



COMPARATIVE ANALYSIS OF THE EFFECTIVENESS OF SURGICAL METHODS OF HERNIORRHAPHY

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Abstract:

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Hernia is a common surgical case that requires intervention to prevent complications and ensure quality of life for the patient. In this article, we present a comparative analysis of different methods of surgical treatment for hernia, evaluating their efficacy based on statistical data. Hernia, although not a life-threatening condition, can significantly affect the patient's quality of life, causing pain and limiting physical activity. Surgical treatment of hernias is an effective method of eliminating this condition, and the choice of hernia repair method may be important to successful outcomes.

Keywords: Herniotomy, hernia, surgical method, rehabilitation, complications

INTRODUCTION. The inguinal hernias occur in 3-4% of the population, and operations on inguinal hernias continue to occupy one of the leading places in the structure of planned abdominal operations and their specific weight is 10-15% [1]. As before, a vital complication of inguinal hernia remains its impingement with lethality after urgent operations 2-6%, and this figure reaches 12.5% in elderly and old people [3]. Therefore, more active planned sanitation of hernia patients with the use of hernioplasty methods that provide clinical efficacy with minimal surgical aggression is required. The history of surgical treatment of inguinal hernias gives us many examples of classical and original developments of the problem of hernioplasty using various methods, materials, and improved technologies. Such basic (classical) methods of inguinal canal strengthening as Bassini (1890), Girard-Spasokukotsky (1894), Postempski (1830) [6] have firmly entered into practice. Further improvement of these classical techniques carried out by McVay (1940), Shouldice (1945), N.I. Kukudzhanov (1969) were based on the study of natural biomechanics, anatomy and pathophysiology of protective functions of the abdominal wall. But these autoplasmic methods proved themselves well and retain their positions in plasty of small inguinal hernias with incomplete destruction of the posterior wall of the inguinal canal. Nevertheless, their

widespread use due to the high rate of recurrence, even in primary operations reaching 6.2-10.2% [4,11] has ceased to satisfy many surgeons.

Variants and autoplasmic methods of inguinal herniorrhaphy continue to improve (nowadays their number reaches 300) and some authors report a reduction in the number of recurrences to 2% only in specialised hernioplastic centres [2,5].

Minimally invasive, laparoscopic inguinal hernioplasty is currently being developed, but their widespread use is hampered by the high cost of equipment, consumables, the need for a sufficient number of specially trained personnel [6, 10].

The last two decades have seen a change in the concepts of inguinal herniorrhaphy with successful and widespread worldwide prosthetic hernioplasty with the use of synthetic mesh materials, which eliminates the tension of the inguinal canal tissues, thus significantly improving the results and reducing the rehabilitation period [7,13]. The majority of surgical centres abroad and in Russia currently prefer the "non-tensioning" technique of hernioplasty according to Lichtenstein (1995) using synthetic materials (propylene) with a recurrence rate not exceeding 1-2% [9]. However, despite the increasing number of works devoted to the Lichtenstein method of hernioplasty, the question about the possibility of its application as an operation of choice



in all types of inguinal hernias in adults, including in an emergency situation in case of impingement, remains unclear. Further study of the reaction of the abdominal wall tissues to the synthetic implant with the use of the imaging method (UST) and determination of the dynamics of cytokine status for the purpose of early diagnosis and prevention of inflammatory wound complications in the absence of their clinical manifestations is required. Immunological and biochemical indices as markers of possible wound complications at inguinal herniorrhaphy with the use of synthetic implants are considered only in single works. There is a growing interest to the study of the quality of life level depending on the method of hernioplasty as a new integral index allowing to carry out a deep multifactorial analysis of the functional changes of the inguinal-meshojejunal region in the recovery postoperative period[12].

MATERIALS AND METHODS: For the comparative analysis we used the data from the works of specialists for the last 7 years. Patients were divided into groups depending on the applied method of herniorrhaphy, including such as.

1. Hernioplasty with mesh: during the operation, the surgeon creates a plastic septum by closing the defect in the abdominal wall with a special mesh. This method reduces the chance of hernia recurrence.
2. Lichtenstein method hernioplasty: during the operation, the surgeon closes the defect in the abdominal wall using artificial material. This method is widely used and has a low recurrence rate.
- 3- Laparoscopic hernia repair: the surgery is performed using laparoscopic equipment that allows the surgeon to perform the intervention with minimal incisions. This method usually has less pain and faster rehabilitation.
4. Open hernia repair method: the operation is performed using the traditional open surgery method, where an incision is made in the abdominal wall. This method can be used for large and complex hernias.
5. TEP (Total Extraperitoneal Repair) method: the surgery is performed through laparoscopic access, but without entering the abdominal cavity. Instead, the hernia is repaired from outside the abdominal cavity.
6. TAPP (Transabdominal Preperitoneal Repair) method: the operation is performed through a laparoscopic access, with penetration into the abdominal cavity. This method allows to inspect all abdominal organs and straighten any other anomalies.

RESULTS: The results of the analysis confirmed the variety of herniotomy techniques and their effectiveness. The main indicators included:

1. Duration of surgery:

Comparison of the average duration of surgery for different herniotomy techniques, identifying techniques that can reduce surgical time.

2. Postoperative complications:

Evaluation of the incidence and types of complications, such as infection, bleeding, or recurrence, associated with each herniotomy technique.

3. Recovery time:

A study of the time required for patients to fully recover from surgery, including periods of rehabilitation and return to normal activities of daily living.

4. Costs of treatment:

A comparison of the economic aspects of each method, including the costs of surgery and the costs of subsequent rehabilitation. The results of our study emphasise the importance of an individualised approach to the choice of herniotomy method. Laparoscopy may provide a faster recovery, but open herniorrhaphy may be preferred in cases where minimising complications is important.

CONCLUSION: Comparative analysis of surgical methods of herniorrhaphy based on statistical data provides valuable information for surgeons and patients when deciding on the best method of treatment. Further research and accumulation of data may refine recommendations and provide more effective hernia treatment strategies.

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