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COMPARATIVE ANALYSIS OF LAPAROTOMIC AND LAPAROSCOPIC METHODS OF SURGICAL TREATMENT OF POSTOPERATIVE VENTRAL HERNIAS

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Resume: The article presents the data of a clinical examination of 1155 patients with postoperative ventral hernias who were operated on in the surgical department of the multidisciplinary clinic of Samarkand State Medical University for the period from 2018 to 2023. Depending on the choice of treatment tactics, the patients were divided into two groups. The first group, the comparison group, consisted of 72 (62.6%) patients who underwent open herniation. The second group, the main group consisted of 43 (37.4%) patients who were initially scheduled for laparoscopic prosthetic hernioplasty.

Key words: ventral hernia, alloplasty, endovideosurgery.

The relevance of research. Surgical treatment of postoperative ventral hernias (PVH) is challenging, given the high risk of recurrence and complications. In recent decades, various methods of surgical intervention, including open and laparoscopic hernioplasty, have been actively studied in order to determine the most effective approach [3, 6, 7, 9].

Open hernioplasty has traditionally been considered the gold standard for treating hypertension. It involves making a large incision to access the hernia, adjusting it, and installing a mesh to strengthen the defect. Advantages of this method include [1, 2, 4, 5]:

- The ability to accurately control the location of the grid.
- Direct access to large and complex hernias.

However, open hernioplasty is associated with a high risk of complications, such as wound infection and a long recovery period.

With the development of minimally invasive technologies, laparoscopic hernioplasty has become increasingly popular. This method involves making small incisions and using the camera for visualization. The benefits of laparoscopy include:

- Less injuries and blood loss.
- Reducing the risk of infectious complications.
- Faster recovery and shorter hospital stay.

Despite these advantages, laparoscopy requires a highly qualified surgeon and can be difficult to perform for large or complex hernias.

Numerous studies are aimed at comparing open and laparoscopic hernioplasty in terms of such parameters as the duration of surgery, the frequency of relapses, the level of pain, the recovery period, and the frequency of complications. In general, laparoscopy shows better results in terms of recovery and reduced risk of complications, while open surgery is still used in complex clinical cases [8, 10].

Despite numerous data points, there are still questions that require further study:

- Which method is best suited for specific types of hernias and patients?
- Which mesh material is most optimal in the long run?
- What is the real risk of relapse when using different treatment methods?

Thus, a comparative analysis of the surgical treatment of POVH shows that each method has its own advantages and limitations. The choice of approach should be based on the individual characteristics of the patient and the characteristics of the hernia. Further research will help clarify the selection criteria and improve treatment outcomes.

Purpose of the study. Improving the effectiveness of surgical treatment of patients with postoperative ventral abdominal hernias.

Material and methods of research. The study covers a clinical examination of 115 patients with postoperative ventral hernias who were operated on in the surgical department of the multidisciplinary clinic of Samarkand State Medical University in the period from 2018 to 2023. All operations were performed as planned. Patients were divided into two groups depending on the chosen treatment strategy. The comparison group included 72 patients(62.6%) who underwent open herniation. The main group included 43 patients (37.4%) who underwent laparoscopic prosthetic hernioplasty.

Patients were divided by gender and age. The key factors influencing the choice of surgical tactics were the location of the hernia, the size of the defect, and the presence of relapses in the anamnesis. According to the classification of Chervel J. P. and Rath A.M. (1999), 82 (71.3%) patients had small (W1) and medium (W2) hernias, while 33 (28.7%) patients had large hernias (W3-W4).

The vast majority of patients, namely 82 (71.3%), had supra-umbilical (M1) and peri-umbilical (M2) hernias. The smallest number of patients, 12 (10.4%), had lateral (L) ventral hernias. Of the 115 patients, 48 (41.7%) had a first relapse, 56 (48.7%) had a second relapse, and 11 (9.6%) had a third ventral hernia relapse.

Laparoscopic hernioalloplasty of POVG included the following steps:

At the first stage, a pneumoperitoneum was created, for which a Veresh needle was usually used, inserting it into the classic Tracing points. However, if the hernia was located in the area of these points, a pneumoperitoneum was created under the control of intraoperative ultrasound (IOUSI). The Veresh needle was inserted in a place where there were no intestinal loops that could be soldered to the anterior abdominal wall (Fig. 1).

