

## STOMACH ULCER DISEASE AND ITS MODERN TREATMENT METHODS

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**Abstract:** This article talks about gastric ulcer disease and its modern treatment methods , as well as methods of determining the structure of the stomach and various pathological conditions occurring in it. If peptic ulcer disease is not treated, the condition of the patient worsens day by day. For example, a wound may bleed. In this case, fainting, sometimes intestinal bleeding or vomiting of blood occur. Also, if the necessary medical procedures are not carried out, the stomach ulcer can turn into a tumor, cause cancer and cause diseases such as gall bladder diseases, cholecystitis (inflammation of the gall bladder), pancreatitis (inflammation of the pancreas) .

**Key words:** stomach, stomach lining and cavity, peptic ulcer disease, Helicobacter Pylori bacteria, diagnosis, diet

**Introduction:** The stomach is one of the main organs of the digestive system , and it carries out the chemical decomposition of food. It is mainly composed of muscle tissue, gastric juice secreting glands and a number of other cell types. Food is mixed with gastric juice after mechanical movements of the stomach wall.

Consists of the following main parts and layers:

- ✓ Floors. Three main layers of the stomach wall are distinguished: mucosa (inner layer), submucosa ( middle layer) and muscle (outer layer).
- ✓ Stomach cavity . The main space used in the digestion process.
- ✓ Esophagus. The entrance of food to the stomach.
- ✓ Pylor (pylorus). The part that separates the stomach and duodenum.
- ✓ Other parts and functions of the stomach. Cardia (the part that connects the stomach with the esophagus), fundus (the upper part of the stomach), antrum (the part of the pylorus) , etc.

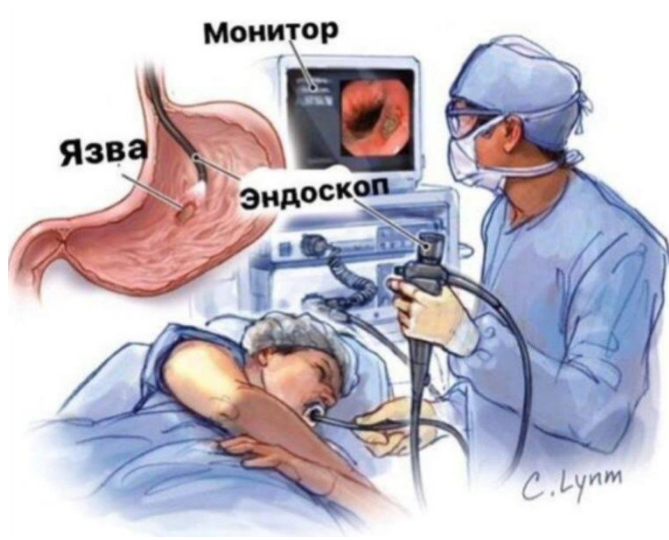
In our article, we will discuss the causes, symptoms, diagnosis and modern treatment methods of peptic ulcer disease.

**Materials and methods:** The article used scientific research methods such as analysis of existing scientific literature, comparative analysis, modern computer technologies.

modern method of diagnosing gastric ulcer . Most often , fibrogastroduodenoscopy is an endoscopic examination, during which the stomach and duodenum are examined. If during the examination the doctor finds a suspicious change in the mucous membrane, he will conduct a biopsy, take a piece of tissue and send it to the laboratory.

An X-ray with contrast may be ordered to check. The patient is given a radiopaque solution to drink , after which the stomach is examined with X-rays: we can observe how it shrinks on the screen and determine the deformation of the walls.

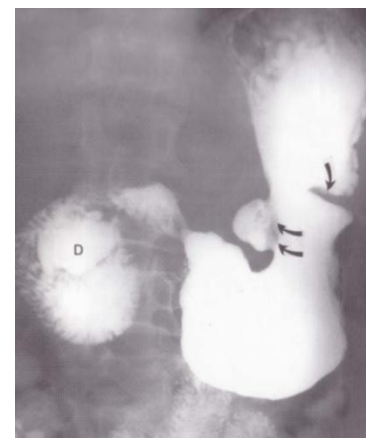
"Radiopaque solution" - X-ray diagnostic contrast agents. They are used to improve the visualization of internal organs and anatomical structures during radiation research methods (x-ray computer tomography and radiography). The radiopaque solutions used in most cases usually contain iodine or barium.



