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Substantiation of the Improved Method of Lymphotropic Therapy in Patients with Surgical Abdominal Pathology in the Postoperative Period Based on Experimental Experiments

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Annotation: The purpose of the work: to improve the results of treatment of patients operated with abdominal surgical pathology with the use of an improved method of lymphotropic therapy in the postoperative period in the treatment complex based on experimental experiments.

Material and methods: A number of experimental experiments were conducted on experimental animals to study the essence of lymphotropic therapy and to analyze the results of surgical treatment of acute widespread peritonitis of various genesis of patients. The patients were divided into two groups: the control group included patients (n=73) who received traditional methods of treatment in the postoperative period, and the patients of the main group (n=97) an improved method of endomesenteric lymphotropic therapy was added to the treatment complex.

Results: analysis of the improved method of endomesenteric lymphotropic therapy for abdominal surgical pathology in the postoperative period shows that when using this method, the function of the gastrointestinal tract is restored faster: on the 2nd day, intestinal peristalsis and gas discharge are resumed on the 3rd day. In patients of the control group, the functional ability of the gastrointestinal tract is restored for 4-5 days. Leukocytosis in the blood of patients of the main group significantly decreases on the 3rd day, and in control patients on the 6th day after surgery.

Keywords: model of ulcerative colitis, acute peritonitis, ulcerative colitis, lymphotropic therapy.

Introduction. Despite the improvement of diagnostic methods and the improvement of the quality of treatment measures, postoperative complications and mortality in acute widespread peritonitis remain high. Mortality is particularly high with the development of abdominal sepsis against the background of the development of multiple organ failure, reaching from 18 to 37% of cases. [1; 5; 9; 14].

The difficulty of solving the problem of treating peritonitis lies in the fact that factors such as combating sources of intoxication in the postoperative period are not sufficiently corrected. [2; 4; 12; 10].

One of the very unfavorable prognostic features of acute widespread peritonitis syndrome is progressive endogenous intoxication of the body. It is associated with a lesion in the abdominal cavity. This process contributes to the development of functional intestinal insufficiency with the translocation of bacterial flora from the intestine into the abdominal cavity. These factors are the cause of deep metabolic disorders of the body, progressing and involving organs and systems in the process. In the future, these factors lead to multiple organ failure and death of the patient [4; 14].

The primary focus of intoxication, which often occurs and develops as a result of destructive changes in the abdominal organs, plays a leading role in the initial stage of the disease. [3; 11; 12; 13; 14].

The secondary focus of infection in abdominal surgical pathology is the lymph nodes of the abdominal cavity and retroperitoneal space. Against this background, microabsesses form in the lymph nodes, which subsequently contribute to increased intoxication of the body. At the same time, stagnant phenomena are noted in the lymphatic system of the abdominal organs of patients, which also

contribute to increased intoxication of the body. In turn, all of the above negatively affect the infectious protective mechanisms of the intestine, providing a barrier function. [1; 2; 6; 11; 12].

The tertiary focus of intoxication in acute widespread peritonitis of various origins is a violation of the function of the gastrointestinal tract in the postoperative period. At the same time, due to the development of intoxication of the body, dynamic intestinal obstruction may occur, which further exacerbates intoxication - endotoxicosis of the body [4; 5; 13].

Nevertheless, with the complete elimination of the primary focus of infection, the majority of patients continue to deteriorate and the progression of intoxication of the body. Even with such a severe course of acute diffuse peritonitis, the question of the expediency of antibacterial therapy remains unresolved to date. [6; 9; 11; 14].

It has been proven that one of the ways to increase the effectiveness of antibacterial therapy and correct the body's immunity in acute diffuse peritonitis is to inject drugs into the lymphatic system either endolymphatically or lymphotropically [9; 11; 12].

The search and development of new methods for targeted drug delivery to target organs is an urgent problem in modern medicine. One of these methods is lymphotropic therapy, which ensures the creation of sufficient and stable therapeutic concentrations of drugs in the lymphatic region of the lesion, and therefore in the target organ.

The purpose of the work: to improve the results of surgical treatment of various abdominal surgical pathologies by applying an improved method of endomesenteric lymphotropic therapy in the postoperative period.

Material and methods**: a** number of experimental experiments were conducted on experimental animals to study the essence of lymphotropic therapy and analyze the results of surgical treatment of acute widespread peritonitis of various origins in patients undergoing inpatient treatment at the Andijan State Medical Institute clinic from 2011 to 2021.

To determine the effectiveness of endomesenteric lymphotropic therapy in the postoperative period, we conducted a number of experimental experiments on experimental animals. The experiments examined the state of the lymphatic system in the intestinal mesentery normally and against the background of the inflammatory process. In both cases, lymph outflow in the intestinal mesentery was studied, which sharply weakens during the inflammatory process. It was determined that against the background of lymphostimulation, the lymph outflow in the intestinal mesentery improves dramatically, while eliminating lymphostasis in the "lymphatic collector", which develops against the background of the inflammatory process. This is the initial link in the positive effect of using lymphotropic therapy in the postoperative period.

