



ANATOMY AND METHODS OF TREATMENT OF ULCERATIVE COLITIS IN MODERN MEDICINE.

<https://doi.org/10.5281/zenodo.13292906>

Tolmasov Ruzibek Tolmasovich

Tashkent Medical Academy

Assistant of the Department of human anatomy and Clinical Anatomy

ruzibektolmasov@gmail.com

<https://orcid.org/0009-0009-0365-3510>

Qurbonova Durdona Raxmatulla qizi

Tashkent Medical Academy

A student of the Faculty of Medicine No. 2 of the

durdonaqurbonova780@gmail.com

Abstract

The purpose of this article is to study the methods of treatment of ulcerative colitis in modern medicine and to evaluate its practical importance and effectiveness. Diagnosis and treatment of ulcerative colitis consists of pharmacological and invasive approaches, as well as analysis of modern medical technologies.

Key words

Colonoscopy, contrast radiography, proctitis, ileocolitis, rectosigmoiditis, enterocolitis, glucocorticoid, immunosuppressants, mesazalin, cyclosporin-A.

Introduction: Human digestive system digests and separates food by chemical and mechanical action: alimentary canal (oral cavity, larynx, esophagus, stomach, small intestine, large intestine) and consists of salivary glands, liver, pancreas.

Large intestine : It is the distal part of the intestinal tube, where mainly the processes of water absorption and stool formation take place is enough. The mucus produced in the large intestine ensures that undigested food remains move through the intestine.

The large intestine is located in the abdominal cavity and small pelvis (rectum). In adults, the length is 1.5 m, and the width is 4-8 cm. Consists of three main parts: cecum, cecum (ascending, transverse, descending and sigmoid) and rectum. The color of the large intestine is gray. From the thickening of the longitudinal muscles, free, carvous and mesenteric bands are formed. There are vesicular expansions and fatty growths on the surface of the intestine. There are no villi on the inner surface, but there are many crypts and lymph nodes.

The article discusses the causes, symptoms, diagnosis and modern treatment methods of ulcerative colitis.

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

To confirm the diagnosis of ulcerative colitis, it is necessary to conduct several studies:

Blood tests, stool analysis, colonoscopy, sigmoidoscopy, contrast X-ray of the colon, plain X-ray of the abdomen and computed tomography (CT). It was found that the most informative method of X-ray diagnosis of ulcerative colitis and determination of its stages is multidimensional computed tomography.



Figure 1. Diagnosis of colitis using computer tomography.

Results and Discussions: Nonspecific ulcerative colitis (colon ulcer) is a chronic inflammatory pathology of the colon mucosa.

1) *Depending on the location of ignition:*

- Proctitis (inflammation of the rectum);
- Colonic colitis;
- Ileocolitis (inflammation in the side of the intestine) ;
- Rectosigmoiditis (inflammation of the rectum and sigmoid colon);
- Left - sided colitis (the disease is observed in the splenic angle of the descending part of the rectum, sigmoid colon and colon);
- Enterocolitis (inflammation of the small and large intestines).

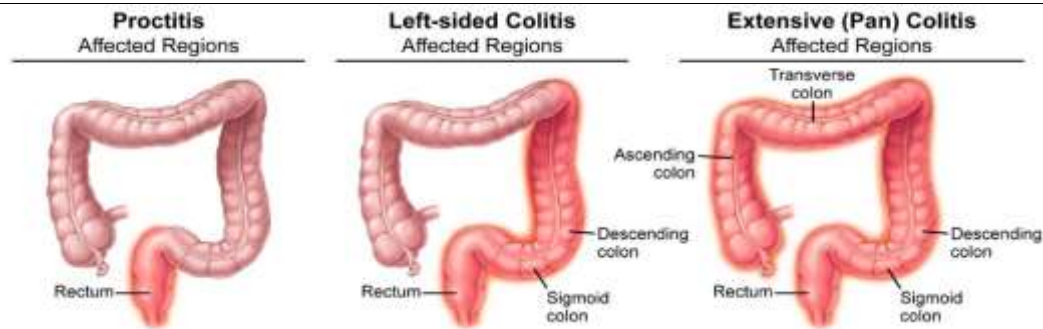


Figure 2. Ulcerative colitis manifestations observed in the large intestine.

2) According to severity :

Light - characterized by soft, infrequent defecation , blood can be detected in the stool, anemia (anemia) and other problems do not develop;

In moderate severity - defecation disorder and blood detection, fever, tachycardia, changes in blood analysis are observed;

Severe - severe defecation disorders, anemia, malaria with fever, severe or very severe general condition. At this level of the disease, it is treated in an inpatient setting.

