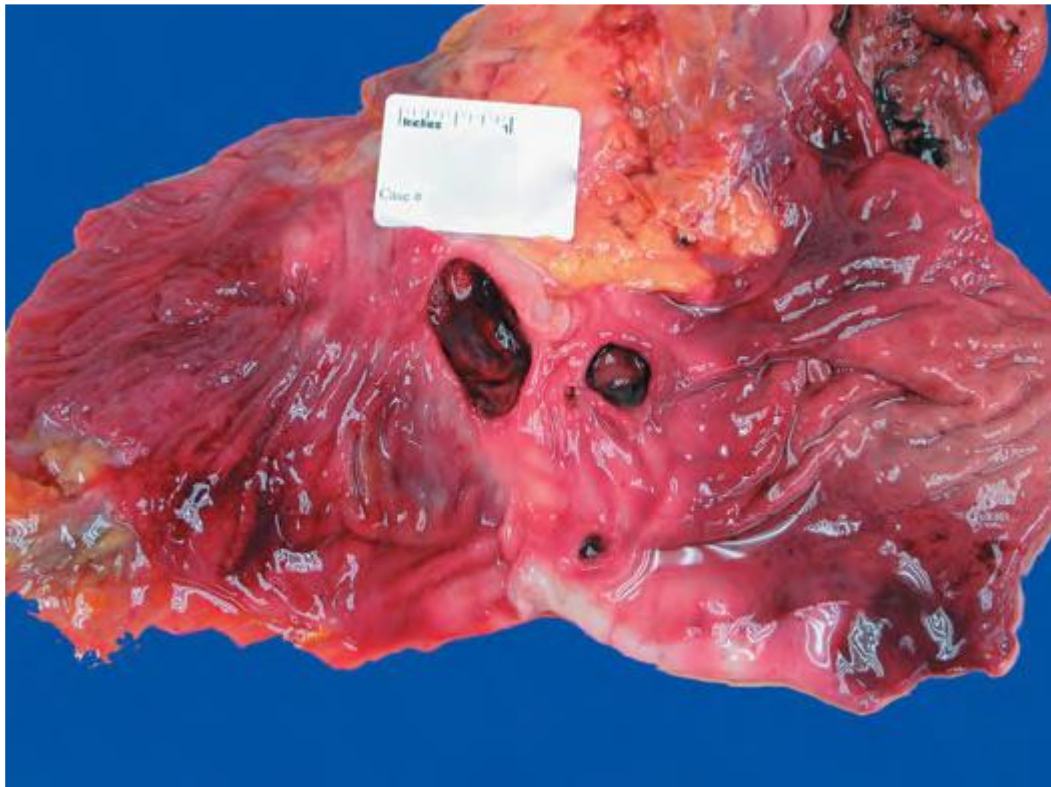
Gross: Punched out ulcer (i.e., edges are not piled up)

