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THE ROLE OF MODIFIED CHOLECYSTECTOMY IN THE SURGICAL TREATMENT OF CHRONIC CALCULOUS CHOLECYSTITIS

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Abstract:

The authors analyzed the results of surgical treatment of 1929 patients with chronic calculous cholecystitis (CCC). The patients were divided into two groups: a comparison group (776 patients, 2016–2018) and a main group (1153 patients, 2019–2021). The comparison group included 75 patients with traditional cholecystectomy (TCE), 536 with laparoscopic cholecystectomy (LCE), and 165 with cholecystectomy through a mini-access. The main group consisted of 76 patients with TCE, 715 with LCE, 362 with a modified minimally invasive access. The authors summarize that the modified method of cholecystectomy through a mini-access is a reliable alternative to laparoscopic cholecystectomy, especially in the presence of contraindications.

Keywords: cholelithiasis, cholecystectomy, mini-access, videolaparascopy.

RELEVANCE. Cholelithiasis, occupying the third place in the overall structure of diseases after cardiovascular diseases and diabetes mellitus, is still one of the important medical and social problems that has a significant impact on the vital activity of the population and is often overshadowed by the development of life-threatening complications, as well as an increase in the frequency of surgical interventions [3;10;11;12].

Various methods are used, such as traditional laparotomy, laparoscopic cholecystectomy (LCE), and minilaparotomy operations. However, there is still no single standard of treatment for this category of patients, and as a result, the choice of one method over another is based on the preferences of the surgeon and the traditions of the clinic. [1;5;7;8;9;11]. In this regard, the problem of diagnosis and surgical treatment of CCH is not only of medical, but also of important socio-economic importance, and clinical research on the optimization and improvement of cholecystectomy (CE) methods is one of the most relevant in modern surgery [2;4;6].

THE PURPOSE OF THE STUDY. improving the results of surgical treatment of chronic calculous cholecystitis by improving cholecystectomy from a mini-access.

MATERIALS AND METHODS. The study covers 1929 patients with chronic calculous cholecystitis (CCH) who underwent elective surgery in the 3rd surgical department of the AndGosMI Clinic from 2016 to 2021. In accordance with the tasks set, the patients were divided into two groups: the comparison group (776 patients, 40.3%): included 776 patients operated on between 2016 and 2018. These data were used for a retrospective analysis, which made it possible to identify the main trends and approaches in the treatment of CCH before the introduction of new techniques.

The main group (1,153 patients, 59.7%) included 1,153 patients operated on between 2019 and 2021. Improved surgical techniques, including new techniques and optimized surgical tactics, were applied in this group. This made it possible to evaluate the effectiveness and safety of the implemented innovations, as well as compare the results with the comparison group.

In the comparison group, which included 776 patients, traditional cholecystectomy (TCE) was performed in 75 (9.6%) patients, laparoscopic cholecystectomy (LCE) in 536 (69.1%), and mini-access MA in 165 (21.3%).

In the main group, consisting of 1,153 patients, TCE It was performed in 76 (6.6%) patients, LCE — in 715 (62.0%), and CE from mini-access - in 165 (21.3%), including 362 patients (31.4%) using modified minimally invasive access.

Young patients (18-44 years old) prevailed in both groups, amounting to 379 (48.8%) and 535 (46.4%), respectively. In the comparison group, middle-aged patients (45-59 years old) They were 211 (27.2%), and in the main group - 356 (30.9%). Patients over 60 years of age accounted for 128 (16.5%) in the comparison group and 182 (15.8%) in the main group. The age group of 75 years and older included 58 (7.5%) and 80 (6.9%) patients, respectively.

Such "age-related" features exacerbate the complexity of surgical treatment of patients with CCH due to the pronounced polymorbidity of this age group. It was also found that women are more likely to be ill (81.6% in the comparison group; 82.5% in the main group, with a ratio of 4:1).

The examination process consisted of conventional and special methods of radiation diagnostics: ultrasound scanning of the hepatobiliary zone (USO) and X-ray examinations (according to indications: oral

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cholecystography; intravenous cholangiocholecystography; endoscopic retrograde pancreaticocholangiography), as well as fibroesophagogastroduodenoscopy and MRI.

A retrospective analysis of the results of surgical treatment in the comparison group showed that a number of tactical and technical omissions were made. In particular, it is:

1) the frequent use of right subcostal access, accompanied by the intersection of the right rectus abdominis muscle, was often the cause of the development of postoperative hernia;
2) the nature of changes in the GB, localization and diameter of the concretions were not taken into account.;
3) during ligation and mobilization of the stump, a nylon thread was used, which caused the development of a biliary (peritonitis) fistula in the postoperative period;
4) the desire for low-trauma access at LHE was a frequent reason for conversion;
5) in the presence of a wrinkled GB, LHE was applied, which caused bleeding from the liver bed.
6) The CE from the mini-access was used initially without a preliminary assessment of the patient's physique.
7) reusable needles were used when suturing the skin, which caused the development of purulent-septic complications.
8) the use of a variety of preoperative diagnostic complexes did not always provide fundamentally new information. At the same time, they significantly increase the duration of preoperative examination, tire patients, and sometimes motivate patients to refuse urgently needed surgical treatment, which leads to a conflict between the dientological aspect of the diagnostic problem and the practical expediency of using multiple methods.

A retrospective analysis of the omissions in the comparison group allowed us to modify the CE method from a mini-access, which generally allowed us to optimize surgical tactics.

