

# **Peptic Ulcer Disease**

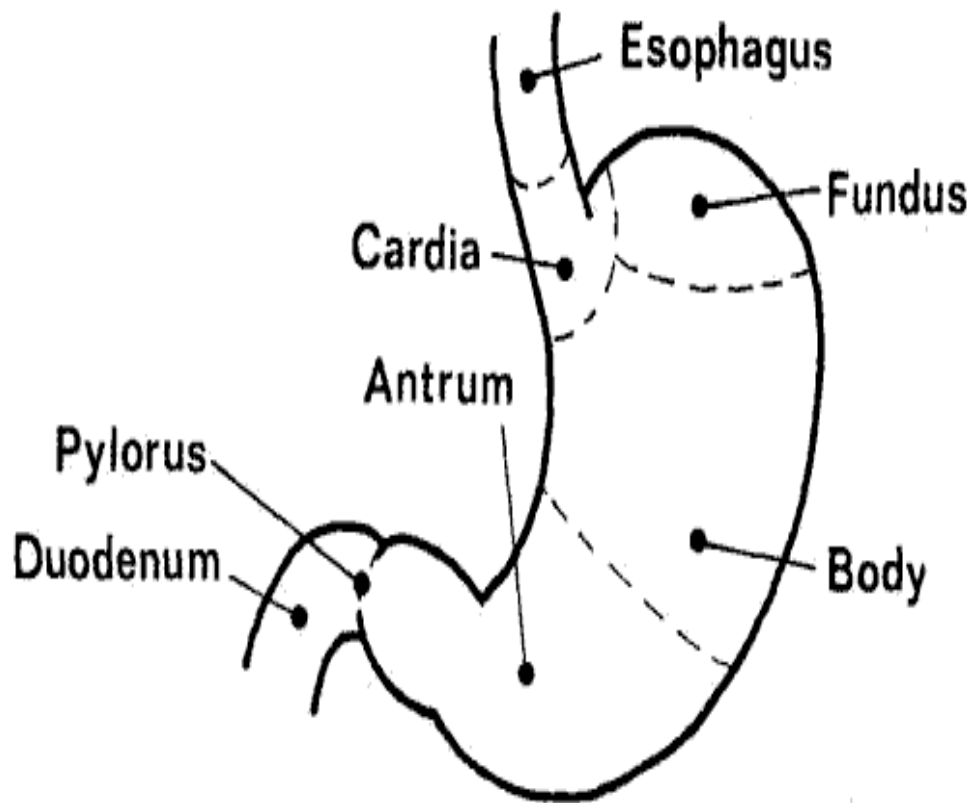
# Peptic Ulcer Disease (PUD)

## Definition

### *Peptic ulcer*

- refers to erosion of the mucosa lining any portion of the G.I. tract.
- It is defined as : A circumscribed ulceration of the gastrointestinal mucosa occurring in areas exposed to acid and pepsin and most often caused by *Helicobacter pylori* infection. (Uphold & Graham, 2003)
- gastric ulcer : the ulcer that occurs in the stomach lining ,some of them may be malignant
- duodenal ulcer : most often seen in first portion of duodenum (>95%)

