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Endovideosurgical Approaches in the Surgical Treatment of Hiatal Hernias

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Abstract: *Endovideosurgical methods of surgical treatment of hiatal hernias have proven to be effective and minimally invasive approaches. This article analyzes the clinical results of 58 patients who underwent laparoscopic fundoplication. The results show a significant reduction in the frequency of postoperative complications and relapses compared to traditional methods of treatment, such as laparotomy. Laparoscopy helps patients recover quickly and improves their quality of life.*

Keywords: *Endovideosurgery, laparoscopic fundoplication, hiatal hernia, minimally invasive surgery, postoperative complications, hernia recurrence, recovery, quality of life..*

Introduction

Hiatal hernia refers to a common pathological condition in which a portion of the stomach or other abdominal organs is moved to the chest through the dilated esophageal opening of the diaphragm. In recent decades, cases of GPOD have become significantly more frequent, due to lifestyle changes, an increase in the number of obese patients, and an aging population. The main clinical manifestations of GPOD are heartburn, chest pain, dyspepsia, gastroesophageal reflux (GERD), and in some cases, difficulty swallowing and pain when eating (1.3.4.).

Classical surgical approaches, such as laparotomy, have been successfully used for many years for the treatment of GPOD, but recently endovideosurgical methods, mainly laparoscopic, have become increasingly popular. Such methods ensure minimal injury to the patient, which is especially important for patients with chronic diseases and a high degree of surgical risk. The introduction of endovideosurgery significantly reduced the number of postoperative complications, as well as the rehabilitation period (2.5.).

This article discusses endovideosurgical methods of surgical treatment of hiatal hernias, their effectiveness and impact on the quality of life of patients (6.7.).

Purpose of the study. The aim of this study was to study the clinical results of endovideosurgical methods of treating hiatal hernias. Research objectives include:

1. Evaluation of the effectiveness of endovideosurgical treatment in comparison with traditional methods.
2. Analysis of the frequency of complications and relapses after surgery.
3. Assessment of the period of rehabilitation and recovery of patients after laparoscopic operations.
4. To study the impact of surgical intervention on the quality of life of patients suffering from gastroesophageal reflux (GERD) and other complications of GPOD.

Materials and methods of research. In the period from January 2020 to August 2024, a study was conducted in the surgical department of the city clinical hospital with the participation of 58 patients with hiatal hernias. All patients had severe clinical symptoms that did not respond to conservative treatment, such as heartburn, pain behind the sternum, dysphagia and vomiting. The patients were divided into two groups:

- The first group: Patients who underwent endovideosurgical (laparoscopic) surgical treatment (42 patients).
- The second group: Patients who underwent open surgery with access through laparotomy (16 patients).

The following diagnostic methods were used to assess the clinical picture:
1. Esophagogastroduodenoscopy — EGDS) - to detect pathological changes in the esophagus and stomach.
2. Ultrasound examination — ultrasound) - to determine anatomical changes.
3. Radioscopy with contrast — to assess the degree of hernia and the condition of the esophagus.
4. Laboratory tests (general blood test, biochemical analysis — - to determine inflammatory processes and assess the general state of health of the patient.

Laparoscopic surgery was performed using the Nissen technique (fundoplication), which consists in strengthening the lower esophageal sphincter by wrapping the bottom of the stomach around the esophagus. Mesh prostheses were used, if necessary, to strengthen the diaphragmatic defect.

Table 1
Distribution of patients by age and gender

Возрастная группа	Мужчины	Женщины	Всего
30-40 лет	8	6	14
41-50 лет	10	12	22
51-60 лет	6	7	13
Старше 60 лет	5	4	9

All patients were operated on in compliance with the standards of preparation for endovideosurgical interventions, including preoperative follow-up, risk assessment and necessary tests. For laparoscopy, modern endovideosystems were used, providing a three-dimensional image and high accuracy of manipulations.

Results and their discussion. The results of the study showed that laparoscopic treatment of hiatal hernias demonstrated high efficiency, with minimal postoperative complications and rapid recovery of patients. The average duration of the operation was 90 minutes, and the period of hospitalization was 3

days. Among the patients who underwent laparoscopic intervention, only 2 people (4.8%) had minor complications in the form of wound infection and seroma formation.
In patients of the second group (with laparotomy), the recovery period was longer — an average of 7 days, and the number of complications was higher. 5 patients (31.2%) developed complications such as wound infection, hernia recurrence, and prolonged pain in the postoperative period.

Table 2
Frequency of postoperative complications

Осложнения	Лапароскопия	Лапаротомия
Инфекция раны	1 (2.4%)	2 (12.5%)
Серома	1 (2.4%)	1 (6.2%)
Рецидив грыжи	0 (0%)	1 (6.2%)
Болевой синдром	0 (0%)	1 (6.2%)

Figure 1 clearly illustrates the distribution of complications depending on the method of surgical intervention:

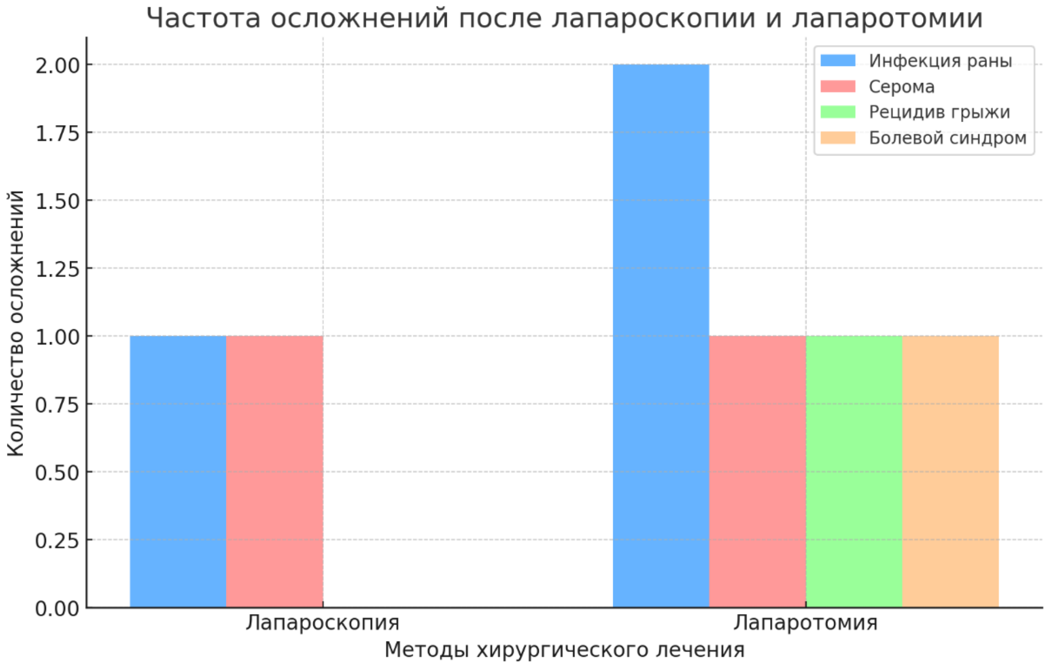

Figure 1. Complications after surgery

The average rehabilitation period after laparoscopic surgery was 14 days, whereas after open surgery, patients recovered within 30-45 days. Subjective assessment of patients ' quality of life was performed 6 months after surgery. In the laparoscopic surgery group, 91% of patients reported a significant improvement in their quality of life, compared to 68% in the laparotomy group.
Endovideosurgical techniques, such as Nissen laparoscopic fundoplication, have been shown to be effective in treating hiatal hernias. The advantages of laparoscopy include minimal trauma to the operation, shortening the rehabilitation period, reducing the risk of postoperative complications, and

improving the quality of life of patients. An important aspect is the reduction of pain and acceleration of the recovery period, which is especially important for older patients and people with concomitant diseases.

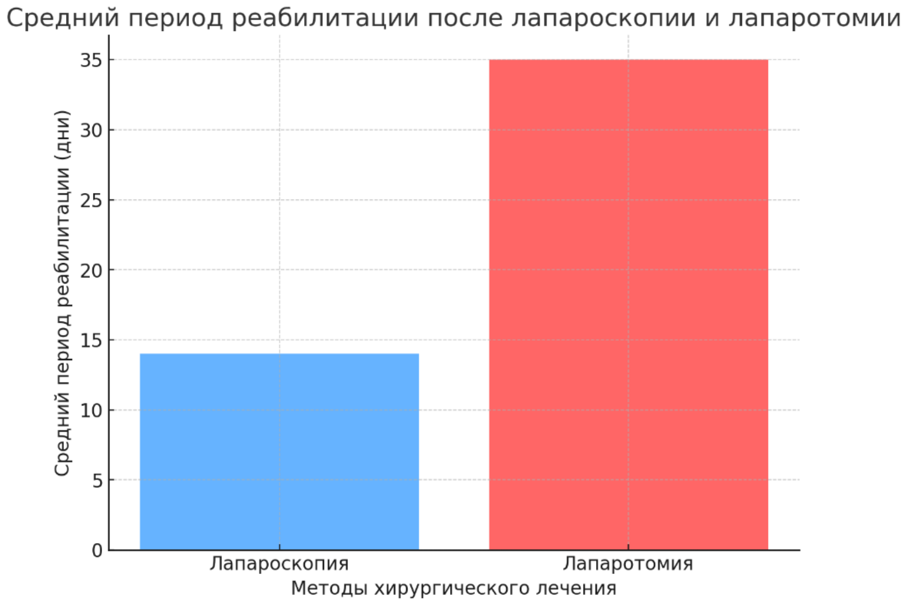

Figure 2. Comparative analysis of the average rehabilitation period after laparoscopic and laparotomic operations

The use of mesh implants to strengthen the diaphragmatic defect has also been shown to be effective, especially in cases of large hernias. However, it is worth noting that recurrent hernias are more likely to occur in patients who have undergone open surgery, which underscores the importance of choosing minimally invasive treatments.

Follow-up of patients after laparoscopic surgery showed a low rate of relapses and a significant improvement in the symptoms of gastroesophageal reflux. Most patients were able to return to a normal lifestyle within a few weeks after surgery

Conclusions

1. Endovideosurgical methods of treating hiatal hernias, in particular laparoscopic fundoplication, are safe and effective.
2. Laparoscopic surgeries are accompanied by fewer complications, a shorter rehabilitation period and an improved quality of life of patients compared to traditional laparotomy operations.
3. The use of mesh implants can reduce the risk of relapses in patients with large hernial defects.
4. It is important to carefully select patients for laparoscopic surgery, especially in those at high risk of complications.

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