



## X-Ray Anatomical Features of the Stomach with Gastritis and Peptic Ulcer

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**Relevance of the research.** X-ray examination of the stomach is used in practice, but in the primary diagnosis of chronic gastritis it is limited and is used in patients who are difficult to perform endoscopic examination with the use of an X-ray contrast agent. It allows you to assess the motor-evacuation function of the stomach. Despite the limited indications for use in the diagnosis of gastritis, this study is one of the most accurate indicators in terms of assessing constitutional features.

**The purpose of the study.** Study of X-ray anatomical changes in the stomach with gastritis and peptic ulcer .

**Results and analysis.** With this examination, it is possible to clearly distinguish three shapes of the stomach corresponding to three types of constitution: horn shape - for hypersthenic, stocking shape - for asthenic, hook shape - for normosthenic.

Features of the etiopathogenesis and course of chronic gastroduodenitis in children. Chronic gastroduodenitis is a chronic inflammation accompanied by structural (focal or diffuse) restructuring of the mucous membrane of the stomach and duodenum. The disease is accompanied by a tendency to develop, with a violation of the processes of physiological regeneration and proliferation, various secretory and motor-evacuation disorders based on digestive and metabolic disorders. The share of chronic gastroduodenitis in the structure of diseases of the gastrointestinal tract in children is from 58 to 90%. Chronic gastroduodenitis is a polyetiological, genetically and pathogenetically heterogeneous disease. Among the various factors of the occurrence of chronic inflammatory diseases of the upper digestive tract, infectious factors currently occupy a leading place. The discovery of *Helicobacter* by Australian gastroenterologists B.J. Marshall and R. Warren predetermined a revolution in gastroenterology, since the leading role of the bacterium in the development of most forms of chronic gastroduodenitis, duodenal and gastric ulcers in adults and children was proven. . *Helicobacter pylori* is a gram-negative, non-spore-forming, S-shaped bacterium with 4-6 motile flagella at one end, located on the surface of epithelial cells in the pyloric region of the stomach under the parietal mucosa ; here the pH is neutral. *Helicobacter pylori* bacteria are also found in other parts of the digestive tract: the oral cavity, pharynx, esophagus, duodenum, Meckel's diverticula, rectum, i.e. areas of the gastrointestinal tract where there is a gastric -type epithelium. Recently, more and more attention has been paid not only to the vital functions of the bacterium, but also to the process of direct interaction between *Helicobacter*. *Pylori* and the macroorganism. The study of what condition *Helicobacter pylori* is for humans - commensal, saprophyte or parasite, is one of the leading problems of modern science. Because bacteria and macroorganism form a finely tuned system of balance, as a result of which a specific disease with certain clinical manifestations and consequences is formed. Thus, in one of the studies, a relationship was established between the specific constitution of the systemic organ level (abdominal shape) and the frequency of *Helicobacter* detection. According to the results of the study, some constitutional features of *Helicobacter* contamination were noted: *Helicobacter pylori* infection is more often detected in people with a downwardly expanding abdomen, less often with an ovoid shape and an upwardly expanding abdomen. However, the presence of *Helicobacter pylori* does not end the etiology and pathogenesis of chronic gastroduodenitis, and its eradication does not eliminate other pathogens and factors that contribute to the occurrence of relapses of chronic gastroduodenitis. At the heart of pathogenesis is still the imbalance between the factors of acid-peptic aggression in the stomach and the elements of



protection of the gastric mucosa and duodenal mucosa. Strengthening aggressive factors or weakening protective factors leads to a violation of this balance. The stomach itself is a complex system that includes both aggressive and protective factors. The gastric mucosa itself carries various functional loads. Violation of regulatory mechanisms impairs gastric function: motor and secretory. An important role in the development of inflammatory changes in the gastric mucosa is played by prolonged exposure to the contents of the duodenum, which contain bile acids, their salts, lysolecithins and pancreatic enzymes. They damage the gastric mucosa and support the inflammatory reaction. Violation of the regeneration of the mucous membrane and the appearance of dystrophic, erosive and ulcerative changes occur against the background of a decrease in compensatory mechanisms. The inconsistency of some judgments about the state of adaptation systems in patients with chronic gastroduodenitis is explained by the lack of a differentiated approach to different groups of patients in some studies and the need to correct regulatory disorders, although a comprehensive assessment of general regulatory systems is indisputable.