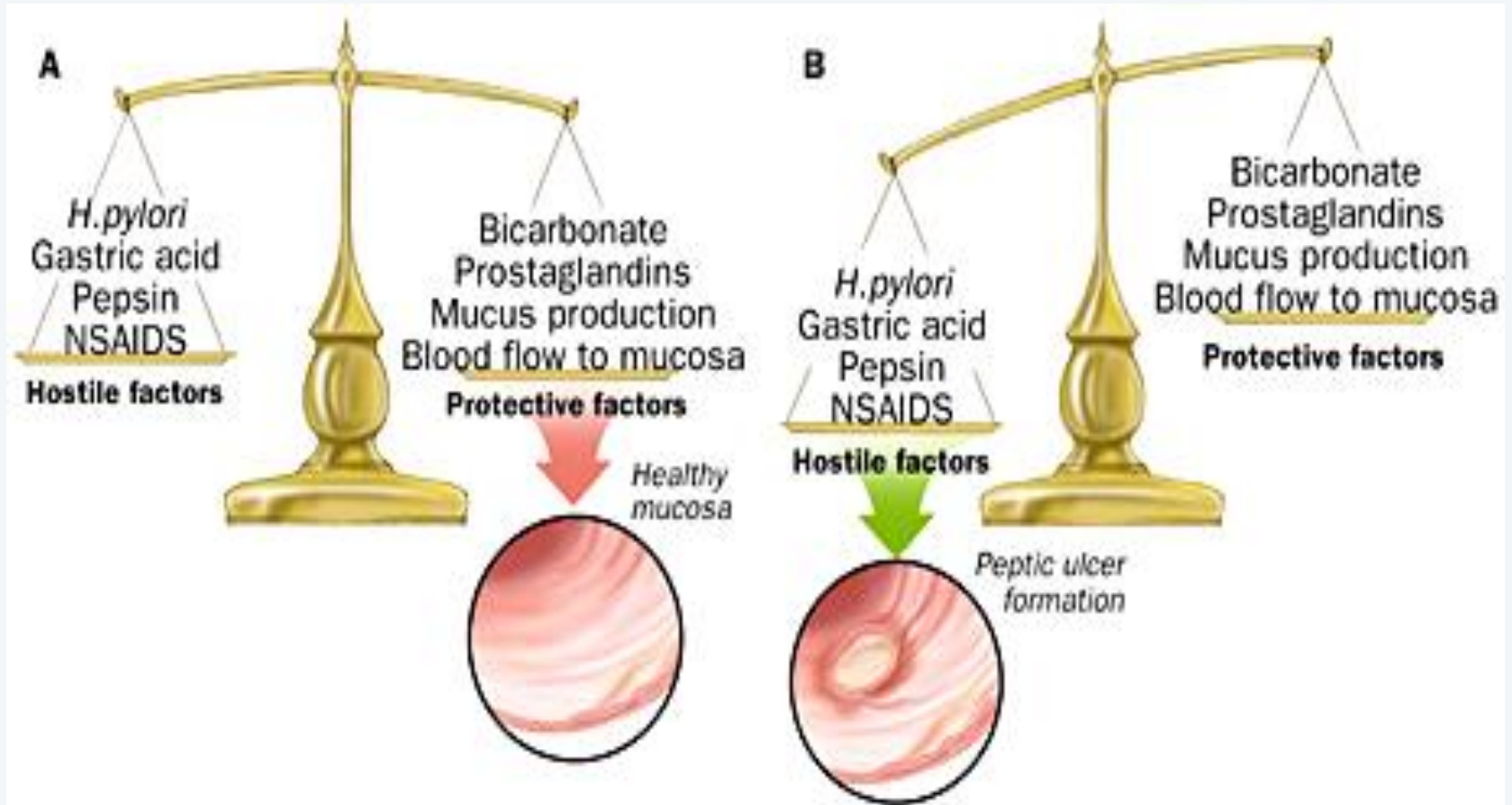
# Normal Esophagus & Stomach



# Peptic