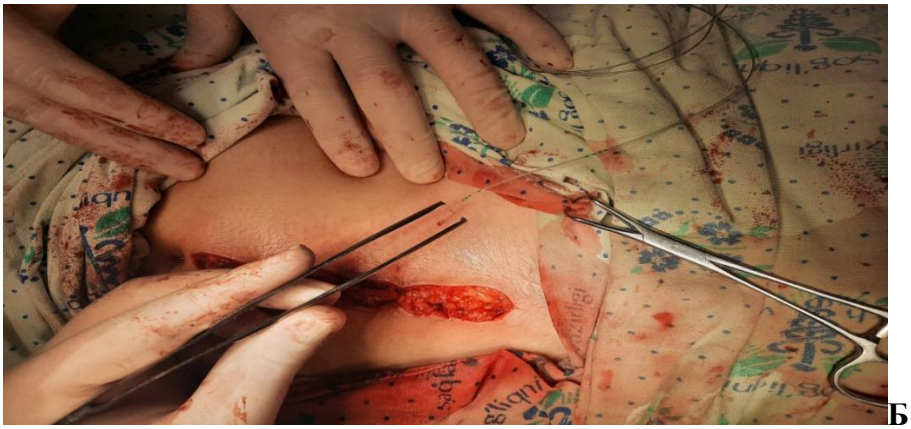
The results of the conducted experimental experiments have reliably proved the effectiveness of our improved method of endomesenteric lymphotropic therapy using lymphostimulation.

All patients were divided into two groups: the first control group included patients (n=73) who received traditional methods of treatment in the postoperative period. The patients in the second main group (n=97) in the postoperative period additionally underwent our improved method of endomesenteric lymphotropic therapy in the treatment complex.

The causes of peritonitis in the main group of patients (n=97) who received endomesenteric lymphotropic therapy were: acute destructive appendicitis in 37 patients (38.1%), perforated gastric and duodenal ulcers in 19 patients (19.6%), destructive cholecystitis in 9 patients (9.3%), gynecological destructive diseases – in 11 patients (11.3%), acute intestinal obstruction – in 6 patients (6.2%), ulcerative colitis - in 15 patients (15.5%).

The presence of large changes in the retroperitoneal space in patients with various forms of peritonitis in the form of infiltration, edema, swelling, hyperemia, purulent-inflammatory changes was an indication for the inclusion of endomesenteric lymphotropic therapy in the treatment complex.

After completing the main stage of surgery, all patients in the main group had our invented PVC-special catheter inserted intraoperatively into the intestinal mesentery - endomesenterically into the intestinal mesentery for lymphotropic therapy in the postoperative period and fixed it with a thin catgut into the intestinal mesentery. The outer end of the catheter was removed from the abdominal cavity through a contraperture and fixed to the skin of the anterior abdominal wall of the abdomen with a silk thread (drawings 1-2).



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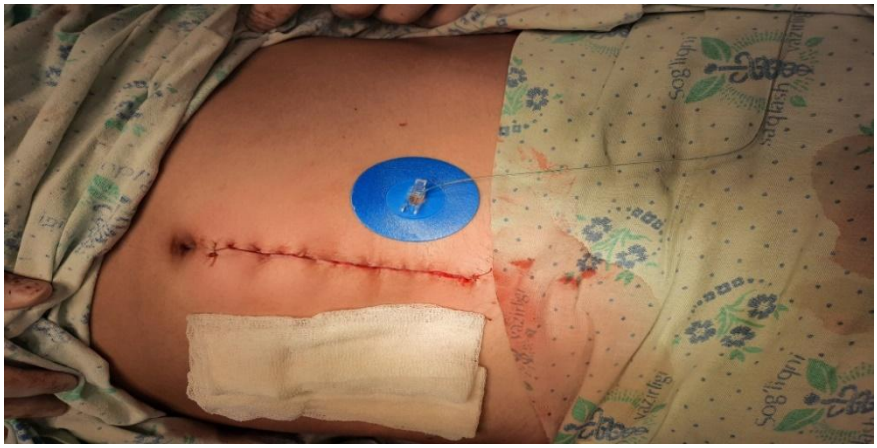
Drawing 1. Intraoperative installation of an endomesenteric PVC catheter, the outer end of which is removed through the abdominal wall for lymphotropic therapy in the postoperative period



Drawing 2. External view of an endomesenterically installed catheter catheter for lifotropic therapy

In some cases, when the operation was completed with an ileostomy, i.e. with total colectomy with the preservation of part of the rectum, a PVC catheter was inserted intraoperatively into the pararectal tissue for lymphotropic therapy in the postoperative period.