The objective of the invention was to increase the effectiveness of CE from mini-access in patients of different physiques while reducing injury, achieving cosmetic scarring and reducing surgery time. The technical result is the versatility of the incision for different physiques and the location of the GB (Fig. 1. a, b; 2. a, b).

a b

Figure 1. Stages of modified cholecystectomy. a) incision of the skin with subcutaneous fat; b) opening of the peritoneum.

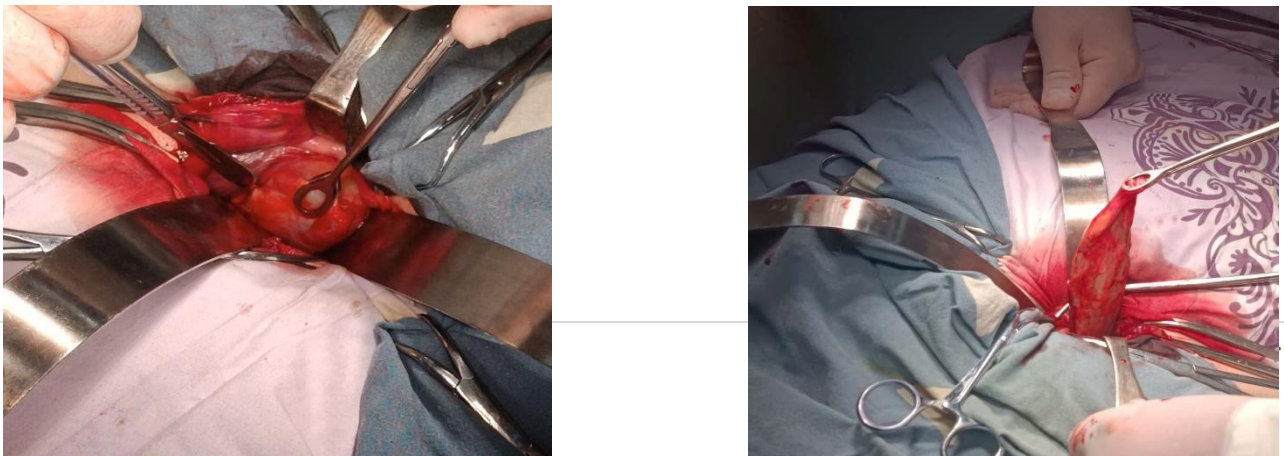

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Figure 2. Stages of modified cholecystectomy. a) Capture of the bottom of the GB after the introduction of Cooper's wipes; b) Type of GB after mobilization, before ligation of its neck.

The duration of surgery for chronic cholecystitis is from 18 to 25 minutes. The proposed method is not known and meets the criteria of "novelty" and "inventive level". The method can be used for surgical interventions on GB performed using the proposed retractors, therefore, it is "industrially applicable".

This ensures the versatility of the incision for different physiques and locations of the GB, as well as reducing injury, cosmetic scarring and reducing the development of purulent-septic complications. In addition, surgical instruments (2 cm wide, 25 cm long retractors) are used in the method for the first time, which is significantly more cost-effective in terms of financial costs compared to laparoscopic and traditional methods of surgery, reducing the traumatic nature of the operation by preserving the integrity of nerve endings, the right rectus and oblique abdominal muscles, a small, and oblique incision (up to 4 cm) and plastic sutures provide a better cosmetic effect, as well as reduce the duration of surgery.

RESULTS AND DISCUSSIONS. To assess the immediate results, the studied patients were divided into 3 subgroups, depending on the nature of the complications. 1. Complications directly related to the method of surgery (iatrogenic injuries and postoperative complications characteristic of intervention on the GB and general the bile duct). 2. Purulent-septic (wound) complications. 3. Postoperative complications of a general nature (occurring during all types of surgical interventions).

During the study, the incidence of iatrogenic injuries in the main group decreased by 12.1% (14.4% to 2.3%) compared to the comparison group, postoperative complications related to surgery - by 5.7% (from 6.3% to 0.6%) and wound (purulent-septic) – by 3.65% (from 4.0 to 0.35%), which also made it possible to increase the proportion of patients without postoperative complications from 89.7% to 99.0%, reduce the mortality rate from 1.3% to 0.2% and conversions after LHE from 7.5% to 0.5%, and eliminate the number of re-operations from 2.0% to 0.1% (p=0.005).

Thus, the conducted scientific and practical research has determined the role and place of modified HE from mini-access (in our studies, HE from mini-access was performed in the comparison group in 21.3% and in the main group in 31.4%), characterized by high clinical efficacy, especially in patients with contraindications to LHE, being at the same time, not competing, but mutually complementary methods of surgical treatment of chronic calculous cholecystitis.

CONCLUSIONS. When performing cholecystectomy for chronic calculous cholecystitis, the high incidence of postoperative complications and mortality are often associated with tactical and technical errors. In the comparison group, postoperative complications directly related to surgery were observed in 6.3% of cases, mortality was 1.3%, conversions after laparoscopic cholecystectomies were 7.5%, and re–surgery was required in 2.0% of cases.

However, the modified mini-access cholecystectomy method has a number of advantages that make it more preferable in some clinical situations. This method is technically simple and accessible, which minimizes the risk of complications. In addition, the versatility of access for different physiques and locations of the gallbladder makes it effective for patients with contraindications to laparoscopic cholecystectomy.

Thus, the modified method of mini-access cholecystectomy is a reliable alternative to laparoscopic cholecystectomy, especially in the presence of contraindications. Its use can significantly reduce the incidence of postoperative complications and mortality, while ensuring a high level of safety and effectiveness of surgical intervention.

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