**Figure 1.** Endoscopic examination of the patient.



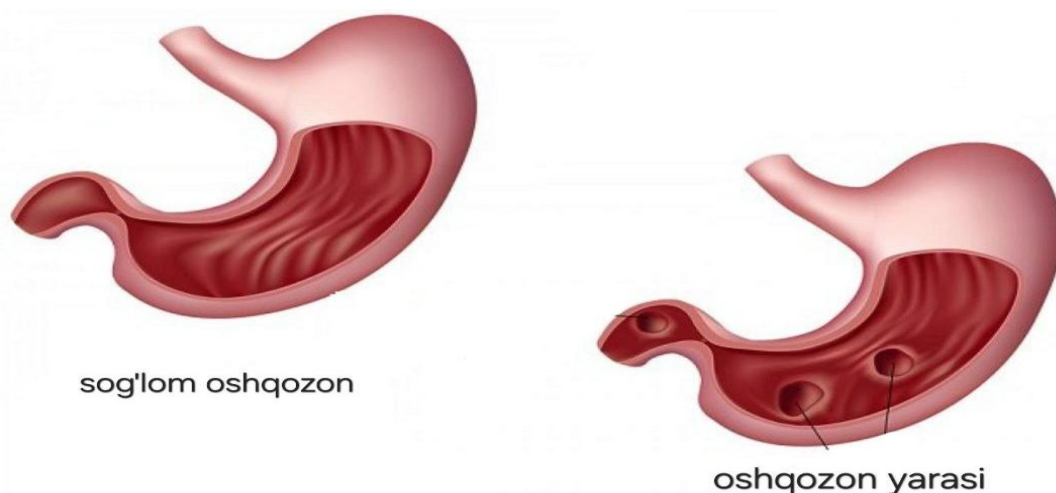
a



b

**Figure 2.** Comparative analysis of the examination result: a. healthy stomach b. peptic ulcer disease

**Results and discussion:** Peptic ulcer is a deep defect of the stomach wall that damages the mucosa. It can be acute or chronic. In the chronic stage, the disease often flares up and causes life-threatening complications. Sometimes such ulcers appear in the part of the intestine located behind the stomach. In this case, it is a duodenal ulcer. Both types of peptic ulcer are *peptic ulcer* *peptic ulcer* is a sharply limited tissue that includes the mucosa membrane, submucosa and muscle layer that occurs under the influence of acid-pepsin gastric juice of the stomach or duodenum). loss) is called. Peptic ulcer is very common. For example, in the United States, one in ten people suffer from this disease. The disease can be transmitted. Signs of genetic predisposition are found in patients of the first blood group, the absence of ABO antigen is a deficiency of antitrypsin a1, as well as a decrease in T-lymphocytes and an increase in B-lymphocytes.



**Figure 3.** The difference between a healthy stomach and a diseased stomach.

The disease is dangerous because its exacerbation or long-term chronic nature can lead to cancer. An acute stomach ulcer can cause heavy bleeding.

Ulcer disease is a chronic disease, its course is divided into 4 stages.

- I. The wound is characterized by functional impairment.
- II. Stage of gastroduodenitis.
- III. wound formation .
- IV. Processes after wound formation .

***Causes of the disease:***

that disturb the acidity in the stomach and increase the level of hydrochloric acid, which lead to the development of the disease. The most common reasons:

- Smoking;
- Consumption of alcohol;
- Consumption of soda and drinks containing caffeine;
- Malnutrition;
- Frequent use of painkillers . For example:
  - Aspirin. Although the tablets are covered with a protective shell and dissolve outside the stomach.
  - Means based on ibuprofen.
  - Preparations based on diclofenac sodium.
  - Pain relievers based on naproxen .
- Depression or stressful situations.
- Protein, vitamin deficiency.

#### *Symptoms of peptic ulcer:*

- Abdominal pain spread to the chest and scapula, as well as to the thoracic part of the back and spine.
- Boil of Jigildon.
- Vomiting.
- Headache lasting 30-60 minutes after eating .
- Night pains in the stomach area .
- The patient loses weight.

#### *Diagnostics:*

- Clinical blood test
- Stool analysis for occult blood
- Analysis of the acid producing function of the stomach
- Checking the presence of *Helicobacter pylori* bacteria in the gastric mucosa

**Laboratory tests:** Acidity of gastric juice is often high. Hypersecretion and gastrosucorrhea are often detected. Occult bleeding can be detected in the feces (Gregersen's reaction ), the patient is not given meat for three days before the examination.

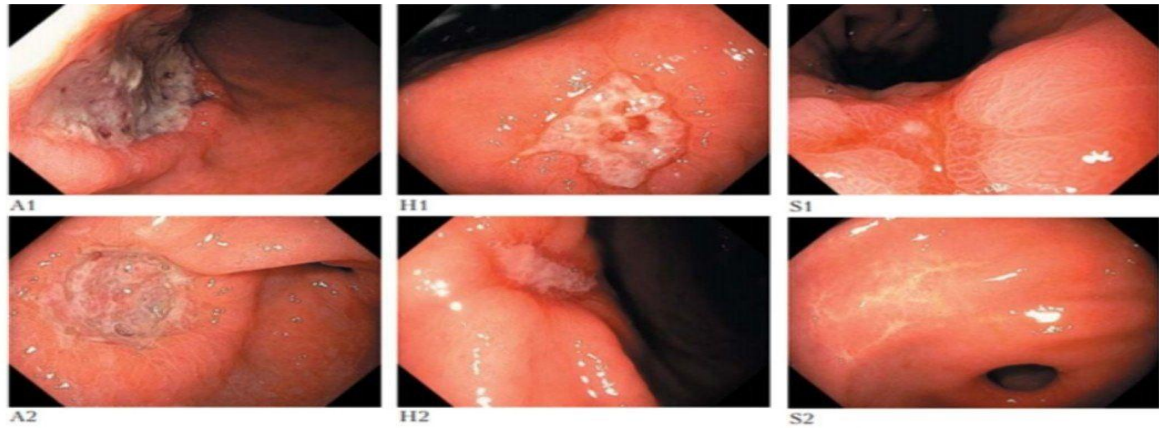
**X-ray examination:** "Shelve" signs are detected, stable deformation in the part of the stomach or duodenum, signs of fold convergence, increased peristalsis are detected. Gastrofibroscopy allows you to determine the size of the wound, the presence of complications, while the dynamic examination monitors the processes of scar formation and conducts local burning therapy with laser rays, injects drugs and, if necessary, biopsies the area.