It should be noted that the three main somatotypes correspond to three variants of a person's mental constitution, which determine the type of response to the disease:

1. endomorphic (hypersthenic) corresponds to relaxation in posture and movements, slow reactions, socialization of nutritional needs, sociophilia;
2. mesomorphic (normosthenic) corresponds to confidence in posture and movements, love of physical activity and adventure, energy, the need for movement; 3) ectomorphic (asthenic) corresponds to restraint in behavior and movements, excessive physiological activity, anxiety, a tendency to mental stress, secrecy of feelings, emotional restraint.

Thus, constitutional features directly affect the course of chronic gastroduodenitis, which should be taken into account by the clinician when treating patients with this pathology. Therefore, this problem is relevant for us and is of interest for further study. Diagnostic methods. As in the diagnosis of various pathologies, the pediatrician's arsenal includes laboratory and instrumental research methods for examining gastritis. So, laboratory methods include a complete blood count, fecal occult blood test, total protein level, albumin, amylase, lipase, aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, glucose, serum iron, etc. Among the instrumental ones, the following are widely used: fibroesophagogastroduodenoscopy with collection of biopsies, ultrasound examination of the abdominal organs (liver, pancreas, gallbladder) to exclude concomitant pathology, measurement of the acidity of the medium using intragastric pH-metry, and X-ray examination of the upper gastrointestinal tract are performed according to indications. A separate block includes methods for determining *Helicobacter* infection *pylori*. Various studies have proven the constitutional difference in laboratory data obtained in people depending on somatotypes. Thus, the difference in the concentration of biologically active substances detected in the blood serum of people belonging to one or another constitutional type is reliable. Normosthenics have a high concentration of gastrin, calcitonin, alpha, gamma-globulins and amylase. Hypersthenics have a high content of parathyroid hormone, triglycerides and cholesterol, in contrast to the concentration of somatotropic hormone, which, on the contrary, is the lowest. Asthenics are characterized by a high content of cyclic guanosine monophosphate. It should be noted that the general clinical laboratory research methods, including a general blood and urine test, a fecal occult blood test, a biochemical blood test (determination of the concentration of total protein, albumin, cholesterol, glucose, amylase, bilirubin, iron), transaminase activity), are not reduced at all. Because they play an important role in the rapid assessment of the general condition of the macroorganism. As for the bacteria *Helicobacter pylori*, which is one of the important etiological factors of chronic gastroduodenitis, a little more than 30 years have passed since its discovery by scientists B.J. Marshall and R. Warren, at present there are many diagnostic methods that allow to establish the fact of its presence. There are methods for detecting *Helicobacter pylori*, based on the detection of the bacterium itself - direct methods: bacteriological, histological, molecular biological method for studying biopsy samples (polymerase



chain reaction), phase-contrast microscopy, immunohistochemical method. Also based on the detection of its vital activity products - indirect methods: urease test, serological method.

**Conclusion.** All these methods can be globally divided into invasive methods, which require a biopsy of the gastric mucosa (bacteriological method, morphological (histological, cytological)), rapid urease test, molecular biological method of studying biopsy samples (polymerase chain reaction), phase-contrast microscopy, immunohistochemical method, serological method (enzyme immunoassay) and non-invasive, which is now becoming increasingly important (immunological method for detecting antibodies to *Helicobacter pylori* in feces, saliva, urine), molecular biological method of studying feces, saliva, dental plaque (polymerase chain reaction), breath tests: urease, ammonia).

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