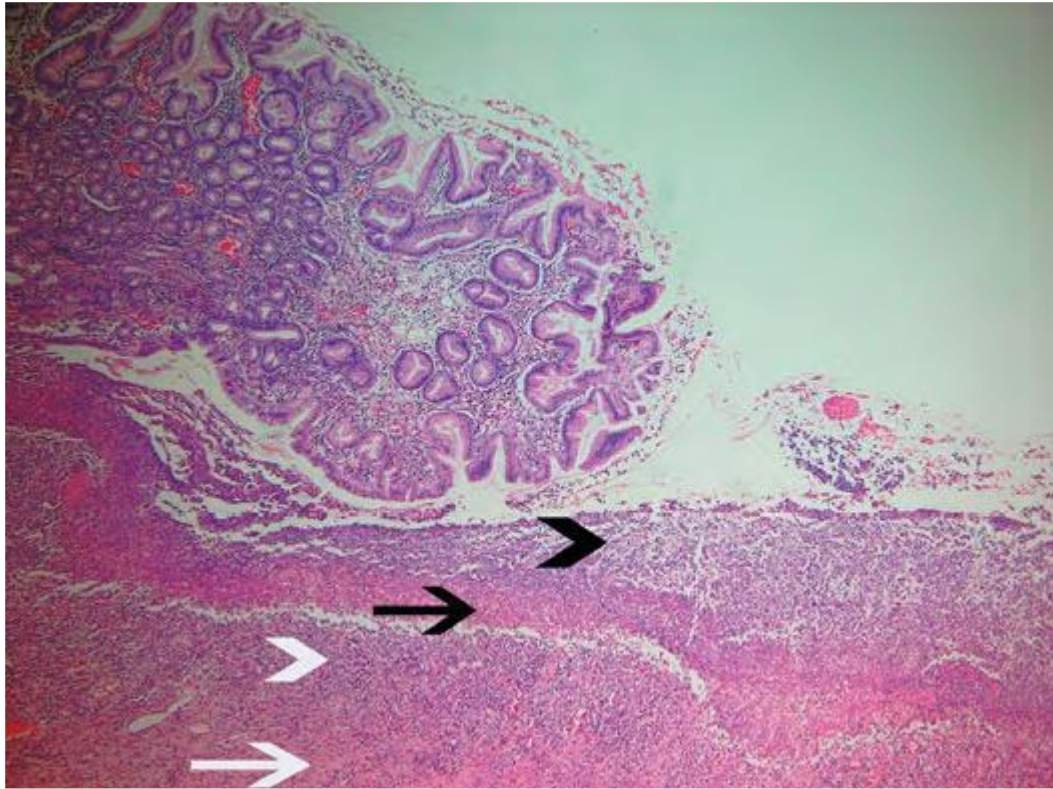
Microscopic: The four levels of an ulcer recapitulate the stages of acute inflammation to chronic inflammation and fibrosis. Fibrin is the most superficial layer, followed by neutrophils, granulation tissue, and, the deepest layer, fibrosis.

### Clinical features:

Symptoms: Chronic, gnawing epigastric pain and tenderness with radiation to the back; bleeding (melena or “coffee ground” hematemesis). Timing of pain in relation to food consumption is not reliable. If there is perforation of the ulcer, patients will have abrupt abdominal pain and a rigid abdomen upon physical examination (peritoneal signs).

Diagnosis: Endoscopy and biopsy to rule out a gastric carcinoma.





Celiac disease or celiac sprue;

Epidemiology: Celiac sprue is most common in whites.

Pathogenesis of celiac sprue: Due to hypersensitivity to gluten, a protein found in wheat products.

Genetics: Associated with HLA-DQ2 and HLA-DQ8. Laboratory testing shows the presence of anti-gliadin, anti-tissue transglutaminase, and anti-endomysial antibodies in patients.

Complications of celiac sprue

- Diarrhea.
- Increased risk for development of intestinal (T-cell) lymphomas.
- Associated with development of small intestinal adenocarcinoma and squamous cell carcinoma of the esophagus.

Pathology:

Microscopic examination:

Small intestinal mucosa with flattened villi, lymphocytic infiltrates, and crypt hyperplasia. Changes are worse in the duodenum and the proximal small intestine.

Clinical features:

Bloating, chronic diarrhea, and malabsorption.

**Irritable bowel syndrome (IBS)?**

Irritable bowel syndrome is a disorder characterized most commonly by cramping, abdominal pain, bloating, constipation, and diarrhea. IBS causes a great deal of discomfort and distress, but it does not permanently harm the intestines and does not lead to a serious disease, such as cancer. Most people can control their symptoms with diet, stress management, and prescribed medications. For some people, however, IBS can be disabling. They may be unable to work, attend social events, or even travel short distances.

As many as 20 percent of the adult population, or one in five persons, have symptoms of IBS, making it one of the most common disorders diagnosed by doctors. It occurs more often in women than in men, and it begins before the age of 35 in about 50 percent of people.