Ulcer Disease

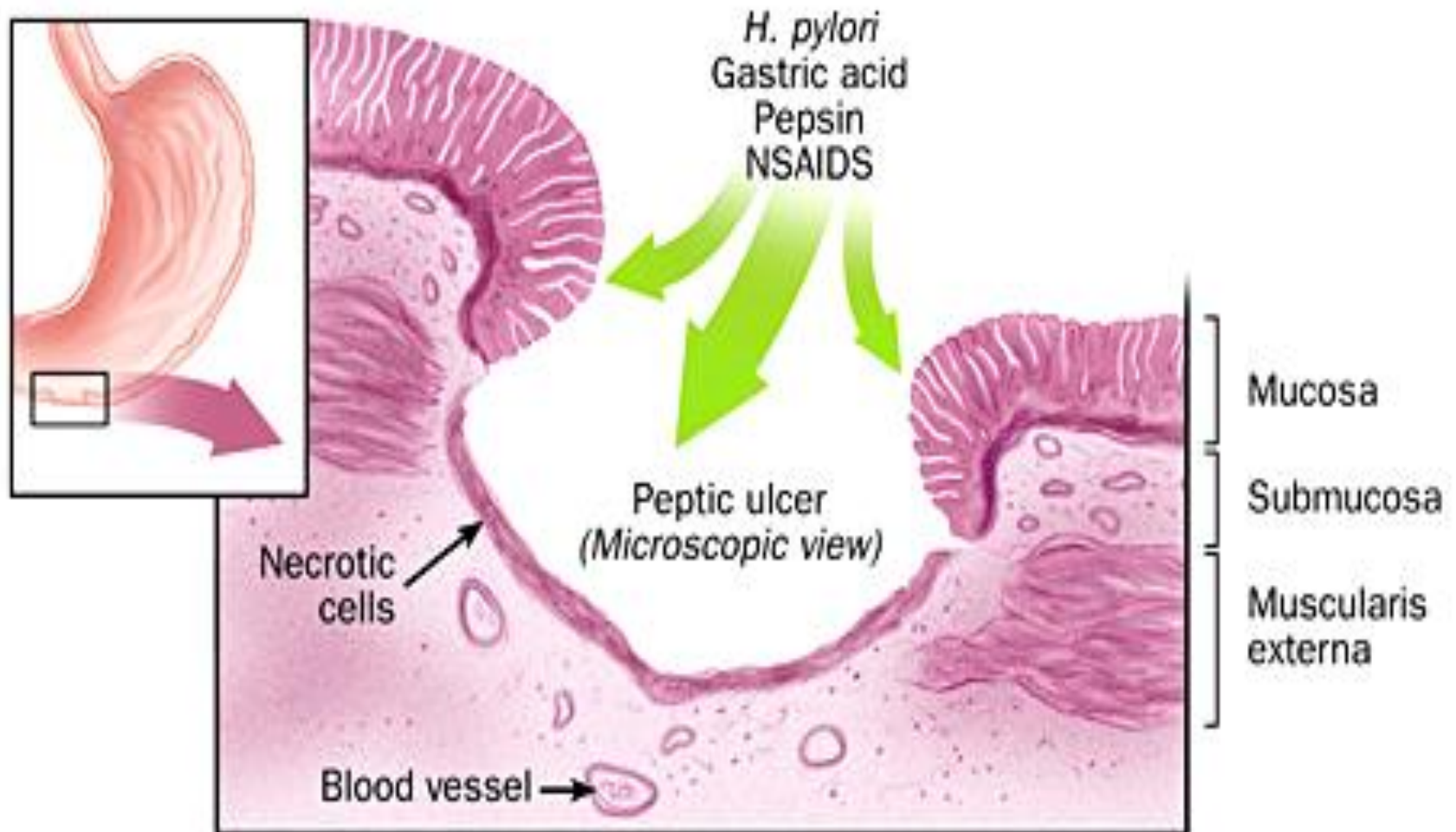
## Pathogenesis :

