



ETIOLOGY OF INFLAMMATORY BOWEL DISEASES, TREATMENT AND PREVENTION METHODS

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Annotation: Inflammatory bowel diseases are chronic immunopathological diseases of unknown etiology that affect different parts of the gastrointestinal tract. They occur against the background of genetic predisposition, disorders of the microbiota of the small and large intestine, and the action of exogenous factors. Pathology causes intestinal symptoms (abdominal pain, stool disorders, the appearance of mucus and blood in the stool), accompanied by a variety of extra-intestinal manifestations. Ultrasound, X-ray and CT scans of the abdominal organs, endoscopy (EFGDS, colonoscopy), and laboratory tests are used for diagnosis. Treatment is conservative, with complications requiring surgical intervention.

Key words: inflammation, inflammatory bowel diseases.

The group of inflammatory bowel diseases (IBD) consists of two main nosological units: ulcerative colitis (*UAndijan State Medical Institute, Uzbekistan*

C) and Crohn's disease (CD). The total frequency of pathologies is 60-300 cases per 100 thousand population. Some researchers distinguish a third form of IBD – undifferentiated nonspecific colitis. Despite the relatively low prevalence, inflammatory bowel diseases have a high medical and social significance and do not lose their relevance in practical gastroenterology.

The etiological factors of inflammatory diseases have not yet been precisely established. Great importance is given to genetic changes. Polymorphism of the Ala893 multiple drug resistance (MDR1) gene, polygenic mutations of the main histocompatibility complex, and mutations of IBD5 and CARD15 (NOD2) on chromosome 16 are described. Genes are involved in the formation of the epithelial protective barrier and regulate the immune response. Other possible causes of IBD:

- Intestinal dysbiosis. Pathology occurs when the number of beneficial bifidobacteria decreases, and the number of pathogenic enterobacteria and anaerobic microorganisms increases. An imbalance of microflora has a toxic and allergic effect, disrupts the natural immune defense in the intestines.
- External factors. The risk of developing the disease is increased by viruses (herpesvirus, the causative agent of measles), bacteria (chlamydia, listeria, mycobacteria). A certain role in the formation of IBD is played by chronic stress, living in a region with poor ecology, eating refined products and food with a large amount of preservatives.

Pathogenesis

Under the influence of genetic factors and external agents, damage to the intestinal wall and concomitant disorders of the immune response develop. The intestinal epithelial barrier becomes permeable to antigens, in response to which antibodies are actively formed in the body. Gradually, anti-intestinal autoantibodies are formed in 60-75% of patients, and antineutrophil autoantibodies (ANSA) are less common.

In Crohn's disease, immune complexes attack any part of the gastrointestinal tract – from the oral cavity to the anus, causing a characteristic granulomatous inflammation with transmural damage to the wall of the digestive canal. In non-specific ulcerative colitis, there is a superficial inflammation of the colon without separate granulomas. In IBD, the absorption, secretory and evacuation functions of the intestines are

disrupted, which is associated with various gastroenterological symptoms.

Proinflammatory cytokines, which are synthesized by macrophages, T-lymphocytes, and endothelial cells, are of great importance in the pathogenesis of inflammatory diseases. These include tumor necrosis factor, interleukins 1 and 6, and interferon gamma. Over time, immune complexes appear in the blood, which affect other organs and tissues: the skin, the organ of vision, the musculoskeletal system, and the hematopoietic system.

The manifestation of inflammatory bowel diseases most often occurs at the age of 20-40 years. With IBD, typical signs of gastrointestinal tract damage develop: chronic diarrhea, abdominal pain of various localization, admixtures of blood and mucus in the feces. Ulcerative colitis is characterized by false urges to defecate (tenesmus), the release of small volumes of feces ("rectal spitting"). 25-35% of patients have cracks and fistulas in the perianal zone, which are more characteristic of CD.

The second group of IBD symptoms consists of extra-intestinal manifestations caused by the systemic action of immunopathological mechanisms. They are 3 times more common in ulcerative colitis and Crohn's disease with colon involvement than in isolated terminal ileitis, typical of CD. Extra-intestinal signs aggravate the course of an inflammatory disease, reduce the quality of life, and can cause disability.

Damage to the musculoskeletal system is represented by arthritis of large joints, osteoporosis, sacroiliitis and ankylosing spondylitis (ankylosing spondylitis). Visual disturbances occur as a result of episcleritis and uveitis. Involvement of the skin and mucous membranes in the process is manifested by erythema nodosum, aphthous stomatitis, gangrenous pyoderma.

In 3-5% of patients with IBD, pathologies of the hepatobiliary system occur: primary sclerosing cholangitis, autoimmune hepatitis, and cholelithiasis. With the long-term existence of the disease and significant intestinal damage, malabsorption syndrome develops, which is accompanied by iron deficiency or B12 deficiency anemia, polyhypovitaminosis, signs of a lack of trace elements.

