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IMMUNOCORRECTIVE THERAPY IN COMBINED TREATMENT OF PATIENTS AFTER SIMULTANEOUS SURGERY ON THE ABDOMINAL ORGANS DURING THE EARLY POSTOPERATIVE PERIOD

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The article analyzes results of the combined treatment at 452 patients, aged 16 to 64, after the simultaneous surgery on the abdominal organs for visceroptosis, during the early postoperative period. In 280 (61.9%) of them, studies of the immune status were conducted against the background of immunocorrective therapy. Thymogen and polyoxidonium were used as immunocorrectors. The drugs were injected to patients during surgery intravenously: the thymogen by 2 ml. of 0.01% solution, the polyoxidonium-12 mg in solution. In the postoperative period, the drugs were injected intramuscularly for 8 days: the thymogen by 1 ml of 0.01% solution, the polyoxidonium 6 mg in solution. Use of the immunocorrective therapy allowed to achieve a significant improvement in the dynamics of immune indicators in patients compared to a control group. The polyoxidonium effect on immunological parameters was strongly pronounced and significantly exceeded the effect of thymogen.

Keywords: visceroptosis, simultaneous operations, immunocorrective therapy.

Combined surgical correction for visceroptosis is characterized by the postoperative period severity and treatment complication, which is due to simultaneous surgery on the abdominal organs. Research met in the scientific literature on the surgery problem of the digestive system diseases mainly raises questions on new types of surgical approaches, methods of operation, methods of hemostasis, etc., and treatment of this category of patients in the postoperative period is not fully covered, which determines the need for a deeper study of this stage of treatment.

Materials and research methods. We performed surgical treatment of 452 patients aged 16 to 64 years. 421 (93.1%) patients were operated at the age of 21 to 60 years, i.e. at the most active working age. Patients older than 60 years were admitted for surgical treatment from other medical institutions, where due to the chronic intestinal obstruction and progressive weight loss, they were examined with suspicion of colon cancer. Patients operated at the age of 20 years, as a rule, belonged to the group of patients with a form of visceroptosis, occurring with a pronounced pain syndrome, and 19 of them had daily defecation.

To treat patients with visceroptosis, we applied methods of combined surgical correction depending on variants of the pathological process, operational findings and verification with the data of a comprehensive clinical study. In this case, simultaneous surgical treatment of all changes detected in the preoperative period and requiring surgical correction is performed. Many authors indicate causal relationship and interdependence between changes in one organ and development of painful processes in another, and in this regard, they support expansion of indications for combined surgical interventions. Our experience of simultaneous operations at patients with visceroptosis confirms correctness of these assumptions.

The combined surgical treatment includes both well-known methods of operations on the gastrointestinal tract, and techniques developed in our clinic (Table 1).

1718 operations were performed at 452 patients. On average, each patient had 3-4 simultaneous operations.

Rehabilitation of patients after operations on organs of the gastrointestinal tract (GIT) has the main goal to restore the motor-evacuation function of the gastrointestinal tract that was disrupted during surgery, as well as normalization of the digestive conveyor. Especially severe postoperative disorders occur in the organs of nervous and endocrine regulation, in the process of metabolism. In the early postoperative period, combined therapy is performed aimed at stabilizing the condition of patients and preventing the development of early complications: failure of anastomosis, development of infectious complications and pneumonia.

Traumatic and operational stress have a depressing effect on the functional state of vital organs and systems in the postoperative period, and especially the immune system, which leads to an increase in the frequency of postoperative complications and fatalities. The use of immunocorrective therapy in the combined treatment of patients with various surgical pathologies allows us to improve the results of treatment, reduce frequency of postoperative complications.