Protective factors *vs.* hostile factors



# Peptic Ulcer Disease

## Pathogenesis :



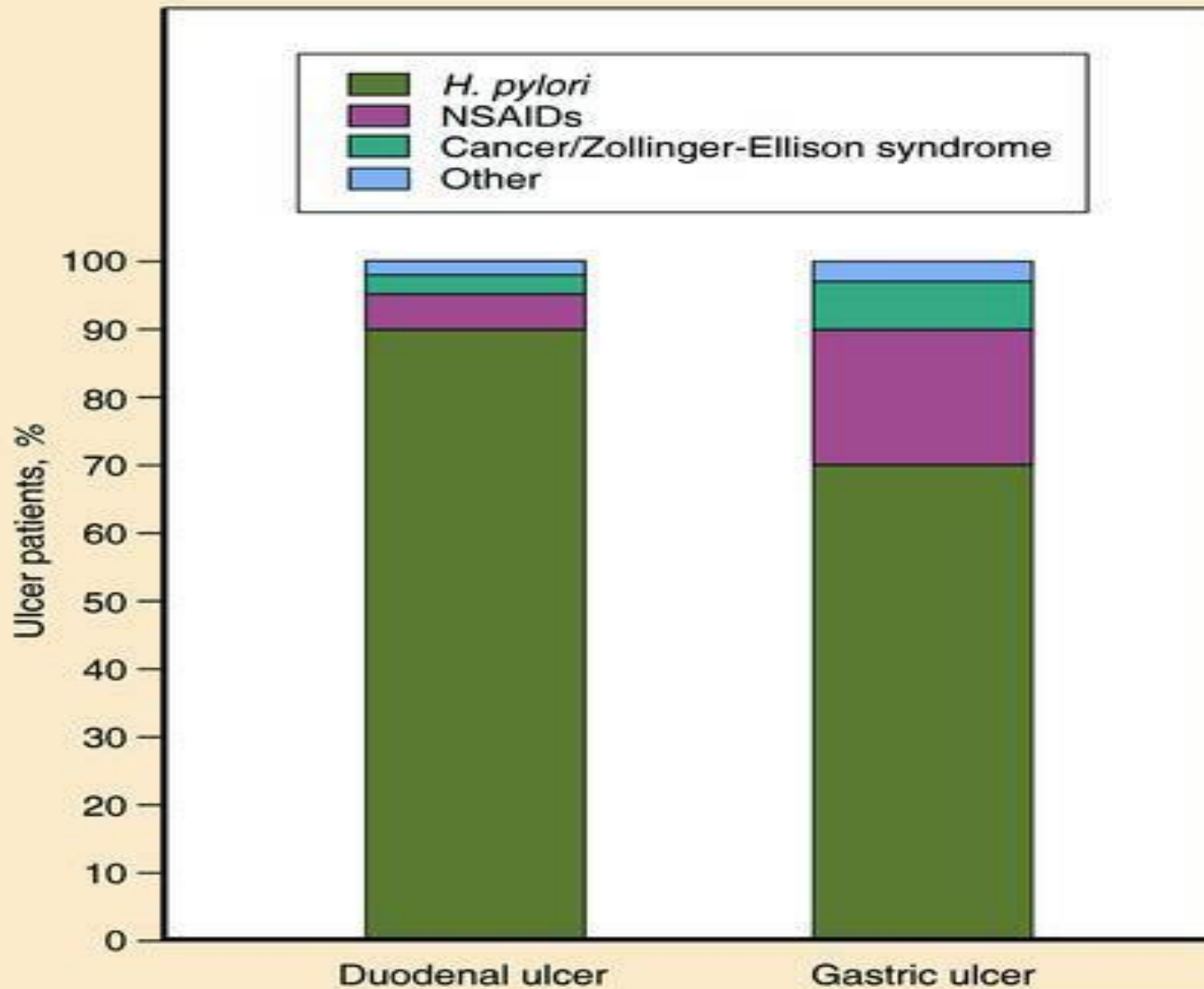
# Peptic Ulcer Disease

## Causes:

*The causes of peptic ulcer disease include the following:*

- Infection with the bacteria *Helicobacter pylori* occurs in 80 to 95% of patients with peptic ulcer disease. *H. pylori* infection impairs the protective mechanisms of the G.I. tract against low pH and digestive enzymes and leads to ulceration of the mucosa.
- Stress — Emotional, trauma, surgical.
- Injury or death of mucus-producing cells.
- Excess acid production in the stomach. The hormone *gastrin* stimulates the production of acid in the stomach; therefore, any factors that increase gastrin production will in turn increase the production of stomach acid.
- Drugs: Chronic use of aspirins and NSAIDs, or Corticosteroids