Epidemiology: According to the literature , the prevalence of ulcerative colitis is about 40-80 people per 100,000 people. In northern latitudes and in the West, people often get sick. The disease is less common in Asia. It is more common in women than in men. The disease mainly occurs in people aged 15-25 or 55-65. In children under 10 years of age, pathology is almost never recorded.

Causes of Ulcerative Colitis: The exact causes of ulcerative colitis are not known. Today, the following reasons for the development of pathology have been identified: hereditary factors, viral and bacterial infections, frequent exposure to severe stress, uncontrolled intake of non-steroidal anti-inflammatory drugs, decreased immunity contributes to the development of the disease. As a result of these factors, damage to the intestinal mucosa occurs, and its antigenicity changes. This, in turn, leads to the production of autoantibodies against the changed structures of the mucous membrane and the formation of immune complexes. The immune complex activates immune competent cells and their infiltration into the intestinal mucosa leads to the secretion of inflammatory mediators such as prostaglandin, prostacyclin, leukotriene, interleukin, alpha tumor necrosis factor, alpha interferon and triggers the inflammatory process.

Symptoms of ulcerative colitis: Symptoms of ulcerative colitis vary depending on the stage and severity of the disease. In this, the symptoms observed in the intestine and outside are distinguished. Also, the disease can continue for a long time without being noticed by the patient, without causing any discomfort.

Symptoms noted in the intestine include:

- Indigestion with the detection of blood in feces;
- False urges to defecate;
- Fever, increase in body temperature ;
- Dehydration of the body;
- Stinging pains in the abdomen , mainly on the left side;
- Loss of appetite and weight loss as a result.

Extraintestinal symptoms include:

- Diseases of the organ of vision (decreased visual acuity, conjunctivitis);
oral cavity , formation of ulcers, stomatitis;
- Arthritis;
- Pathologies on the surface of the skin ;
- Osteoporosis;
- Kidney-stone diseases;

Intestinal and extraintestinal signs allows for a more detailed diagnosis to determine the etiology of the disease, the severity of the patient's condition, and to choose the most effective method of treatment.

Diagnosis: Diagnosing a colon ulcer includes:

1. Colonoscopy (with biopsy, if necessary, with study of affected tissues);
2. General blood analysis to determine the number of leukocytes and erythrocytes (red blood cells);
3. Analysis of feces to determine the presence of blood cells, pathogenic microflora, parasite eggs;
4. Contrast X-ray (recommended to rule out intestinal wall perforation in severe cases);
5. CT and or MRI (if complete bowel visualization is necessary).

Laboratory tests: In the remission of the disease, changes in the general blood analysis are usually not observed. In severe cases, leukocytosis, a significant change in its index, an increase in ECHT, and toxic granularity of neutrophils are detected. Repeated bleeding and iron absorption disorders lead to anemia.

Biochemical analysis of blood shows hypoproteinemia and hypoalbuminemia. In recent years, special attention has been paid to determining the concentration of alpha 2-microglobulin in the blood. Its indicator increases in accordance with the activity of the inflammatory process.

Coprological examination reveals a large amount of leukocytes, erythrocytes, intestinal epithelium, and blood, mucus and pus mixed in feces. Liquid feces contain undigested food residues and a large amount of soluble proteins. This is due to an increase in protein exudation in the intestinal cavity. Bacteriological examination of feces reveals signs of dysbacteriosis in almost all cases.

Diagnostic tests: Endoscopic tests (rectoromanoscopy and colonoscopy) take a leading place in the diagnosis of nonspecific ulcerative colitis. With their help, the activity of the inflammatory process in the lining of the large intestine, the spread of pathological changes and the presence of complications are determined.

In the mild course of the disease, swelling, hyperemia, isolated erosions and petechial hemorrhages are detected in the intestinal mucosa.

Severe course of the disease, many round wounds, erosions and abscesses are found on the mucous membrane, pseudopolyps appear with a grainy surface, mucus, pus, blood and fibrinous masses are visible on the wall.












Score	0	1	2	3
Vascular pattern	 Normal	 Patchy obliteration	 Obliterated	
Bleeding	 No visible blood	 Mucosal	 Luminal mild	 Luminal moderate
Erosion and ulcers	 No visible erosion	 Erosions	 Superficial ulcer	 Deep ulcer

Figure 3. Endoscopic characteristics of each descriptor in ulcerative colitis.

Treatment of ulcerative colitis: After receiving the examination results, the gastroenterologist or proctologist determines the treatment tactics for a specific clinical condition. Today, there are various treatment methods for ulcerative colitis.

In the pathogenetic treatment of ulcerative colitis, 4 groups of drugs with the following anti-inflammatory effects are used:

- 5-aminosalicylic acid derivatives (5-ASA);
- Glucocorticoids - hormone therapy;
- Immune suppressors;
- Symptomatic treatment;
- Surgical treatment.

