




Stomach **(gastritis, ulcer, carcinoma)**

وزارة التعليم العالي والبحث العلمي
كلية المعارف الجامعة
قسم المختبرات الطبية

Histopathology
المرحلة الرابعة



Stomach (gastritis, ulcer, carcinoma)

Gastritis

DEFINITION:

Gastritis is an inflammation of the gastric mucosa(protects your stomach from the acids, enzymes and microorganisms that pass through it every day) is classified as either acute or chronic.

INCIDENCE:

The incidence of gastritis is highest in the fifth and sixth decades of life; men are more frequently affected than women. The incidence is greater in patient who are heavy drinkers and smokers.

ETIOLOGY AND RISK FACTORS:

- It usually stems from ingestion of a corrosive, erosive, or infectious substance.
- Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), chemotherapeutic drugs, steroids, food poisoning (typically caused by *Staphylococcus* organisms) are common causes.
- Foods with a rough texture or those eaten at an extremely high temperature can also damage the stomach mucosa.

Pathophysiology

- The mucosal lining of the stomach normally protects it from the action of gastric acid. This mucosal barrier is composed of prostaglandins.
- Due to any cause
↓
- This barrier is penetrated
↓
- Hydrochloric acid comes into contact with the mucosa
↓
- Injury to small vessels
↓
- Edema, hemorrhage, and possible ulcerformation

What are the different types of gastritis?

You can have acute gastritis or chronic gastritis.

- Acute gastritis is sudden and temporary .The conditions that cause it are also acute.
- Chronic gastritis is a long-term condition, though you may not notice it all the time (or at all). It tends to develop gradually, as a result of another chronic condition. Gastritis can also be erosive or nonerosive.



What is Acute Gastritis?

Acute gastritis is a medical condition characterized by the sudden inflammation of the stomach lining

Causes and risk factors:

Multiple causes of chronic gastritis include *Helicobacter pylori* infection, autoimmune disease in the stomach, long-term usage of specific medications like nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids, chronic stress, alcohol abuse, and bile reflux. The risk factors of chronic gastritis are age, family history of gastritis, smoking, high salt or pickled food diet, and chronic stress.

Chronic gastritis

Chronic gastritis occurs in 3 different forms

- 1) Superficial gastritis.
- 2) Atrophic gastritis
- 3) Hypertrophic gastritis

Diagnosis Acute gastritis

- ☐ taking a medical history.
- ☐ physical examination.
- ☐ diagnostic tests includ.
 - endoscopy.
 - blood test.
 - stool test.
 - breathing test.