# ETIOLOGIC FACTORS OF PUD





# Helicobacter pylori:

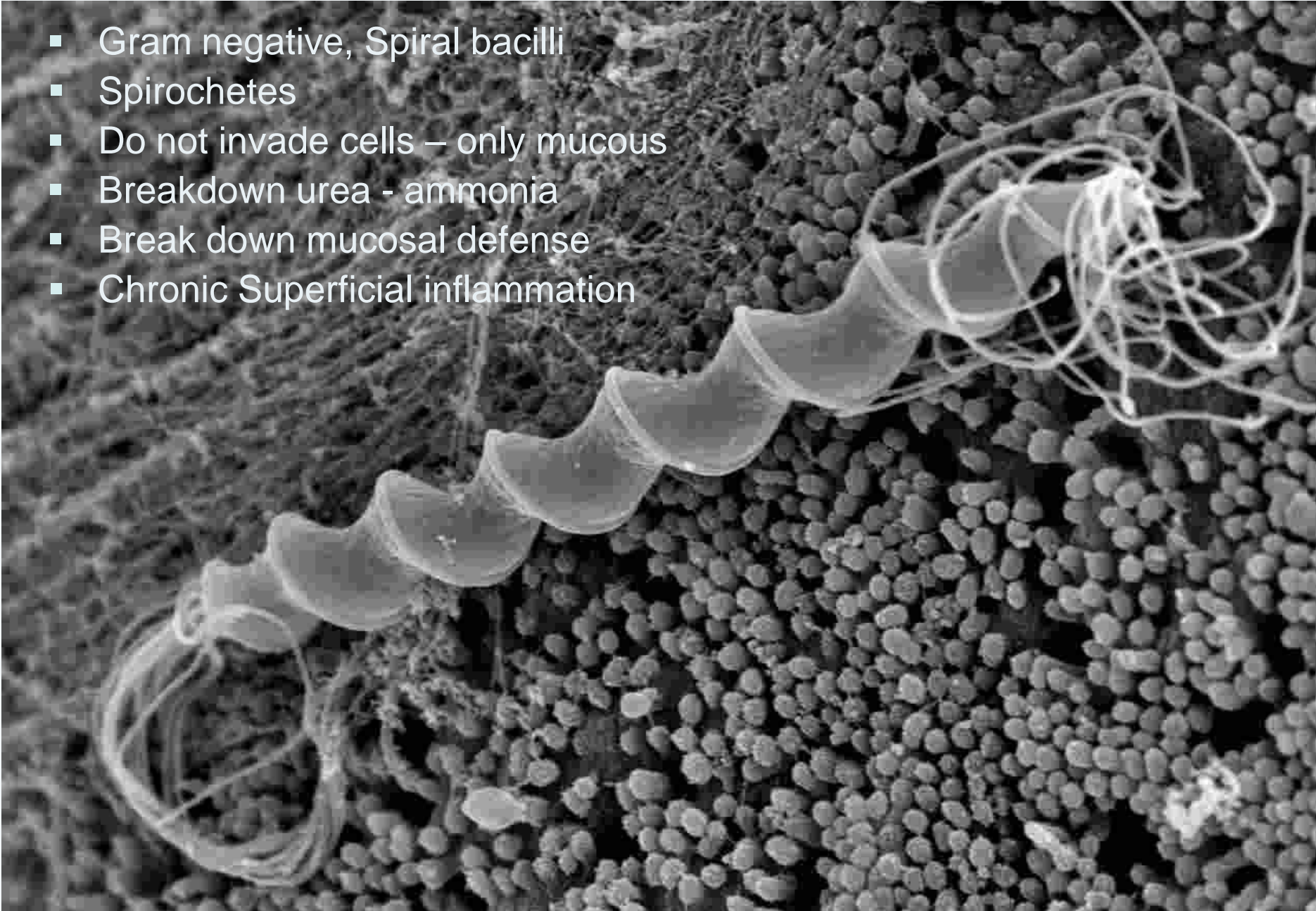
- Most common infection in the world (20%)
- 10% of men, 4% women develop PUD
- Positive in 70-100% of PUD patients.
- H.pylori related disorders:
  - Chronic gastritis – 90%
  - Peptic ulcer disease – 95-100%
  - Gastric carcinoma – 70%
  - Gastric lymphoma
  - Reflux Oesophagitis.
  - Non ulcer dyspepsia