In patients with visceroptosis complicated by CTS, before surgery, we observed a moderate decrease in concentration of IgA and a marked increase in IgG compared to the control group, which indicates a greater tension of the immune

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Table 1

The nature of the held surgery

Type of surgery	n=452	%
Nissen fundoplication	91	20.1
Toupet fundoplication	12	2.7
Round ligament of liver gastropexy	148	32.7
Bay gastropexy	11	2.4
Billroth operation I	4	0.9
Dorsal stem selective vagotomy	4	0.9
SPV with Onopriev duodenoplasty	2	0.4
Pyloroplasty	4	0.9
Surgery by Strong	29	6.4
Duodenojejunostomy by Vitebski	3	0.7
Ileocecostomy	49	10.8
Appendectomy	168	37.2
Resection of the colon left flank	440	97.3
Bilateral colonopexia	443	98.0
Right colonopexia	5	1.1
Left colonopexia	4	0.9
Sigmoid colectomy	9	2.0
Sigmoid reduction	3	0.7
Cholecystectomy	101	22.3
Cholecystolithotomy	4	0.9
Nephropexy	73	16.1
Splenectomy	3	0.7
Pelvic floor plastics	41	9.1
Omentum resection	28	6.2
Ovary resection	36	7.9
Removal of uterine fibroids	3	0.7

system, activation of humoral immune factors, in particular, an increase in IgG production. The data obtained are consistent with the work of a number of authors who noted a tendency to increase the number of immunoglobulins in the blood of patients with chronic inflammatory bowel diseases. The authors believe that bacteria and their toxins, food proteins and medications that are constantly present in the gastrointestinal tract in patients with colitis are of crucial importance in formation of hyperimmunoglobulinemia.

After the combined surgical correction of visceroptosis, the state of the immune system was studied in 280 (61.9%) patients, who were divided into 3 groups. The control group included 90 people who received traditional treatment without immunocorrective therapy. In the second one 90 patients were immunocorrected with the thymogen, the third group formed 90 patients who had polyoxidonium used as an immunocorrector. All groups were comparable by gender, age and volume of surgery. The drugs were injected to patients during the surgery intravenously: the thymogen in a dose of 2 ml. 0.01% of the solution, the polyoxidonium - 12 mg in solution. In the postoperative period, the drugs were administered intramuscularly for 8 days: the thymogen by 1 ml of 0.01% solution, the polyoxidonium - 6 mg in solution. To objectively assess changes in the complex immune system, the immune status indicator (ISI) [2] was used taking into account the extent and nature of the changes in leading parameters of the immune system – the level of T-lymphocytes with helper and suppressor activity, as the main regulatory factors of the immune system activity of T-lymphocytes, the level of IgG, the main opsonin of the immune system and also the phagocytosis activity.

The immune status indicator was calculated using the formula: ISI= (H+ S + T + G + P): 5 x 100%, where X is the indicator of T – lymphocytes with helper activity, C is the indicator of T-lymphocytes with suppressor activity, T is the indicator of lymphocyte activity, G is the indicator of IgG immunoglobulin level, and f is the indicator of phagocytosis. Values of the immune status indicator can range from (-100%) to (+100%). An interval from (-10%) to (+10%) was considered to be the norm for ISI. Under the USI values from (-10%) to (-20%) and from (+10%) to (+20%), immune disorders were considered light, from (-20%) to (-30%) and from (+20%) to (+30%) moderate, and at values less than (-30%) and more (+30%) severe. Study of the immunity indicators was carried out on the 1, 3-4, 7-8 days after surgery and before discharge from the hospital on the 10-12 days.

Results and discussion. Changes in the immune system indicators during the early postoperative period are shown in the Table 2.

In patients of the control group, immune disorders appeared on the 1st day after the operation. ISI in these terms was (- 37.8±2.4%). On day 3-4, the immunodeficiency progressed and the ISI was equal to (- 46.7±3.2%). On day 7-8, there was a tendency to stabilize the immune status and the ISI was equal to (- 35.4±3.1%). During the 10-12 days term, the indicators improve, but the numbers remain extremely low. ISI in these terms is equal to (- 22.4±2.8%). The analysis shows that the control group patients develop secondary immunodeficiency from the first day, reaching a maximum on the 3-4 days, and only by the end of treatment, before discharge from the hospital, they stabilized and corresponded to a moderate degree.

