TWO-STAGE SURGICAL TREATMENT OF ULCEROUS-NECROTIC ENTERITIS COMPLICATED BY PERFORATION AND GENERAL PERITONITIS IN A PATIENT WHO UNDERWENT TOTAL COLECTOMY

Abstract. The purpose of the message is to inform the medical community about a rare clinical observation — the case of ulcerous-necrotic enteritis complicated by peritonitis due to numerous bowel wall perforations in a patient who underwent total colectomy with application of ileorectal anastomosis for idiopathic megacolon more than 30 years ago.

Materials and methods. The results of objective and instrumental methods of diagnosis, as well as the data of intraoperative findings were analyzed. The choice of surgical approach is based on the incisive analysis of the detected changes.

Results and discussion. A serious problem was the impossibility of correct surgical elimination of the source of peritonitis during the first surgical intervention. Therefore, the decision on staged correction was taken.

Conclusions: when it is not possible to perform a correct single-step surgical elimination of the source of peritonitis in case of ulcerous-necrotic enteritis, the surgical treatment should be carried out in incremental steps. Relaparotomy “at request” is an operation of choice. The decision on the timing of reintervention should be patient-specific.

Keywords: ulcerous-necrotic enteritis in adults.

I Introduction
Small bowel diseases remain one of the most understudied sections of internal medicine. The development of ulcerous-necrotic enteritis, that became complicated by numerous bowel wall perforations and peritonitis in a patient who underwent total colectomy with application of ileorectal anastomosis for idiopathic megacolon (anamnestically) more than 30 years ago, is a rare clinical observation [1,2,3,4]. The main feature of this clinical observation should be emphasized: abnormal changes, that lead to perforations of the bowel wall, developed in areas remote from the reservoir, i.e. it is not only about pouchitis — the inflammatory process of enteric reservoir, with the occurrence rate of 13-50% according to different authors, but it is about the inflammatory small bowel disease in general [5,6]. Analyzing the data of medical periodicals, we did not find such an observation.

We would like to bring to your attention a case of successful surgical treatment of this patient.

Materials and methods
Patient T., 52 years old, mhs №1464, was admitted urgently after 56 hours from the moment of feeling discomfort, with complaints of extended abdominal pains, vomiting sickness, vomiting, sudden abdominal distention, failure to pass feces, aerocolia, general weakness. From the anamnestic data of the present illness, it was found that the patient was feeling unwell during more than two days after eating much food, then he had abdominal pain, vomiting sickness, multiple vomiting, stopped passing of gas. As a self-medication, cleansing enemas were used, but it did not bring relief. In addition, the patient reported that he had previously been operated on the abdominal organs three times, of which twice due to sigmoid volvulus, and then more than 30 years ago, according to the patient, he underwent total colectomy (there is no medical record retained). He also informed that at the moment he was not a follow-up medical care patient.

Results and discussion
The skin integument and visually accessible mucous membrane are pale pink, the facial features are pointed, the peripheral venous network is collapsed. The patient has arterial hypotension with 90/60 mm Hg and the pulse up to 110 beats per minute. The diuresis is decreased. When examining the abdomen, there is a significant increase in its size due to aerocolia. There are positive symptoms of peritoneal irritation and the absence of bowel sounds.

Plain radiography of the abdominal organs reveals numerous fluid levels in the small bowel, free gas under both cupulae of the diaphragm.

The results of laboratory studies are as follows: leukocytosis, rod-nuclear shift to the left, early-
stage, increase in the concentration of bilirubin and derivatives of nitrogen metabolism.

The diagnosis at admission includes: Hollow viscus perforation. Peritonitis, toxic stage. Endotoxic shock.

After preoperative preparation and blood pressure stabilization, laparotomy was performed. The abdominoscopy revealed: 100 ml of seroplastic exudate, despite the previous surgical treatment, the adhesion is implicit; large bowel and greater omentum are missing, small bowel is dilated by fluid and gas from ligament of Treitz to ileorectal anastomosis. The small bowel wall is edematous along its entire length and thickened to 3-5 mm, there are extended layers of fibrine, see Figure 1.

The ileorectal anastomosis is formed from terminal Ileum up to 45 cm long in the shape of 8 with the imposition of anti-peristaltic termino-lateral ileo-ileoanastomosis, see Figure 2.

![Figure 2. The ileorectal anastomosis](image)

The stomach is enlarged in size (40 cm from cardia to pylorus), the integrity of its walls is not broken. The liver is deformed; it is pushed back by the stomach into the right hypochondrium.

Taking into account the changes in the small bowel wall, under that logic these changes were the cause for the development of this condition. Despite the efforts made, it was not possible to verify the perforation of the small bowel. Besides this, the objectively existing changes and the extent of the lesion of the small bowel indicated the total nature of the abnormal changes, which did not allow for the correct surgical elimination of the cause of peritonitis.