# Helicobacter pylori:

- Gram negative, Spiral bacilli
- Spirochetes
- Do not invade cells – only mucous
- Breakdown urea - ammonia
- Break down mucosal defense
- Chronic Superficial inflammation



# Duodenal Ulcer Vs. Gastric Ulcer

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>✓ duodenal sites are 4x as common as gastric sites</li><li>✓ most common in middle age with peak 30-50 years</li><li>✓ Male to female ratio—4:1</li><li>✓ Genetic link: 3x more common in 1st degree relatives</li><li>✓ more common with blood group O</li><li>✓ associated with increased serum pepsinogen</li><li>✓ H. pylori infection common, up to 95%</li><li>✓ smoking is twice as common</li></ul> | <ul style="list-style-type: none"><li>✓ common in late middle age.</li><li>✓ incidence increases with age.</li><li>✓ Male to female ratio—2:1</li><li>✓ More common with bl. group A</li><li>✓ Use of NSAIDs: associated with a three- to four-fold increase in risk of gastric ulcer</li><li>✓ Less related to H. pylori than duodenal ulcers : about 80%</li><li>✓ 10 - 20% of patients with a gastric ulcer have a concomitant duodenal ulcer</li></ul> |
|---|--|

# Peptic Ulcer Disease

## Manifestations:

### Manifestations of peptic ulcer disease:

- Episodes of remission and exacerbation
- Pain that for duodenal ulcers is often relieved by eating or antacids
- G.I. bleeding and possible hemorrhage (20 to 25% of patients)
- Perforation of ulcers with significant mortality
- Obstruction of G.I. tract

# **PUD - Diagnosis**

- Endoscopy
- Barium meal – contrast x-ray
- Biopsy – bacteria & malignancy
- H.Pylori:
  - Endoscopy cytology
  - Biopsy – Special stains
  - Culture - difficult
  - Urease Breath test.

# Urease Breath Test.



# **PUD – Complications**

- Bleeding – Chronic, Acute, Massive
- Fibrosis, Stricture obstruction – pyloric stenosis.
- Perforation – Peritonitis- emergency.
- Gastric carcinoma. (not duodenal carcinoma)

## **Non-pharmacological Treatment of** **Peptic ulcer**

- 1-Avoid spicy food.
- 2-Avoid Alcohol.
- 3-Avoid Smoking.
- 4-Avoid heavy meals.
- 5-Encourage small frequent low caloric meals.
- 6-Avoid ulcerating drugs e.g. NSAIDs, corticosteroids



# PUD –Treatment

- Proton pump inhibitor
- H pylori eradication

# Signs of CLD



## Effects of portal hypertension

- Esophageal varices

Hematemesis

- Melena

- Splenomegaly

- Dilated abdominal veins (caput medusae)

- Ascites

- Rectal varices (hemorrhoids)

Gastrop-  
athy

## Effects of liver cell-failure

- Coma
- Fetor hepaticus (breath smells like a freshly opened corpse)
- Spider nevi
- Gynecomastia
- Jaundice
- Ascites
- Loss of sexual hair
- Testicular atrophy
- Liver flap (coarse hand tremor)
- Bleeding tendency (decreased prothrombin)
- Anemia
- Macrocytic
- Iron deficiency (blood loss)
- Ankle edema