In the second group, where immunocorrection was performed with thymogen on the 1st day, ISI indicators (-35.9±3.9%), which indicated an increase in immunodeficiency, but the indicators are lower than in the control group. On the 3-4 days, the growth of indicators was not observed and the ISI was (-35.1±2.3%). On the 7-8 day, there was a tendency to normalize in the indicators of the immune status. ISI was equal to (-23.2±2.1%), and on the 10-12 days the

Table 2

Indicators of the patients' immune status during the postsurgery period
The control group

Groups of patients	Terms of postsurgery period			
	1 day	3-4 days	7-8 days	10-12
The control group	- 37.8 ± 2.4	- 46.7 ± 3.2	- 35.4 ± 3.1	- 22.4 ± 2.8
Thymogen treatment	-35.9 ± 3.9	-35.1 ± 2.3	-23.2 ± 2.1	-12.4 ± 2.5
Polyoxidonium treatment	-32.4 ± 4.1	-27.6 ± 3.6	-14.7 ± 2.4	-1.7 ± 1.1

indicators were approaching normal and ISI was (-12.4±2.5%). Against the background of the thymogen use on the 1st day after surgery, immune disorders were severe, but by the 3-4 days they stabilized. On the 7-8 days, the indicators improved and became medium-heavy, and by the 10-12 days after the operation, they were light and close to normal.

In the third group, where the patients received polyoxidonium on the day 1, PI was equal to (-32.4±4.1%), which was significantly lower than in the control group. By the 3-4 days of the postoperative period, the indicators stabilized, and the ISI was (-27.6 +3.6%), on the 7-8 days (-14.7±2.4%), and on the 10-12 days (-1.7±1.1%). The analysis shows that the use of polyoxidonium allowed to achieve stabilization of the immune system at the level of mild disorders by the 7-8 days after surgery, and complete normalization of the immune system by the 10-12 days. The effect of polyoxidonium was expressed in the activation of the phagocytic link of immunity and an increase in the number of B-lymphocytes.

Thus, the use of immunocorrective therapy allowed achieving a significant improvement in the dynamics of immune indicators in patients after simultaneous operations on the gastrointestinal tract for visceroptosis in comparison with the control group. The effect of the polyoxidonium on immunological parameters was strong and significantly exceeded the effect of thymogen. It should be noted that against the background of immunocorrective therapy, the indicators of general and biochemical blood tests stabilized much faster. Already on the 7-8 day, these indicators were within the norm.

The operations performed using the methods developed by us for combined correction of visceroptosis in the immediate postoperative period gave good results. There were no such complications as anastomositis, insolvency of the colon anastomosis and fatal outcomes. Of the 452 patients operated, 372 (82.3%) had no abdominal pain, and regular daily or in 1 day defecation was established. When discharged from the hospital, they were concerned about minor pain in the places of fixation. Sleep and appetite were restored. 69 (15.2%) patients' results were assessed as satisfactory. In this group of patients, at discharge, constipation remained, but their duration was reduced to 2-3 days, abdominal and lumbar pain decreased. 11 (2.4%) patients had no effect from the operation. The cause of poor results we see in insufficiently of the colon radical resection in 8 (1,7%) patients and at 3 (0.7%), there a tactical error was committed - a restriction by only the plastics of gastrointestinal ligament and mesosigmapplication under elongation of transverse colon or sigmoid colon. It should be noted that the best results of the postoperative treatment were obtained in patients using immunocorrective therapy.

Thus, carrying out the combined therapy in the early postoperative period, including in addition to traditional treatment and immunocorrective therapy, allowed avoiding fatal outcomes and achieving good results of surgical treatment in the majority of cases.

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