RISK FACTORS



Non-steroidal anti-inflammatory drugs



Helicobacter (*H*) Pylori infection



Smoking



Increasing age



Alcohol abuse

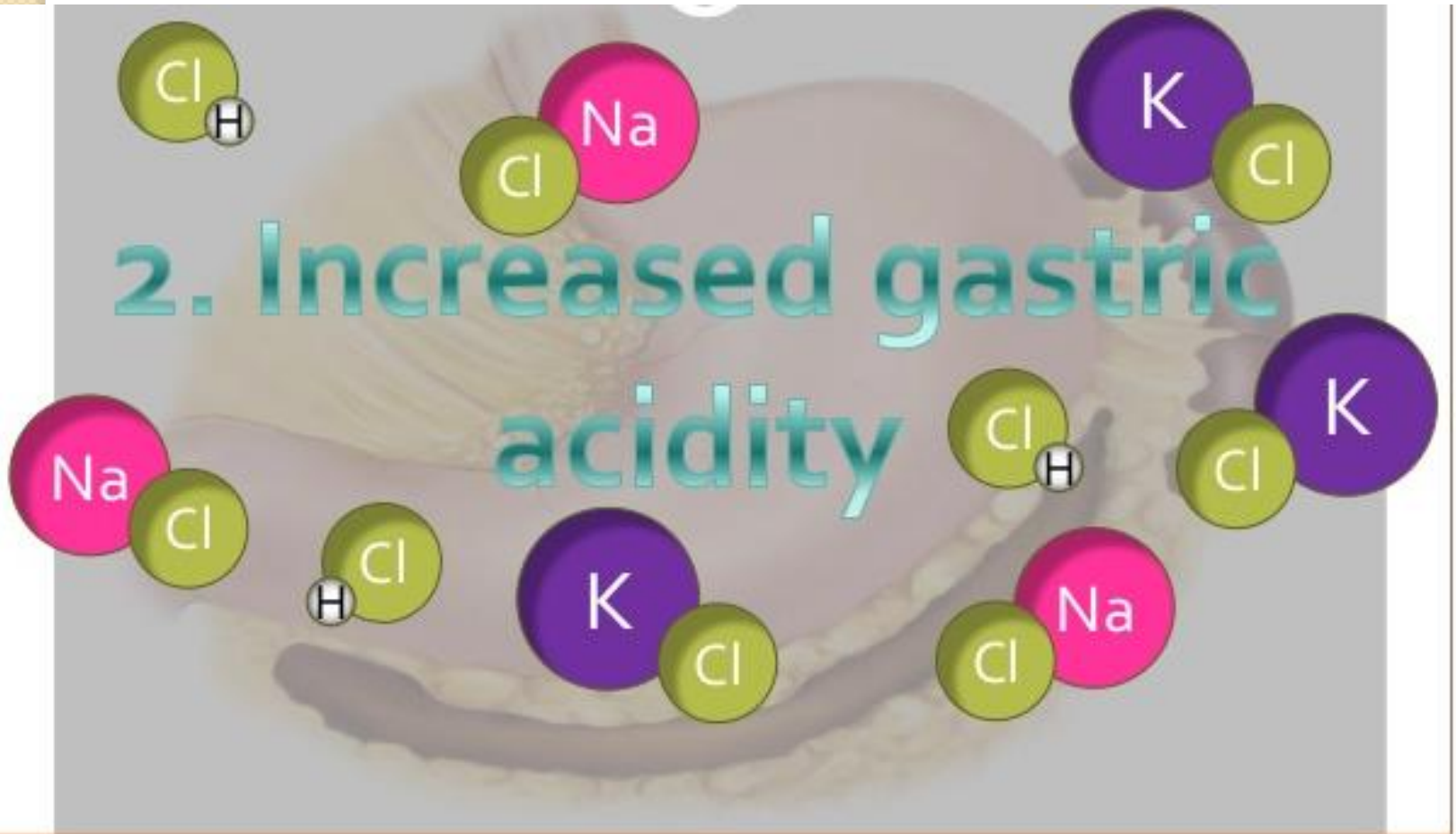
Pathophysiology

1. Aggressive factor

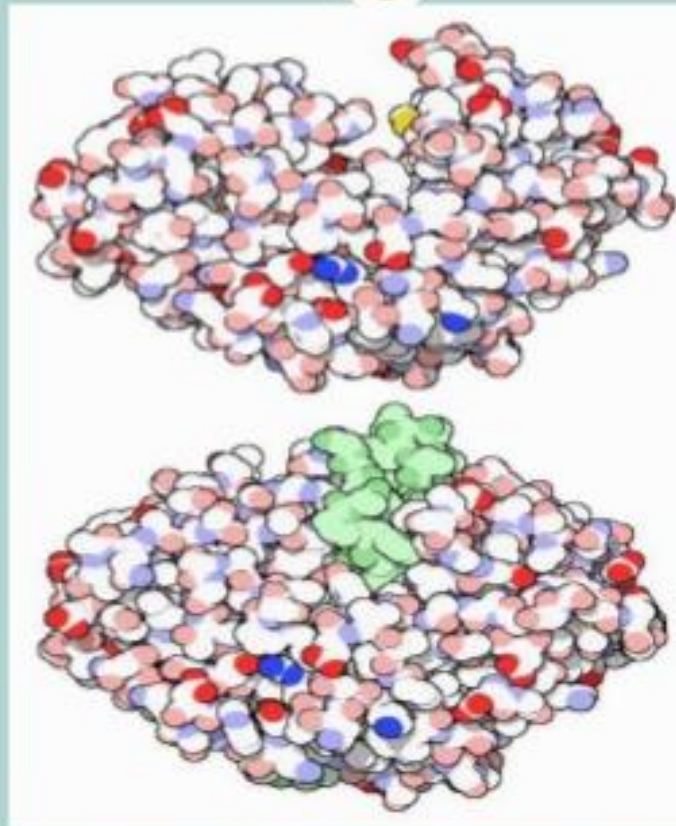


Pathophysiology

2. Increased gastric acidity



The increasing acidity

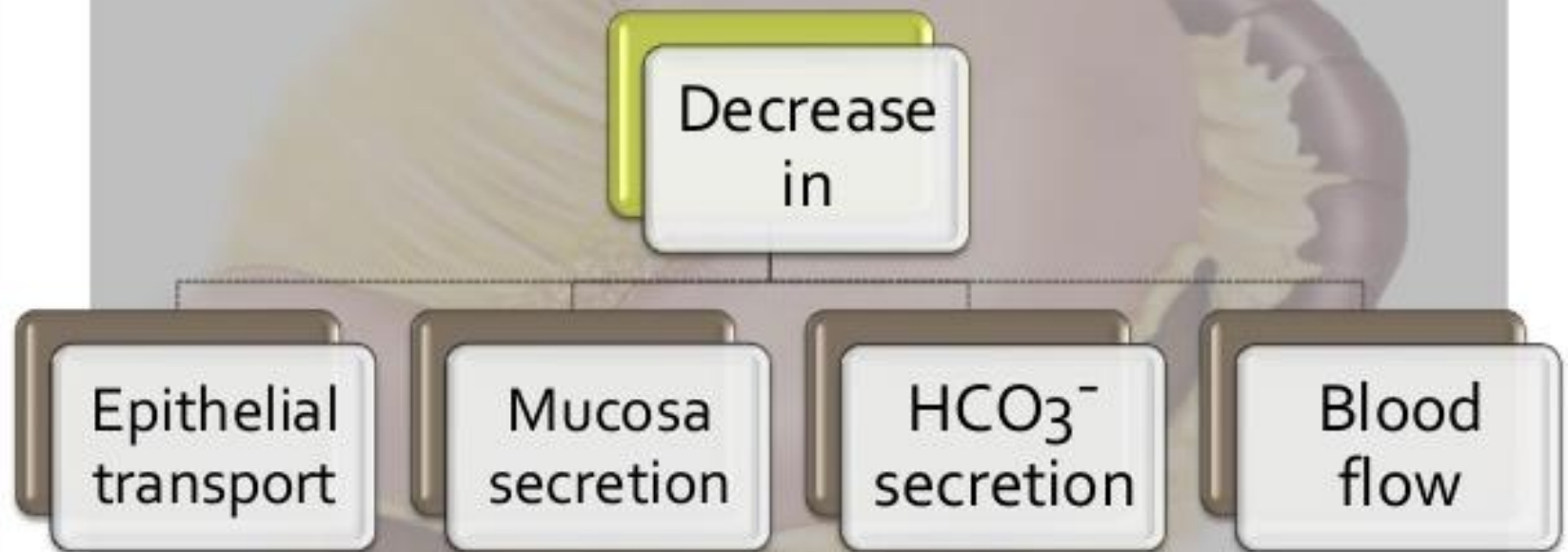


Activation

Increase in the process pepsinogen → pepsin rate

Pathophysiology

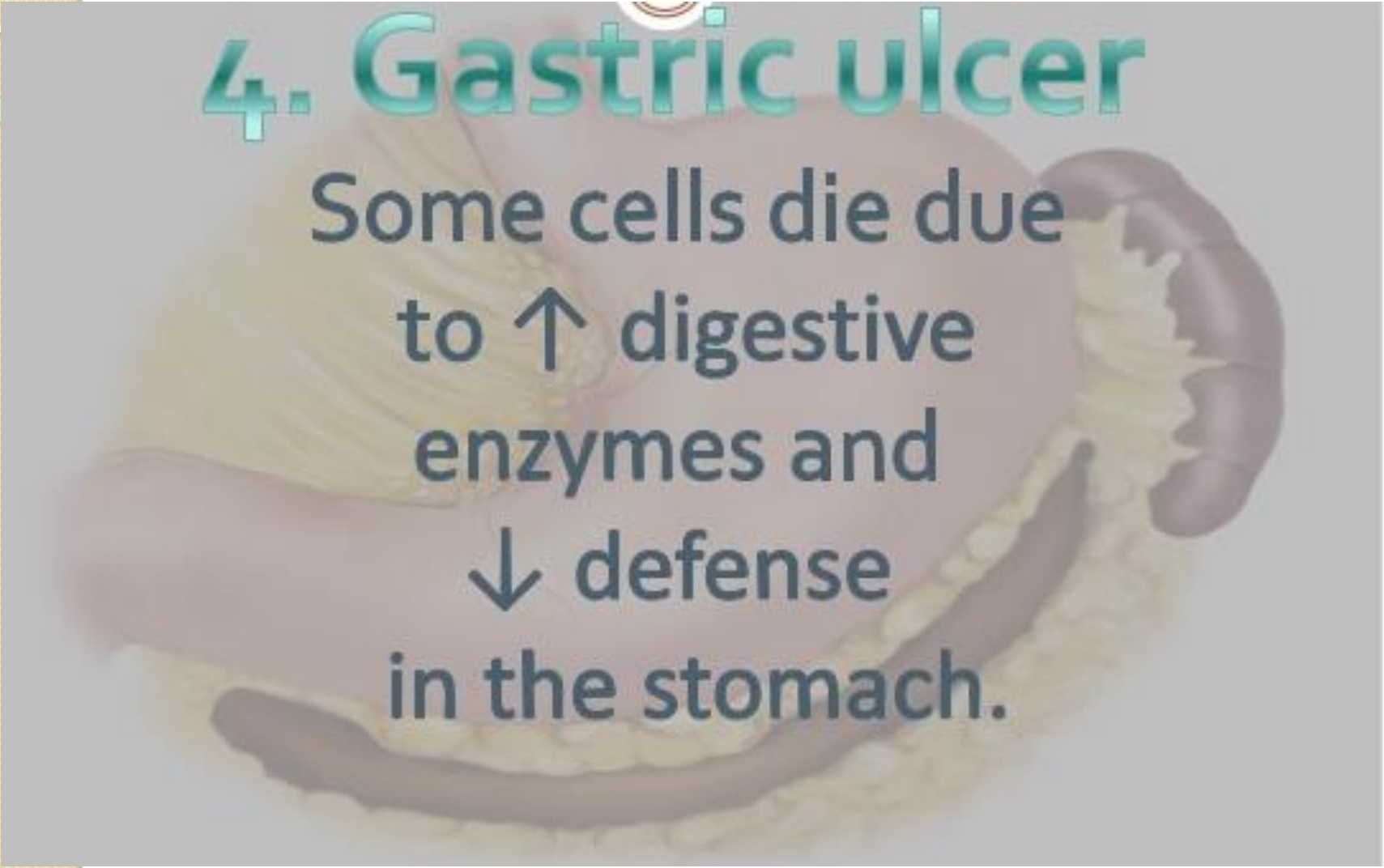
3. Impaired defenses



Pathophysiology

4. Gastric ulcer

Some cells die due
to \uparrow digestive
enzymes and
 \downarrow defense
in the stomach.

An anatomical illustration of the human stomach, showing the internal structure including the pyloric and duodenal ulcers. The stomach is depicted in a light pinkish-brown color, with the internal folds (rugae) visible. A dark, irregular area on the inner wall of the stomach indicates the location of a gastric ulcer. The text is overlaid on the illustration.

Pathophysiology

4. Gastric ulcer





Stomach ulcer

Peptic ulcers

Peptic ulcers are open sores that develop in the lining of the stomach and upper part of the small intestine. The most common symptom of peptic ulcer is stomach pain.

