



PREVENTION OF ADHESIONS AFTER SURGICAL INTERVENTIONS IN GYNECOLOGY

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Abstract

A comprehensive examination was carried out in 108 patients after surgical interventions on the appendages and fallopian tubes with a different volume of rehabilitation measures. It is revealed that the inclusion complex of events preventing postoperative adhesions process drugs having immunomodulatory effect together with prolonged hyaluronidase activity, it allows to compensate the negative impact operation injury on the immune system. Clinical evidence of the effectiveness of therapy ELISA waking - elk reduction in both the frequency and severity of adhesions, which reduced the number of reconstructive surgery for infertility in these patients.

Keywords. humoral component, peritoneum, tuboperitoneal, hydrochloric system

The formation of adhesions in the postoperative - term period is one of the urgent problems of both the medical and social point of view. Intraperitoneal adhesion takes lead - Suitable position among the reasons trubnoperitoneal complimentary - Diya. High frequency of adhesions complications observed in 55-97% of patients after abdominal surgery and the OCU - by previously an extension of the scope and severity of surgical intervention, an increase in resistance of microorganisms to antibiotics, change of immunological reactivity.

The main trigger adhesion - wish to set up the peritoneal inflammatory reaction followed by destructive changes due to various intraoperative effects (mechanical, thermal, chemical, etc.) In the peritoneum and abdominal organs. In shaping the response of the peritoneum and tissue trauma at the decisive role played by the immune system, including - tea both cellular and humoral components.

The development of abdominal adhesions after BME - ference primarily associated with the risk of bowel obstruction, as well as a variety of symptom, including: pain, impaired function bodies coated peritoneum, and others. When swipe - SRI repeated surgical interventions, especially paw - macroscopic access, adhesions in the abdominal by - Lost and the pelvis, formed after operations - wish to set up a potential risk factor because of possible internal injuries.

Postoperative intraperitoneal adhesion little - of the pelvis is one of the most common when - rank tuboperitoneal infertility, chronic syndrome - Sgiach pelvic pain, ectopic pregnancy.

Very often adhesions observed after appendectomy on the destructive forms of appendicitis, ovarian resection, salpingoectomy connection with the pipe baa - belt.

Along with crude destructive changes, even in the absence of adhesions after abdominal surgery may develop functional races - abdominal manifested in unbalance ciliary, secretory and muscle activity. Thus, in the fallopian tubes broken promotion spermatozoid, capture the egg and its



transportation after fertilization in the uterus, which may cause insufficient efficiency of surgical techniques tubal occlusion correction [4, 6], as evidenced by the relative non- pregnancy rate (21- 28%) after laparoscopic reconstructive plastic surgery.

Given the role of inflammation in the implementation process of the adhesive, for the prevention of postoperative adhesions in - diet period, along with anti-bacterial treatment are widely used various methods of physiotherapy, de - sensitizing agents, enzyme preparations, immunostimulants of various origins.

However, in the literature there are controversial given about their performance, effects on the immune - hydrochloric system, while the status of the last largely determines the nature of post-traumatic reactions in five surgical wounds.

Due to the above, some interest before study the possibility of using immunomodulators in order to increase the efficiency of prophylaxis - ki adhesions in gynecological patients after laparoscopic surgery.

The Purpose of Research - the study of the effective doping Longidaza (immunomodulator with prolonged hyaluronidase activity) for the prevention of adhesions process after surgical interventions on the ovaries and fallopian tubes.

Patients and Methods

We examined 108 patients who underwent operative interference on uterine appendages. Depending on the surgical access has been allocated two groups of patients: group 1 - 49 patients who underwent laparotomy, Group 2 - 59 patients who made laparoscopy. Given the volume of postoperative rehabilitative - GOVERNMENTAL events in each group of patients were identified subgroup comparison and main subgroups.

Subgroup comparisons made of the patient, which would be - Are the various laparoscopic procedures - dimensional volume infertility. In the anamnesis of all pain - GOVERNMENTAL were previously transferred operation on fallopian tubes and ovaries, after which the preventive mero - acceptance carried out in a traditional screen.

Patients core group in the postoperative period, along with the traditional volume prevention - Sgiach activities conducted therapy Longidaza . Dean - nomic laparoscopy patients core group was held in the absence of pregnancy after 6 months - follows the end of treatment.

Longidaza (Petrovax Pharm). Registration number: JIC-000764. Trade name: Longidaza . On Chemical - title: conjugate of hyaluronidase (Lidaza) the active pro - aqueous N -oxide poly-1,4-etilenpiperazina (analog polioksidoniya). Longidase is a conjugated drug that includes lidase and polyoxidonium. The drug was administered from the first day after the operation intramuscularly at a dose of 3000 IU, every 5 days, for a course of 10 injections.