Fig. 1. Stage of applying a pneumoperitoneum with a Verish needle

At the second stage, to provide a better view and ease of manipulation, the laparoscope and working trocars were inserted at a sufficient distance from the aponeurotic edge of the hernia gate, since the endoprosthesis must be placed at a distance of 4-5 cm from the edge of the hernia gate (Fig. 2).

2. Placement of trocars at the optimal distance from the aponeurotic edge of the hernial gate

After installing the trocars, the third stage included visualization of the abdominal cavity and assessment of the state of the organs. Dissection of adhesions in the abdominal cavity was performed, as well as examination of the places intended for fixing and placing the endoprosthesis.

At the fourth stage, the prosthesis was prepared for installation by applying it to the anterior abdominal wall, and at the same time the internal surface of the abdominal wall was examined through a laparoscope. The prosthesis was measured so that it protruded 4-5 cm beyond the edges of the hernial gate.

At the fifth stage, the prosthesis was fixed with through sutures to the aponeurosis using U-shaped sutures previously applied to the endoprosthesis, using a specially modified Endo Close needle.

To prevent early adhesive intestinal obstruction and infiltration of the abdominal cavity, the endoprosthesis was isolated from the abdominal cavity by the parietal peritoneum (Fig.).

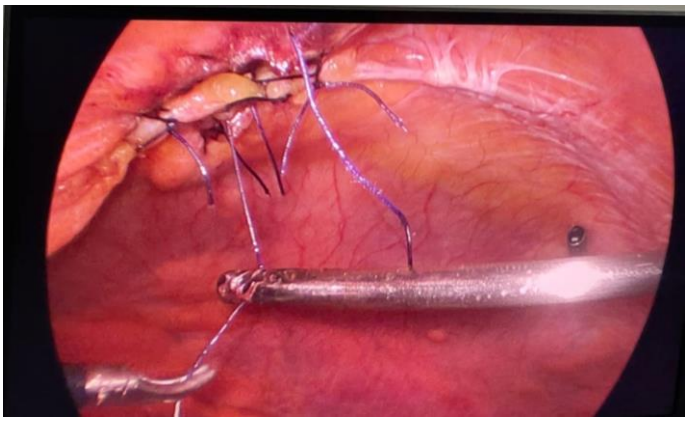

Figure 3. Isolation of the endoprosthesis from the abdominal cavity using the parietal peritoneum

The results of the study showed that patients in the main group who underwent laparoscopic prosthetic hernioplasty had more favorable indicators in the postoperative period compared to patients in the comparison group.

The average duration of surgery in the main group was 75±15 minutes, while in the comparison group it was 105±20 minutes. These differences are explained by the less traumatic nature of the laparoscopic method and its greater accuracy.

In patients of the main group, the level of pain on the first day after surgery was significantly lower compared to patients of the comparison group, which is confirmed by the use of lower doses of analgesics. Hospital stay after surgery in the main group averaged 3.5±1.2 days, while in the comparison group this indicator was 7.4±2.1 days. Faster recovery allowed patients in the main group to return to normal activity earlier.

The main group had a lower number of postoperative complications. In particular, minor seromas were detected in 2 (4.6%) patients of the main group, which were successfully eliminated by conservative methods. In the comparison group, complications such as wound infection and hernia recurrence were observed in 11 (15.3%) patients (Table 1).

Table 1. Results of surgical treatment of patients with POVH

Indicators	Comparison group (n=72)	Main group (n=43)
Operation duration (min)	105±20	75±15
Hospital stay (day)	7.4±2.1	3.5±1.2
Seroma (%)	8.3	4.6
Wound suppuration (%)	6.9	-
Hernia recurrence (%)	5.5	-

Conclusion. The study confirmed the high effectiveness of laparoscopic prosthetic hernioplasty for the treatment of postoperative ventral hernias. Patients who underwent laparoscopic surgery showed more favorable clinical outcomes, including a shorter rehabilitation period, less pain intensity, and a reduced risk of postoperative complications. These results highlight the need for further implementation of laparoscopic hernioplasty in clinical practice and its active use to improve the quality of treatment of patients with ventral hernias.

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