Peptic ulcers include:

- ☐ Peptic ulcers affect the inside of the stomach
- ☐ Duodenal ulcers affect the inner portion of the upper intestine

Symptoms

- o Vomiting or vomiting blood that may appear red or black
- o The presence of dark blood in the stool, or black or tarry stool
- o difficulty breathing
- o Feeling faint
- o Nausea or vomiting
- o Idiopathic weight loss
- o Appetite change



Stomach Cancer

Benign Tumors

- Are not cancer
- Not life-threatening
- Can be removed and usually do not grow back
- Cells do not invade the tissues around them
- Cells do not spread to other parts of the body

Malignant Tumors

- Are cancer
- Generally more serious than benign tumors
- May be life-threatening
- Often can be removed but sometimes grow back
- Cells can invade and damage nearby tissues and organs
- Can spread (metastasize) to other parts of the body

Stomach Cancer

- Can affect nearby organs and lymph nodes
- Stomach tumor can grow through stomach's outer layer into nearby organs (such as the pancreas, esophagus or intestine)
- spread through the blood to the liver, lungs and other organs
- Can also spread through the lymphatic system to lymph nodes all over the body

Risk Factors


- Exact causes unknown
- Age – most are age 72 or older
- Sex – men most likely than women
- Race – more common in Asian, Pacific Islander, Hispanic and African-Americans
- Diet – diet high in foods that are smoked, salted or pickled
- Helicobacter pylori infection – raises risk of stomach inflammation and stomach ulcers
- Smoking – people who smoke more at risk
- Certain health problems: stomach surgery, chronic gastritis, pernicious anemia.
- Family history – rare type of stomach cancer runs in some families

Stages of Stomach Cancer

- Stage 0 – cancer found only in the inner layer of the stomach
- Stage 1 Tumor invaded only the submucosa – cancer cells may be found in up to 6 lymph nodes

Stages of Stomach Cancer

- Stage II
- Tumor has invaded only the submucosa cancer cells have spread to 7-15 lymph nodes

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- Stage III
 - Tumor has invaded the muscle layer or subserosa – 7-15 lymph nodes
 - Tumor has invaded nearby organs, such as the liver or spleen

Stages of Stomach Cancer

- Stage IV
- Cancer cells have spread to more than 15 lymph nodes
- Tumor has invaded nearby organs and at least 1 lymph node
- Cancer cells have spread to distant organs
- Recurrent cancer

Pathophysiology