All patients were examined in accordance with the standardized WHO protocol. The program along with conventional clinical and laboratory EC - Following were the definition of immune - of status, laparoscopy, ultrasound.



All patients before treatment and in the dynamics of blood count, blood chemistry and immunological research. Hematological parameters were assessed on the basis of a clinical blood test by visual microscopy with a smear stain according to Romanovsky Giemsa. Biochemical analysis of blood about - was driven by standard biochemical diagnostic kits.

Immunological study included the definition - division number of T lymphocytes, T helper cells, cytotoxic T-lymphocytes, NK -cells, B lymphocytes in reagent - vah company DAKO by labeled streptavidin -biotina(LSAB) using monoclonal antibody CD

3⁺, CD 4⁺, CD 8⁺, CD 16⁺, CD 20⁺.

The functional activity of neutrophils Peripheral blood was evaluated by the adhesive activity of neutrophils to plastic, superoxide anion production in dough Sun - formation nitroblue tetrazolium spectrophotometric method (spontaneous and stimulated NBT-test). Determination of serum immunoglobulins by radial immunodiffusion according to Mancini.

In assessing the severity of adhesions uses - valas classification J. Hulka et al. (1998) and the American Fertility Society (AFS):

- Grade 1: minimal adhesions, pipes passable view - in much of the ovary
- Grade 2: more than 50% of the ovary surface is free, ampullar occlusion with preservation of folds
- Grade 3: free less than 50% of the ovarian surface, ampullar occlusion with destruction of folds
- Grade 4: the surface of the ovary is not visible, bilateral hydrosalpinx

Research Results and their Discussion

Based on these clinical characteristics, we can conclude that in patients operated on pathology of the ovaries and fallopian tubes, there is a complex factors predisposing to the development of peritoneal adhesion. Thus, among the surveyed dominated PA - (74.1%) operated on an emergency basis, which is associated with an increased risk of postoperative wasps - complication in the, in particular the development wasps - complication in the. A significant proportion are surgical interventions for ovarian tumors (35.1%) and ectopic pregnancy (21.3%), belonging to the category of operations most often accompanied by the development of adhesions.

It should be noted that quite often in 19.6% of cases, surgical interventions were performed against the background of hemoperitoneum, which is one of the etiological factors in the formation of the postoperative adhesive process. Attention is drawn to a sufficiently high frequency have previously inflammatory diseases of the genitalia of - the investigated patients (40.7% cases - oophoritis, at 23, 5% - vulvovaginitis, in 18.6% - endometritis).

The presence of inflammatory diseases of the genitals should be considered not only as a risk factor for the development of adhesions, but also as a background for the onset of immunodeficiency states in the examined patients.

The totality of these factors, in our view, manifest - familiarize cause significant fertility rate in patients (51.8%).

Reproductive disorders closely associated with the time postoperative adhesions, as the frequency of secondary infertility examined - GOVERNMENTAL patients after surgical interventions (41.7%).



Comparability of the main subgroups anamnestic characteristics allowed for the comparative assessment - ku influence therapy Longidaza the formation of postoperative - istration adhesion at laparotomy operator - ratsiyah on the ovaries and fallopian tubes. The leading criterion for the effectiveness of the therapy was the results of a laparoscopic examination. Notes that in 30.0% of cases after laparotomy patients subgroup comparisons were tyazhe - lye form pelvic adhesion, indicating destruk - tive changes in the fallopian tubes. Y 2 (10.0%) patients from - labeled formation gidrosalpinksa (Table 1.). When la - paroskopii in 19 patients of the subgroup, is produced - hydrochloric in the absence of pregnancy after 6 months pos - le closure course of therapy Longidaza, adhesions in the pelvis was detected in 10 (52.6%) patients.

In carrying out the basic activities preventing tissue adhesion after endosurgical treatment ho - de retransmission laparoscopy adhesions in the pelvis was found in 7 (35.0%) patients, using the momentum munofermentotherapy - 6 (27.3%) patients.

It should be noted that in patients of the subgroup adhesive process not accompanied by the development of destructive - GOVERNMENTAL changes and fallopian tubes does not exceed 2 degrees, in

Table 1. Characteristics of adhesions in patients on - follows operations on the fallopian tubes and ovaries

The severity of the adhesive process	Laparotomy	Laparoscopy		
	comparison subgroup	main subgroup	comparison subgroup	main subgroup
Lack of adhesions	1 (5.0%)	9 (47.4%)	13 (65.0%)	16 (72.7%)
1st degree	7 (35.0%)	7 (36.8%)	4 (20.0%)	4 (18.2%)
2nd degree	6 (30.0%)	2 (10.5%)	2 (10.0%)	2 (9.1%)
3 degree	4 (20.0%)	1 (5.2%)	1 (5.0%)	0 (0%)
4 degree	2 (10.0%)	0 (0%)	0 (0%)	0 (0%)



