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# Violation of Water-Electric Exchange in Patients with Nonspecific Ulcerative Colitis Before Total Colectomy

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**Abstract:** *Inflammatory diseases of the colon - ulcerative colitis and Crohn's disease are an urgent surgical problem. The paper presents an analysis of surgical interventions for ulcerative colitis and Crohn's disease over the past 12 years based on the materials of the First Republican Clinical Hospital in Izhevsk. Indications for one-stage and multi-stage radical operations for nonspecific ulcerative colitis and Crohn's disease have been developed. The indications for emergency, urgent and planned indications for inflammatory diseases of the large intestine have been clarified. Performing radical multi-stage operations for ulcerative colitis and Crohn's disease can reduce mortality, improve treatment outcomes, prognosis and quality of life.*

**Keywords:** *inflammatory diseases of the colon, ulcerative colitis, Crohn's disease.*

## I. INTRODUCTION

Inflammatory bowel diseases (IBD) - ulcerative colitis (UC) and Crohn's disease (CD) are among the most severe and dangerous diseases of the gastrointestinal tract, represent an urgent clinical problem associated with an increase in the number of patients, the complexity of choosing the optimal treatment tactics, an increase in the economic costs of treatment [1; 2; 5]. The prevalence of nonspecific ulcerative colitis (number of patients) is 40-117 patients per 100,000 inhabitants. The prevalence of Crohn's disease is 30-50 cases per 100,000 inhabitants. The greatest number of cases occurs in the age of 20-40 years, that is, in the socially and economically productive part of the population. The highest mortality rates are observed during the first year of the disease due to cases of extremely severe fulminant course of the disease and 10 years after its onset due to the development of colorectal cancer [4]. Undoubtedly, surgery for UC and CD is the main and most crucial moment in the struggle for the patient's life in severe diseases. The choice of surgical intervention largely determines the outcome and prognosis of the future life of patients. The first report on the surgical treatment of ulcerative colitis in Russia belongs to V.A. Oppel, who in 1907 at a meeting of the Society of Russian Doctors made a report on the topic: "On the question of the surgical treatment of chronic ulcerative colitis." Performed mainly cecostomy and appendicostomy. After the work of Brook, who proposed a method for the formation of an ileostomy, Koch introduced a reservoir ileostomy into practice [1; 2]. Over the past decades, the view of providing surgical care to patients with ulcerative colitis has undergone significant evolutionary development [3; 6].

## II. PURPOSE OF THE STUDY

Clarify the indications for surgical interventions in inflammatory diseases of the colon.

## III. MATERIALS AND METHODS

The work was performed in the clinic of faculty surgery of the State Budgetary Educational Institution of Higher Professional Education. The paper analyzes the results of treatment of 110 patients with IBD who have been treated for the last 12 years (2000-2012), of which 20 patients underwent surgical interventions. The age of the patients ranged from 16 to 75 years. The mean age of follow-up was  $40 \pm 9.8$  years. There were 62 men and 48 women. The duration of the disease ranged from 2 to 25 years and averaged  $15.4 \pm 3.2$  years. The frequency of exacerbations varied up to 1-2 times a year. The complex of therapeutic measures included medical and surgical methods. With conservative treatment, the following were prescribed: glucocorticoids (prednisolone, metipred, soluedrol, etc.), sulfasalazine, salofalk, mesalazine, azathioprine, infliximab, antibacterial and antimycotic therapy, vitamin therapy. According to the indications, drugs were prescribed that improve the rheological properties of blood (chimes, pentoxifylline); metabolic therapy (solcoseryl, actovegin, aloe); enzymes (wobenzym, mezim-forte). Surgical interventions were performed in 20 patients.