#### *Treatment of peptic ulcer*

Peptic ulcer treatment includes three main components:

- Elimination of *Helicobacter pylori* bacteria (develops in 10-15% of patients)
- Normalizing the level of hydrochloric acid in the stomach

- Protecting the mucous membrane from aggressive factors, stimulating its defense mechanisms, suppressing the inflammatory process.



**Figure 4.** Stages of gastric ulcer treatment.

Steps		
A1	Active stage	The mucosa surrounding the peptic ulcer appears swollen from edema and there is no epithelial regeneration.
A2		The swelling of the mucous membrane around the gastric ulcer has decreased, the edge of the ulcer is clearly visible, the first sprouts of the renewed epithelium appear at the edge of the ulcer. A red ring is often seen around the perimeter of the ulcer, and a round white-black scab is often seen around the edge. Converging folds of the mucosa are usually observed up to the edge of the wound.
		The white fibrin layer that covers the wound is thin, and the regenerating epithelium spreads directly to the bottom of the ulcer. The gradient between the edge and the bottom of the wound is smoothed. But the wound crater is still there and the edge of the wound is clearly visible. The diameter of the wound is approximately one-half to two-thirds of the diameter of

H1	Treatment	the wound in stage A1.
H2		The ulcerated defect is smaller than in stage H1, and the regenerating epithelium covers most of the ulcer floor. The area of the white fibrin layer is approximately one-quarter to one-third of the wound area in stage A1 .
S1	Scar stage, red scar	Regenerative epithelium completely covers the lower part of the wound. The white layer of fibrin is gone. Initially, the regeneration zone appears bright red. On closer inspection, you can see a large number of capillaries. A "red scar" appeared.
S2	Scar stage, white scar	Over several months to several years, the initially red scar takes on the color of the surrounding mucous membrane. A "white scar" appeared.

**Diet:**

*In most cases, with the exacerbation of the disease, as well as* for the treatment of chronic stomach ulcers, diet No. 1 is prescribed, in which it is impossible:

- Carbonated drinks
- High fiber raw fruits and vegetables
- Meat, fish, mushroom broths
- Fried foods
- Smoked meat
- Marinades, pickles
- Hot tea and coffee

**Who can get this disease ?**

- Men (especially with the first blood type)
- People with a choleric temperament (emotional and unbalanced) who are under constant stress
- People who smoke a lot

- People with disordered eating
- The older you are , the higher your risk of developing a stomach ulcer. This disease is especially common in people aged 20-50 .

***Disease prevention:***

To prevent stomach ulcers, very simple requirements should be followed:

- 6-8 hours of sleep
- Avoid fatty, smoked, fried foods
- Not smoking
- Do not drink alcohol.

**Conclusion:** Everyone should lead a healthy lifestyle - refrain from smoking, drinking alcohol, and follow the rules of healthy eating. In case of complaints about the stomach, it is necessary to contact the doctor immediately, the most dangerous complications of the disease may be bleeding and rupture of the stomach wall. In this case, if emergency surgery is not performed, the probability of death is 99 %. The disease is characterized by frequent recurrences in spring and autumn. The cause of peptic ulcer is usually stress that strengthens the human nervous system , which in turn causes spasms of the muscles and blood vessels of the gastrointestinal tract. As a result, the blood supply to the stomach is disturbed, and the gastric juice begins to have a negative effect on the mucous membrane, which leads to the appearance of gastric ulcers.

To protect against infection with *Helicobacter pylori* bacteria, it is necessary to follow the rules of personal hygiene, as well as to use personal equipment and utensils and to limit close contacts. These rules are especially important if there is someone with an ulcer nearby . In order not to get sick, giving up bad habits and all habits that lead to a decrease in immunity, eating right is an important preventive measure. It is necessary to eat thermally processed foods, eat often and in small portions, and minimize spicy and fried foods. All medications, especially those that contribute to the development of stomach ulcers, should be taken with strict adherence to dosage.

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