Table 2. Chromosalpingoscopy data in patients after operations on the fallopian tubes and ovaries

Condition of the fallopian tubes	Laparotomy		Laparoscopy	
	comparison sub group	main subgroup	comparison subgroup	main subgroup
Both fallopian tubes are patent	8 (40.0%)	14 (73.7%)	16 (80.0%)	16 (72.7%)
Passable one fallopian tube	3 (15.0%)	4 (21.1%)	3 (15.0%)	4 (18.2%)
Both (or only) tubes are obstructed	9 (45.0%)	1 (5.2%)	1 (5.0%)	2 (9.1%)

subgroup comparisons in one patients (14.3%) had speech - ny severe process. The main subgroup din - nomic laparoscopy was carried out in the absence baa - belt within 6 months after the course Longidaza 22 (54.1%) patients (Table. 2).

Patients undergoing laparotomy, impaired proho - gence tubal at hromosalpingoskopii has been marked by - but in 12 (60.0%) by using conventional volume rehabilitation activities, while in 45.0% of observation - Nij occurred bilateral occlusion or occlusion of a single pipe. The main subgroup violation pro - go tubal occurred in 5 (26.3%) patients, and bilateral occlusion - only one women (5.2%).

Violation of tubal patency after lapar - scopic operations were detected in 3 (15.0%) patients of the subgroup comparisons and 2 (9.1%) patients of the subgroup .

The inclusion in a set of measures for the prevention of postoperative adhesions Longidaza after laparotomy enabled significantly ($p < 0, 01$) to reduce the cha - sion frequency (28.6%) of reconstructive surgery for infertility in patients of the subgroup compared to the reference subgroup (95.0%).

The findings of the clinical evidence - cal efficiency Longidaza , were confirmed in the analysis of the reproductive function in patients examined. During the observation period (12-18 months) in patients who spend extended complex rehabili - tional activities after laparotomy pregnancy occurred in 65.6% of cases (19 patients) and the paw - ROSCOP - in 77.0% (30 patients). While in the sub - comparison groups respectively, 6 became pregnant (30.0%) and 12 (60%) patients.

Considering the above data on the role of functional - Foot of the immune system in the implementation of pathologists - cal intraperitoneal adhesion, we conducted a comparative assessment of humoral and kletoch - Foot immunity in the postoperative period in patients during the baseline therapy (control group), and when the course of therapy immunomodulator with fer - mentativnoy activity (main group).



In the early postoperative period deficit CD 3, CD 4 T lymphocytes in patients with evidence of both groups - the shaft of the presence of a chronic inflammatory process, which as a result of surgical trauma, as a manifestation of immunodeficiency in patients with adhesive process.

Changes in functional status B lymphocytes (increasing the concentration of CD 20) were observed in 50% pain - GOVERNMENTAL main group and 52% - comparison group. In 78% of - the investigated patients has been a decrease in the phagocytic activity of neutrophils. Humoral compo - nent of the immune system were not significant differences from standard values ($p < 0,05$).

In the dynamic study of cellular - th components of immunity in the main group reduction concentration CD 3 and CD 4 T cells occurred in 57.7% of patients, whereas in comparison group with scarce - distance maintained in 93% of patients. Thus, the norm - formalizing these indicators revealed more than polo - guilt study group.

It should be noted that the mean group values CD 3 lymphocytes in patients who underwent therapy Longidaza, did not reach the standard values, but were statistically significant differences ($p < 0,05$) of the exponents - ley in the comparison group ($53,5 \pm 1,1\%$ and at $46,3 \pm 1,3\%$ with - respectively).

Inclusion in the program immunomodulators posleopera - translational management of patients allowed to restore the macrophage - tare activity of neutrophils in most patients the main group (only 3 patients this figure was below the norm), with no change in this indicator in the comparison group.

The above findings lead to the over - Turning that surgical aggression, especially against the background of chronic inflammation, which is closely linked to the destabilization of the immune system, characterized by a deficiency of CD 3, CD 4 T lymphocytes, reduced macrophage - tare neutrophil activity, changes in the function - tional state of B lymphocytes (increasing concentra - radio CD 20).

Inclusion in the program of postoperative gynecological patients drugs that combine immunomoduliruyuschuyu and hyaluronidase activity secu - Chiva adequacy of the response of the immune system in the opera - tional injury, as evidenced by significant by - differences ($p < 0,05$) in terms of CD 3, phagocytic activity - STI neutrophils,

It is important to stress that the positive dynamics of immuno - technologically parameters correlated with the clinical data and, above all, with the severity of adhesions. Thus, the correction of immune status after - operating period in patients undergoing the intervention - CTBA on the ovaries and fallopian tubes should be considered as a mandatory component of complex therapy of - allows one to prevent the development of adhesions.

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