The analysis of surgical interventions in the proctology department of the 1st Republican Clinical Hospital from 2000 to 2012 was carried out and indications for emergency, urgent and planned surgical interventions for IBD were developed. Indications for emergency operations: 1) intestinal perforation, peritonitis; 2) intestinal obstruction. Indications for urgent operations: 1) profuse colonic bleeding; 2) abscesses of the abdominal cavity; 3) acute toxic dilatation of the colon. Indications for planned operations: 1) hormone-resistant, resistant to cytostatics and infliximab forms; 2) high and medium degree of dysplasia of the intestinal epithelium with a disease duration of more than 10 years; 3) degeneration into cancer. In UC, the operation of choice is coproctectomy with the formation of an ileostomy on the anterior abdominal wall. But meeting the dictates of the times, technical and anesthesiology capabilities, the tasks of social rehabilitation should be considered an operation - coloproctectomy with ileoanal anastomosis and the formation of a reservoir from the small intestine. Is it always possible to perform this operation at the same time and should we strive for this? Yes, such operations are performed, with a lot of accumulated experience, in specialized centers, with a strictly verified condition of the patient. But if there are any, even minimal doubts, the operation is performed in several stages.

#### IV. RESULTS

The patients were operated on after preoperative preparation aimed at correcting dysfunctions of vital organs. The performed surgical interventions in patients are single-stage and multi-stage, which provided positive immediate and long-term results. There were no lethal postoperative outcomes. There were no lethal postoperative outcomes. Surgical interventions are shown in Table 1.

Table 1. Surgical interventions in patients with non-specific ulcer colitis

Operations	Number of operated sick	
	Abs.	%
One-stage coproctectomy, ileostomy	8	40
Videolaparoscopic coloproctectomy, ileostomy	1	5
Multi-stage coloproctectomy	9	45
Multi-stage coloproctectomy with a reservoir	2	10
Total	20	100

In the process of postoperative treatment of patients, the principle of an integrated approach was observed. All patients received adequate infusion-transfusion therapy, antibiotic therapy, vitamin-energy complex, prednisolone, sulfasalazine, nutritional support, antibacterial drugs. The implementation of radical surgical interventions for inflammatory diseases of the large intestine made it possible to reduce mortality from 10% to 1.6%.

Let's take a clinical example. Patient Sh., aged 33, was diagnosed with ulcerative colitis at the age of 14. He was repeatedly treated in the coloproctological department with UC, total lesion, severe severity. Always on admission complained of severe weakness, loose stools up to 12-15 times a day with an admixture of blood. The condition is severe, pale, cachexic. Conducted basic therapy with a short-term effect. The patient categorically refused the repeatedly proposed operation. At the next admission, the condition is serious. A digital examination reveals a bumpy, dense, circular formation, the lower edge of which is 6-7 cm. The result of a biopsy is a highly differentiated adenocarcinoma (malignant villous tumor). Tumor glands in the vascular-stromal core of the tumor. Performed irrigoscopy - signs of UC, total lesion; BL rectum; dolichosigma, dilatation of the colon. With a diagnosis: highly differentiated adenocarcinoma of the rectum; chronic ulcerative colitis, total lesion, severe course; deforming osteoarthritis III stage. both knee joints, insufficiency of function of the joints of the III degree, osteoporosis of the femur and tibial bones; osteoporosis of the knee-femoral joints; urolithiasis, stone in the lower third of the right ureter, hydronephrotic transformation of the right kidney, afunctioning right kidney; chronic non-obstructive bronchitis without exacerbation, respiratory failure - 0; myocardial dystrophy, chronic heart failure - 0; anemia III stage; cachexia, the patient was operated on. Completed: coloproctectomy, terminal ileostomy, right-sided nephrectomy. On examination, the entire large intestine is dense, with no folds, shortened. At 6 cm from the anal canal and for 15 cm there is a circular tuberos tumor (Fig. 1).





Figure 1. Rectal cancer in a patient with UC

Metastases were not detected. Histological examination of the preparations showed mucinous adenocarcinoma of the rectum with the germination of all layers of the organ wall, the formation of implantation metastases along the serous membrane. In the kidney tissue, there is a picture of chronic pyelonephritis with an outcome in nephrosclerosis, cystic transformation of the pelvis. The postoperative period proceeded without complications. Discharged in a satisfactory condition. At the control examination after 1.5 years feels satisfactory, increased body weight.

## V. CONCLUSION

1. Indications for planned radical surgical interventions in inflammatory diseases of the colon are: hormone-resistant forms, resistant to cytostatics and infliximab, high and moderate degree of dysplasia of the intestinal epithelium with a disease duration of more than 10 years, degeneration into cancer. 2. Performing multi-stage surgical interventions for inflammatory diseases of the colon has reduced mortality, improved treatment outcomes, prognosis and quality of life.

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