The intraoperative finding was regarded as a chronic nonspecific inflammatory small bowel disease, complicated by microperforation and the development of general seroplastic peritonitis. The operational manual included transnasal intubation of the small bowel, sanitation and abdominal drainage from 4 points.

Medicamentous therapy in post-operative period, together with the generally accepted measures, additionally included the following specific treatment: medrol — 16 mg per day, followed by a dose reduction by 2 mg every 10 days and salofalk — 1 g x 2 times, ingestion.

The post-operative period was severe. Subjectively, the patient noted a relief, however the signs of endogenous intoxication syndrome persisted, as well as the paresis of small bowel. Taking into account the revealed changes in the wall of the small bowel and the uncertainty in the viability of its barrier function, the ultrasound control of the abdominal organs was carried out in order to identify fluid accumulations in the abdomen.

On the 6th day after the surgery, the intubation probe was removed. Subjectively, the patient notes a relief. The patient started taking food and liquid enterally. There are no dyspeptic symptoms. The stool is bulky and liquid, up to 5 times a day. On objective examination, the abdomen is soft; there are no peritoneal signs. Among the specific result of objective examination, there is moderate abdominal distention (at the same time, the patient notes constant abdominal distention over the past year and a half).

In laboratory studies persistent leukocytosis and rod-nuclear shift to the left attracted our attention.

By day 10 after the surgery, the patient’s condition is stable, subjectively he feels his state of health to be relatively satisfactory, subfebrility (37,2 °C). On ob-
jective and instrumental examination (ultrasound investigation), there is no convincing evidence in favor of an abdominal catastrophe, although moderate abdominal distension persists against the background of 5-6 daily stools. The specific therapy for ulcerous-necrotic enteritis continues.

On day 16 after the surgery, the patient noted pains, abdominal distension increase, vomiting sickness, vomiting, temperature rise in the febrile range. On objective examination, there is abdominal distension and symptoms of peritoneal irritation. After preoperative preparation, relaparotomy was performed. In terms of the development of postsurgical complications, it is considered to be early (the 3rd week of postsurgical complications).

Upon entering the abdomen, free gas was released. The exudate is absent. The surgical exploration revealed the following: the small bowel is dilated by fluid and gas along its entire length, the diameter of the bowel was 10 cm or more. However, compared to the changes detected during the first surgical treatment, there is a favourable evolution: the proximal 2 meters of the small bowel are free from fibrine, the edema is slight, the visceral peritoneum looks approximately normal, see Figure 3.

Figure 3. View of the small intestine during the second intervention

About 80 cm of distal segments of ileum are in loose infiltrate, covered with fibrine. When this infiltrate was separated, several interloop fluid formations got opened. They were of seroplastic nature with admixture of small bowel contents. In this segment of ileum, 7 perforations up to 2 mm and several areas with obvious necrobiotic changes were detected, see Figure 4.

Thus, by the time of performing early relaparotomy (the 3rd week of postsurgical complications), the time factor and the provided treatment contributed to the demarcation of abnormal changes in the given segment of the small bowel. This made it possible to carry out pathologically and anatomically substantiated surgical correction of the source of peritonitis. Having stepped back 40 cm proximal to the modified area of the small bowel, in the distal direction — along the line of ileorectal anastomosis, its resection was performed with a total length of up to 120 cm. The operation was completed by removing the terminal ileostomy, transnasal intubation of the small bowel, sanitation and abdominal drainage from 2 points.

Pathomorphological conclusion: ulcerous-necrotic enteritis with areas of perforation. These changes are also present on both resection margins.

The specific therapy is continued in the postoperative period (medrol, salofalk).

The course of post-operative period is relatively favorable. Complications: slight post-operative wound pyogenesis, stopped by conservative measures; irritation of the skin near the enterostoma.

The patient is examined again two months later. Subjectively his state of health is relatively satisfactory. The stool is 4-5 times a day. Over the specified period the patient has gained 2 kilograms. One month after the reintervention, there appeared the neuritis of the anterior tibial nerve.

Discussion

Analyzing this clinical case, we would like to bring up the following questions for discussion: 1. the volume of operational manual for primary surgery; 2. the interpretation of the clinical picture

Figure 4. Necrobiotic changes with perforations of ileum
The approach in post-operative period after the first surgery: planned relaparotomy or relaparotomy “at request”, the timing of relaparotomy. Realizing that in this situation it is necessary to play for time, the time needed for clear manifestation of pathological disorders as well as for a longer course of treatment, we opted for relaparotomy “at request”, when there were irrevocable indications for surgical intervention.

Conclusions

When it is not possible to perform a correct single-step surgical elimination of the source of peritonitis in case of ulcerous-necrotic enteritis, the performance of sanitation laparotomy followed by relaparotomy “at request” are the operations of choice.

The decision on the timing of reintervention should be patient-specific.

REFERENCES