Our method of installing a catheter into the intestinal mesentery has been improved by the fact that it was installed at a distance of 2 cm from the mesenteric edge of the intestine, and not in the area of the mesentery root. This avoided damage to blood vessels, the formation of hematomas in the mesentery, ligation or indentation of large lymphatic or blood vessels injected with drugs into them.

In patients with peritonitis, first of all, attention was paid to the fight against microbial factors. In this regard, in the postoperative period, through a catheter installed endomesenterially, immediately after lymphostimulation, lymphotropic administration of broad-spectrum antibiotics was started, by drip, using a compatibility test in advance. The sensitivity of the abdominal microflora to antibacterial drugs was immediately determined. When studying the microflora of the abdominal cavity, E. coli, Staphylococcus, Pseudomonas aeruginosa were found in 84.5% of patients. In the remaining 15.5% of patients, combined types of microorganisms were found during sowing.

The greatest sensitivity of the abdominal microflora was found to cephalosporin drugs: ceftriaxone and cefazolin (84.7%) in patients with acute peritonitis. As soon as the sensitivity of the microbe to the antibiotic was established, they immediately switched to using this drug for endomesentral lymphotropic therapy.

Upon completion of lymphostimulation, they immediately switched to drip administration of a broad-spectrum antibiotic (cephalosporins of the III-IV generation: cefazolin or ceftriaxone) in a single therapeutic dose, later taking into account the sensitivity of the abdominal microflora to them.

Lymphotropic therapy for peritonitis was performed depending on the severity of the disease and the patient's condition once or twice a day for 4-5 days. For hemicolectomies for ulcerative colitis once a day, and for subtotal or total colectomies twice a day, also for 4-5 days.

Results: the results of treatment with lymphotropic therapy in the postoperative period were compared with those of the control group of patients.

On the background of complex therapy in the postoperative period with the use of lymphotropic therapy, intestinal motility resumed on the 2nd day in patients of the main group, and gas discharge was noted on the 3rd day. In patients of the control group, weak intestinal motility appeared on the 3rd day after surgery. The functional capacity of the gastrointestinal tract in this group of patients was restored only on the 4th-5th day.

Compared with the traditional method of treating acute peritonitis, leukocytosis in the blood of patients in the main group significantly decreased on day 3, and in patients in the control group, a decrease in this indicator was observed on day 5-6 after surgery.

The leukocyte intoxication index returned to normal in patients of the main group on the 3rd day after surgery, and in the control group on the 6th day. Also, a decrease in ESR was observed starting from day 3 in patients of the main group, and in patients of the control group from day 6.

The results of combined lymphotropic therapy in the postoperative period showed that the amount of fluid released from the abdominal cavity in patients in the main group began to decrease compared to the control group starting on the 2nd day after surgery (Tab. 1).

Table 1. Dynamics of exudate release from the abdominal cavity (ml) in the postoperative period with endomesenteric lymphotropic therapy and the traditional method of treatment

Method of treatment	1 day	2 day	3 day	4 day
Traditional treatment	17,2±10,1	100,4±7,9	77,1±5,8	38,4±6,9*
The use of lymphotropic therapy	108,4±9,2	60,3±9,6*	20,2±4,1*	5,7±1,3*

* - the significance of the difference compared to the original data (P<0,05).

Of particular importance is the volume of secreted fluid from the rectum after total colectomy with preservation of the rectum. At the same time, a special catheter for lymphotropic therapy was inserted intraoperatively into the pararectal tissue. The results show that the secretion of fluid from the rectum in the postoperative period decreases significantly faster against the background of the applied method of lymphotropic therapy (Tab. 2).

Table 2. Dynamics of fluid discharge from the rectum (ml) in the postoperative period against the background of lymphotropic therapy and the traditional method of treatment

Method of treatment	1 day	3 day	3 day
Traditional treatment	54,3±7	32,5±5	14,2±6
The use of lymphotropic therapy	52,5±6,1	16,2±4,3*	3,4±2,5*

* - the significance of the difference compared to the original data (P<0,05).

The table shows that the secreted secretion from the mucosa of the left part of the rectum decreases sharply with a decrease in edema in the stump area in the main group of patients (after total colectomy with the preservation of part of the rectum) against the background of lymphotropic therapy. The dynamics of the release of volume-reducing fluid secretion from the left part of the rectum in the postoperative period also confirms the effectiveness of lymphotropic therapy.

Thus, in various abdominal surgical pathologies with acute widespread diffuse peritonitis, the lymphotropic therapy we have improved in the complex treatment of patients in the postoperative period has a positive effect on the recovery function of the body, preventing complications from the underlying disease. Against this background, the cost of medicines is sharply reduced. The number of bed days, i.e. the patient's stay in the hospital is reduced by 3.5 ± 1.5 days compared to the traditional treatment of patients in the postoperative period.

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