1. Diet. Treatments begin with the patient being prescribed diet food.

- It is forbidden to eat fatty, spicy foods;

Limiting the consumption of dairy products;

coarse fiber in food (preferably fresh fruits and vegetables, grains, steamed vegetables and fruits);

- Avoid alcoholic beverages, caffeinated beverages, and spicy foods.

Food temperature should be between 30 - 35 degrees;

- All food should be steamed;
- In hospital conditions, the fourth table diet is prescribed.

Patients are prescribed dried, thinly sliced bread, steamed meat and fish, cutlets, ground beef and rabbit meat 3-4 times. Since most patients with ulcerative colitis are lactase deficient, it is not recommended to consume milk and milk products. Drinks include tea, coffee, and herbal infusions.

2. Treatment with drugs: Drugs are mainly used in the initial period of ulcerative colitis. The main goal of conservative therapy is to relieve the symptoms of the disease and put the patient in remission for a long time. Patients are prescribed the following:

- Anti-inflammatory drugs (to relieve inflammation and achieve remission);
- If anemia is detected, iron preparations;
- Antimicrobial agents (for infection control);
- Paracetamol to relieve pain syndrome;
- Immunosuppressants (to suppress immune reactions and relieve symptoms);
- Anti-diarrheal drugs.

Mesazalin (salofalk) has a local anti-inflammatory effect, similar to sulfanilamide. 1.5-2.0 g per day is prescribed for 8-12 weeks and then left in low doses.

Cyclosporin-A is prescribed in steroid-resistant and steroid-dependent forms of ulcerative colitis. The drug is administered intravenously at 2-3 mg per 1 kg of body weight, and remission is achieved in 50% of cases.

3.Hormonal therapy: Corticosteroids: Corticosteroids such as prednisone were once the mainstay of treatment for ulcerative colitis, but are now usually reserved for short-term use in patients with active inflammatory symptoms. But these drugs have other side effects, such as the risk of infection, bone thinning, and hyperglycemia. A specific type of corticosteroid called budesonide is mainly excreted in the gastrointestinal tract and is associated with fewer side effects. Glucocorticoids are prescribed when nonspecific ulcerative colitis is highly active. In this case, 240-360 mg of prednisolone per day is injected intravenously for 7-14 days. After that, 0.5-1.0 mg of the drug per 1 kg of body weight per day is prescribed, and after achieving the effect, the dose is slowly reduced.

4. Symptomatic treatment: symptomatic nonspecific ulcerative colitis, i.e., those that affect intestinal motility (spasmolytics and myotropic drugs - no-shpa,

decitel, mebevrin), antidiarrheal (loperamide, immodium), digestive enzymes and proteins, agents that improve the absorption of fats, carbohydrates and vitamins are used. For this purpose, protein preparations, amino acids, containing K, Ca, Mg, Zn, Fe preservatives, fat-soluble and group B vitamins, nicotinic acid and according to the instructions other drugs are used.

5. Surgery: conservative treatment measures are ineffective in approximately 15-20% of patients. In such cases, surgery is used as an alternative treatment. In addition, when the disease is accompanied by severe complications such as intestinal perforation, obstruction, bleeding, abscesses, there is a need for immediate surgery. The following are absolute and relative guidelines for conducting it.

Absolute instructions:

- Intestinal perforation;
- Toxic megacolon;
- Abscess;
- Massive bleeding;
- Severe dysplasia of the intestinal mucosa or colon cancer.

Relative instructions:

- ineffectiveness of conservative treatment measures for 6-12 months and high activity of the disease;
- Unceasing recurrence of ulcerative colitis;
- Mild dysplasia of the mucous membrane epithelium.

The main disadvantage of this method is its high invasiveness. In many patients, a part of the large intestine is removed, sometimes together with the anus. An ileostomy is created for defecation: the edge of the small intestine is connected to an opening in the abdominal cavity. Such a decision may be temporary or permanent. When permanent, a reservoir is formed from the small intestine and sutured to the anus. Defecation is performed through a temporary ileostomy, which is sutured during the second operation, until recovery occurs after the operation. Feces are excreted naturally, but the number of defecation exceeds 8-9 times a day.

Conclusion: Diarrhea and pain that occur in ulcerative colitis can disturb a person and prevent him from working. For patients with ulcerative colitis, appropriate treatment methods are prescribed depending on the severity of the disease. When the drugs used in modern medicine are not fully effective in the disease, the surgical method is used. In this case, a part of the area where the wound is being observed is removed. To prevent the disease, a person should first of all follow a healthy lifestyle and avoid overeating.



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