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SIMULTANEOUS LAPAROSCOPIC SURGERY OF CHOLELITHIASIS AND HIATAL HERNIA COMORBID COURSE

Key words: *cholelithiasis, hiatal hernia, treatment, laparoscopic surgery.*

Introduction. The high number of individuals affected by cholelithiasis (gallstone disease) has posed a major financial strain on society around the world [1]. Cholelithiasis is a worldwide problem and it remains a common cause of surgical intervention, contributing substantially to health care costs [2]. According to the European Association for the Study of the Liver (EASL), cholelithiasis affects up to 20% of the European population and is the most frequent cause of hospitalization among diseases of the digestive system [3]. At the same time, one of the common disease of the gastrointestinal tract is hiatal hernia (HH). According to epidemiological data, about 55-60% of the world's population over the age of 50 suffer from this pathology [4]. The formation of HH is the main cause of structural and functional disorders of the esophageal-gastric junction zone and affects the development of other diseases, such as: gastroesophageal reflux disease, gastric dysphagia, erosive and ulcerative esophagitis, Barrett's esophagus, gastrothorax, etc. [5]. Also, HH is considered as a possible cause of cardiac arrhythmias and conduction disorders development [6]. In modern surgery, laparoscopic methods of cholelithiasis and HH treatment have a number of advantages compared to traditional laparotomy methods [7]. The most significant among them are the low trauma and precision of the selection of anatomical structures, high-quality visual control of all stages of the operation, reduction of postoperative pain syndrome, intestinal paresis, frequency of adhesion disease, etc. [8].

However, the requirements of modern surgery are not only thorough diagnosis and performance of high-tech operations, but also the achievement of rapid postoperative rehabilitation of patients, improvement of the quality of life along with maximum comfort for the patient. In this regard, simultaneous laparoscopic surgery may be the method of choice for surgical treatment of cholelithiasis and HH comorbid course by performing simultaneous laparoscopic surgery [9]. In addition, the concept of simultaneous treatment can provide an advantage in terms of the total time of surgical intervention, the volume of blood loss, the intensity of postoperative pain, as well as a significant reduction of the patient's stay in the hospital.

The aim. Improvement of surgical treatment of cholelithiasis and HH comorbid course by performing simultaneous laparoscopic surgery.

Materials and Methods. We examined 31 patients, who were divided into two groups. The main group consisted of 16 patients with cholelithiasis and HH comorbid course which were diagnosed at the same time (average age – 54.8 ± 7.1) years. The comparison group consisted of 15 patients with cholelithiasis and HH which were diagnosed at different times (the average time of diagnosis was from 3 to 6 months). The average age of patients in the comparison group was (55.36 ± 8.5) years. The study was conducted on the basis of the Department of Emergency Surgery of the GI "V.T. Zaitsev Institute of General and Emergency Surgery of the National Academy of Medical Sciences of Ukraine". The study was carried out in compliance with the main provisions of the "Rules of Ethical Principles of Conducting Scientific Medical Research with Human Participation", approved by the Declaration of Helsinki (1964-2013).

Results. The average duration of simultaneous laparoscopic surgery in the main group of patients was (87.5 ± 17.5 min, $p < 0.05$) (Table 2). The total volume of blood loss was on average (45.5 ± 11.1 ml, $p < 0.01$). There were no intraoperative complications. The average intensity of the pain syndrome (according to the scale of the Short Form-McGill Pain Questionnaire-2) in the postoperative period was (3.1 ± 0.8 points, $p < 0.01$) and had a stable tendency to decrease 1-2 days after the operation. The total duration of the preoperative examination of patients in the main group was (1.33 ± 0.5 days, $p < 0.05$). The average total number of days of temporary incapacity for work of patients in the main group did not exceed (5.5 ± 1.1 days, $p < 0.05$).

Table 2**General results of operative interventions**

Variables	Main group (n=16)	Comparison group (n=15)	p
The average duration of the operation, min ($\mu \pm SD$)	87,5 \pm 17,5	101,2 \pm 9,3	<0.05
The total volume of blood loss, ml ($\mu \pm SD$)	45,5 \pm 11,1	79,1 \pm 5,7	<0.01
Intensity of pain syndrome, points*($\mu \pm SD$)	3,1 \pm 0,8	7,9 \pm 0,7	<0.01
Total duration of preoperative examination, days ($\mu \pm SD$)	1,33 \pm 0,5	3,22 \pm 0,65	<0.05
Total number of temporary disability, days ($\mu \pm SD$)	5,5 \pm 1,1	11,2 \pm 0,6	<0.05

*The intensity of the pain syndrome was determined using the Short Form-McGill Pain Questionnaire-2;

The analysis of surgical treatment of patients in the comparison group revealed that the average duration of surgical treatment (laparoscopic cholecystectomy during the first visit and laparoscopic crurorrhaphy with fundoplication during the second visit of patients) was (101.2 \pm 9.3 min, $p < 0.05$), total volume of blood loss – (79.1 \pm 5.7 ml $p < 0.05$), average total pain intensity – (7.9 \pm 0.7 points, $p < 0.01$). The total duration of the preoperative examination of patients in the comparison group was (3.22 \pm 0.65 days, $p < 0.05$), and the total number of days of temporary disability was (11.2 \pm 0.6 days, $p < 0.05$).

Conclusion: The results of our study demonstrate the need for careful diagnosis of cholelithiasis and HH comorbid course, given the high probability of their combination. In addition, it was proven in the study that simultaneous laparoscopic surgery is the method of choice for treating patients with cholelithiasis and HH comorbid course.

Prospects for further research. Development and improvement of laparoscopic treatment of patients with comorbid gastrointestinal diseases.

Conflict of interest. The authors declare no conflict of interest.

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