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EVALUATION OF THE EFFECTIVENESS OF AN IMPROVED APPROACH IN THE TREATMENT OF ANTERIOR ABDOMINAL WALL HERNIAS IN WOMEN OF FERTILE AGE

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RESUME

The essence of the experiment was to conduct research on tissue rupture. Taking into account the fact of different extensibility of tissues in different parts of the anterior abdominal wall during pregnancy, we studied the initial morphological characteristics of the tissues of the anterior abdominal wall and the nature of the changes during its maximum stretching.

Keywords. hernioplasty, hernia, mesh, abdominal wall reconstruction, women of childbearing age.

INTRODUCTION

In modern surgical practice, the issues of choosing the method of hernia gate plastic surgery in women of reproductive age are not particularly discussed. According to the recommendations of manufacturers of allomaterials and the instructions available to them, pregnancy is a contraindication to their use [1,3,5,7,9,11]. However, the issues of the possibility of using allomaterials in women of fertile age remain beyond the interests of practical surgeons. Analyzing the results of surgical treatment of this category of people with external hernias, we found that the frequency of complications in the early and late postoperative periods exceeds 20% [2,4,6,8,10,12].

A critical analysis of the clinical results of the traditional approach to the method of hernia gate plastic surgery allowed us to outline ways to solve this problem [13,15,17,19,21,23]. Taking into account the above, we conducted experimental studies, as a result of which we came to the conclusion that when localizing a hernia along the median line and under the xiphoid process, it is advisable to use the most absorbable allomaterial proside, when localizing hernias in the lateral abdominal region and in the inguinal region, the use of semi–absorbable ultrapro material is considered the most optimal [14,16,18,20,22]. Non-absorbable allomaterial in the form of prolene, which has found quite widespread use in modern surgery, is inappropriate for use in women of reproductive age.

In recent years, due to the introduction into clinical practice of alloplasty methods of hernial gates, the results of surgical treatment of this pathology have significantly improved. However, the limitation of the use of these methods in women of reproductive age, as well as the impossibility of their use during pregnancy, were the subject of this study. The interaction of allomaterial with body tissues, its antiadhesiveness, resistance to microflora are important issues of modern herniology and require constant new developments and research. Considering the above, the purpose of this study was to improve the results of surgical treatment of women of fertile age with hernias of the anterior abdominal wall by substantiating a differentiated approach to the choice of the method of allogernioplasty.

MATERIAL AND METHODS OF RESEARCH

The results of surgical treatment of 64 women of fertile age with hernias of the anterior abdominal wall who were hospitalized for the period from 2017 to 2020 were analyzed. Of these, 35 patients were in 1 surgical department of the Bukhara regional Multidisciplinary Medical Center and 29 – in the department of thoracoabdominal surgery of the multidisciplinary clinic of the Tashkent Medical Academy. In a comparative

aspect, the results of treatment with patients of the control group were carried out.

The initial state of women in the compared groups did not differ. The clinical picture of the disease in all patients was characterized by the presence of hernial protrusion, 10 (15.6%) patients had various dyspeptic phenomena. The general condition in all cases was assessed as satisfactory, body temperature did not exceed normal values, hemodynamic and respiratory shifts were not noted. When assessing the local status, all women had a positive symptom of a "cough push". The size of the hernial gates, as in the control group, ranged from 2 to 10 cm. The average size of the hernial gate was 4.2±1.4 cm and did not differ much from those in the comparison group (4.5±1.7 cm; t=0.136). 61 (95.3%) patients had a single–chamber hernia, 3 (4.7%) had two chambers with postoperative hernias. There were similar data in the control group.

The average values of laboratory tests were within normal values. Blood leukocyte counts ranged from 4.9 to 10.9*109/l (on average 6.5±1.1*109/l); ESR – from 5.0 to 12.5 mm/h (9.8±1.5 mm/h); hemoglobin – from 91 to 124 g/l (107.3±10.8 g/l). In biochemical blood tests, ALT values ranged from 0.41 to 0.87 mmol/l (0.64±0.14 mmol/L), AST – from 0.43 to 0.88 mmol/l (0.66±0.15 mmol/L), bilirubin – from 12.1 to 20.3 mmol/l (15.5±2.5 mmol/L), total protein – from 56.6 to 72.7 g/l (63.3±5.1 g/l). In the comparative aspect, there were no significant differences between the main and control groups in any indicator (table 1.).

As in the control group, all patients were operated on as planned. Of 41 (64.1%) patients with inguinal hernias, laparoscopic hernioplasty was performed in 24 (37.5%) cases (17 – transabdominal preperitoneal plastic; 7 – total extraperitoneal plastic) using ultrapro material, and in 4 (6.3%) of them this operation was performed from both sides. Lichtenstein surgery was performed in 17 (26.6%) cases. Moreover, the choice of the operation method did not depend on the type of groin hernia. Out of 12 (18.8%) women with umbilical hernias, in 10 (15.6%) cases, herniation was performed with plastic surgery of the on lay type using proside.