Complications

The probability of a severe IBD exacerbation is 15% over a lifetime. With adequate treatment, relapses occur in 50% of patients in the first 5 years from the start of therapy, in 80% of patients - within 10 years. A serious problem remains dependence on systemic steroids, which are used to stop exacerbations – the body reduces the synthesis of its own hormones, so after drug withdrawal, adrenal insufficiency is possible.

Life-threatening consequences of inflammatory diseases include toxic dilatation of the intestine, perforation of the wall with massive bleeding. CD is characterized by the formation of fistulas that open in the perianal area. When ulcers heal, scar strictures often form, which disrupt the passage of fecal matter and eventually lead to acute intestinal obstruction.

IBD is classified as facultative precancerous diseases. The risk of developing colorectal cancer increases by 20 times compared to the average population value. From the manifestation of an inflammatory bowel disease to the formation of a malignant tumor, more than 10 years pass. If a person is ill for more than 30 years, the probability of developing cancer is more than 18%.

Diagnostics

If IBD is suspected, the patient should consult a gastroenterologist. The first stage of diagnosis is to clarify complaints and collect a detailed medical history to clarify the time and sequence of symptoms, the number of extra-intestinal manifestations, and the effectiveness of previous treatment. The second stage is a physical examination with palpation of the abdomen and examination of the perianal zone. At the third stage, the following research methods are assigned::

- Non-invasive imaging techniques. The basic examination for gastroenterological complaints includes ultrasound and survey radiography of the abdominal organs, X-ray examination with contrast. In controversial cases, CT or MRI of the abdominal organs is prescribed to clarify the diagnosis.
- Endoscopic diagnostics. In colitis syndrome, a colonoscopy is performed to assess the degree and extent of damage to the intestinal wall, perform a biopsy of the affected areas for histological analysis. In Crohn's disease involving the upper gastrointestinal tract, EFGDS will be required, and capsule endoscopy is indicated.
- Biopsy of the intestinal wall. Pathognomonic signs of inflammatory bowel diseases include superficial (in UC) or deep slit-like ulcers (in CD), lymphoplasmocytic infiltration, and structural changes in the villi. In ulcerative colitis, mucus secretion disorders and crypt abscesses are detected.

- Laboratory tests. The standard package includes a clinical and biochemical blood test, determination of acute phase parameters, and a coagulogram. A coprogram, bacteriological fecal culture, and analysis of fecal masses for helminth eggs are also carried out.

Differential diagnosis

When making a diagnosis, more common causes of abdominal pain and dyspeptic disorders are excluded. IBD is differentiated from infectious diseases (salmonellosis, dysentery, amoebiasis, parasitosis), antibiotic-associated diarrhea, intestinal tuberculosis, and ischemic colitis. Excretion of blood with feces requires differential diagnosis with hemorrhoids, anal fissure, colorectal cancer.

Crohn's disease and ulcerative colitis require comprehensive medical treatment to induce and maintain long-term remission and prevent complications. The therapeutic program is selected taking into account the severity of the disease, the severity of clinical manifestations, and the presence of extra-intestinal symptoms. The drugs used are divided into 3 categories:

- Means for the induction of remission. The first line of therapy includes systemic glucocorticosteroids and immunosuppressants, and if indicated, they are supplemented with antibiotics and salicylates. Genetically engineered drugs, such as monoclonal antibodies to pro-inflammatory cytokines, are highly effective.
- Anti-relapse drugs. After the elimination of acute manifestations, maintenance courses of immunosuppressants, 5-aminosalicylic acid preparations and monoclonal antibodies are prescribed. The main task of this stage is to maintain a stable control of symptoms without the use of hormones.
- Auxiliary medicines. Pharmacotherapy is used to correct IBD complications: iron preparations for anemia, calcium supplements for osteoporosis, parenteral solutions to eliminate protein-electrolyte disorders.

Surgical treatment

The operation is prescribed for a complicated form of inflammatory disease, the lack of effect from conservative therapy. If possible, they are limited to minimally traumatic interventions: stricturoplasty, dilation of strictures, endoscopic stopping of bleeding in order to preserve the integrity of the intestine. Deep damage to the intestinal wall requires resection of individual areas with the imposition of anastomoses or removal of the stoma.

Prognosis and prevention

Properly selected treatment allows you to control the symptoms of inflammatory bowel diseases and maintain a satisfactory quality of life for the patient. With the development of complications and the need for radical surgery, the prognosis is questionable. Since the causes and risk factors are not precisely identified, effective preventive measures are not available. Secondary prevention consists of early diagnosis and timely initiation of therapy.

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