In 2 (3.2%) cases of umbilical hernia, laparoscopic hernioplasty was performed with the installation of a mesh allograft in the preperitoneal space. 5 (7.8%) patients with hernias of the white line of the abdomen underwent alloplasty of the hernial gates according to the on lay type with the use of proside. In 6 (9.4%) cases, patients with postoperative hernias underwent herniation with on-lay alloplasty. Moreover, in 4 (6.3%) cases with hernia localization along the median line, proside was used as an allomaterial, in 2 (3.1%) cases with hernia of the lateral abdominal region – ultrapro.

Laparoscopic cholecystectomy was performed simultaneously in 2 (3.1%) cases during laparoscopic hernioplasty for inguinal hernia. In 2 (3.1%) cases, laparoscopic cystectomy was performed for an ovarian cyst during laparoscopic hernioplasty for an inguinal hernia in one woman and a second patient with on-lay herniation for an umbilical hernia. In 3 (4.7%) cases, unilateral phlebectomy was performed simultaneously (one observation during laparoscopic hernioplasty for inguinal hernia; during on-lay alloplasty for umbilical hernia; with on-lay alloplasty for hernia of the white line of the abdomen).

In the postoperative period, as in the control group, the indicators of the general blood test did not undergo any special changes, during the observation period there were no significant differences from the initial value. A comparative assessment between the clinical groups also revealed no statistically significant differences.

A similar dynamics was observed with the indicator of biochemical blood tests. Both individual and average indicators in the compared clinical groups were within normal values and did not undergo any significant changes in the dynamics of treatment. There were no significant differences either in the dynamics of observations or between the compared groups. The length of stay of patients in the hospital ranged from 2 to 8 days. This indicator was lower than in the control group. The average duration of the hospital stage of treatment was 4.0± 0.8 days. The decrease in bed days was associated with the inclusion of laparoscopic operations in the arsenal of surgical interventions. Despite this, there was no significant difference between the compared groups (in the control group, the average duration of inpatient treatment was 4.2±1.9 days; t=0.582).

In the early postoperative period, the development of surgical complications was noted in 6.3±2.0% (4 patients) of cases, whereas in the control group this indicator was significantly higher (13.4±2.8%; t=2.071). In 3 (4.7%) patients, the development of postoperative wound seroma was noted. Conservative therapy in inpatient conditions was carried out in all cases. After discharge from the hospital, these patients were treated on an outpatient basis for 4 to 11 days. In 1 (1.6%) case after alloplasty for postoperative hernia, organic subcutaneous suppuration of the postoperative wound was noted. Conservative therapy with daily ointment dressings contributed to the cleansing of the wound and wound healing by secondary tension.

The frequency of early complications of a general nature was 1.6 ±1.0%, which did not differ much from those complications in the control group (1.2± 0.9%; t=0.250). 1 (1.6%) patient developed pneumonia after surgery for a ventral hernia. Against the background of conservative therapy, the patient's condition improved and on the 8th day she was discharged for outpatient treatment. In the long-term period up to 3 years, all patients became pregnant, which ended in childbirth. Of the total number of patients, in 9 (14.1±2.9%) cases, caesarean section had to be resorted to, but this indicator in the main group was significantly lower than in the control group (25.6±3.6%; t=2,500). Only in 1 (1.6%) case, 1.5 years after alloplasty for a hernia of the white line of the abdomen, a postoperative hernia developed, requiring surgical treatment as planned. It should be noted that in this clinical case, a paraprosthetic hernia developed.

Overall, the overall complication rate in the main group significantly decreased from 23.2±3.5% to 9.4±2.4% (t=3.251). The clinical example clearly demonstrates the advantages and possibilities of alloplasty and modern methods of surgical treatment of surgical patients. A scientifically based approach to the choice of surgical intervention, namely laparoscopic hernioplasty and the corresponding allomaterial, allowed to achieve not only a good clinical result, but also a cosmetic effect, which is an important social factor that has a significant impact on the quality of life of people.

Currently, there are no clear recommendations for choosing the type of alloprosthesis for hernia repair of the anterior abdominal wall. These issues remain debatable and open to women of fertile age, and even more so during pregnancy. In our experience, we use a composite mesh as described above for the treatment of all hernias of the anterior abdominal wall. Of course, there are currently no specific studies to determine the individual histocompatibility of alloprostheses, but this issue remains the subject of upcoming studies.

Thus, our research shows all the advantages of our proposed approach to choosing the method of allogernioplasty in women of fertile age. An important fact is the widespread introduction of laparoscopic technology, which, along with numerous advantages compared to open operations, which are expressed in a reduction in postoperative pain, a low frequency of wound complications, a lower probability of developing postoperative intestinal obstruction, a reduction in hospital stay and an earlier return to the original functions, allows excellent visualization, wide coverage of the area with an alloprosthesis for the limits of the defect and reliable attachment to a healthy fascia of the abdominal wall.

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