

*Materials of Conferences***RETROSPECTIVE ANALYSIS
OF EMERGENCY LAPAROSCOPIC
CHOLECYSTECTOMY**

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The article provides retrospective analysis of work of surgeons on successful laparoscopic cholecystectomy in case of acute cholecystitis. A rare type of complication within the problem of diagnosis is described: overhepatic abscess, it has been removed via method of relaparotomy.

Introductions. Laparoscope “Krasnogvardeyets”, produced in Leningrad, has been introduced for diagnostic purpose in railroad hospital of Aktyubinsk medical institute in the center of West-Kazakhstan railroad. The first introduction of laparoscope with medical purpose in Kazakhstan took place in 1992 in the clinic of Scientific surgical center of Syzganov in Almaty, and the first planned laparoscopic cholecystectomy was carried out in 1993 in our railroad hospital via Japanese apparatus “Olympus”.

LCE has become a common type of surgery for chronic and acute cholecystitis nowadays. During years experience has been accumulated, and indications for implementation of laparoscopic surgeries have broadened. Many articles have been published and candidate works prepared on implementation of laparoscope in diagnostics and complex treatment of acute cholecystitis.

The obvious simplicity of these surgeries for non-complicated forms of chronic cholecystitis and good results allow us to introduce emergency laparoscopic cholecystectomy for destructive forms of the disease. Readiness of surgeons to use endovideotechnics and stable operation of the latter, surgeons' knowledge in the area of clinical and pathological anatomy of gall channels and bladder have played an important part in carrying out urgent laparoscopic cholecystectomies.

Urgency. Acute cholecystitis occupies the second place in frequency and forms 10–15% of all acute surgical diseases of stomach area organs, at the same time, number of men and women, affected by this disease is equal after 50 years of age.

Therefore, the problem of emergency laparoscopic cholecystectomy in case of acute cholecystitis remains urgent, as implementation of LCE requires attentive training, studying approaches and possible complications after such complex operations in case of inflammation of portal veins of liver. During emergency on destructive forms of cholecystitis neck, body, and bottom of gall bladder are changed pathologically, hyperaemia and edema are observed in the surrounding tissues.

Sometimes Hartman recess is increased and welded with cystic channel that complicates diagnostics of the place of cystic channel inflow into choledoch. Anatomic intra-liver location complicated mobilization of the neck of gall bladder. In certain cases under an acute inflammatory process long or short cystic channel was welded by a fibrous tissue with choledoch and vessels, and it caused danger of damaging the latter. Sometimes cystic channel took shape of spiral ruffle of mucous membrane that was recognized as Heister's valve. It created certain complications during drainage (according to indications, for example, in case of cholangitis) of choledoch through the stump of cystic channel. In case of empyema or dropsy of gall bladder aspiration of its contents has been carried out completely via syringe for bacteriological sawing. After the bladder cavity is cleaned and nitrofuril (30–50 ml) is placed in it, wall in the bottom area can be captured freely. Growth in stomach cavity up to 18 times under LCE combines radicalism (removal of pathologically-altered bladder with concretions), low possibility of trauma, and efficiency. Laparoscopic cholecystectomy provides patients with low possibility of trauma, short period of hospitalization, and quicker return to normal life in comparison to open cholecystectomy (Gilchrist B.F., Vlessis A.A., Kay G.A. et al., Soper N.J., Barteau J.A., Clayman R.V. et al., MoGregor C.G. Evaluating systems stress response in single port vs multi-port laparoscopic cholecystectomy // *J. Gastrointest. Surg.* – 2011. – № 15(4). – P. 614–622). During recent years reports on implementation of emergency LCE in case of acute cholecystitis have become frequent, however, not all problems of relaparotomy, possible periods of secondary operations, technical principles and methods of treating complications (subhepatic abscess) have been defined yet (Westerband A. Van-De-Water J. Amzallag M.).

Our doctors have experienced complications during the period of mastering practice of laparoscopic cholecystectomy regarding uncomplicated cholecystitis, such as hypodermic emphysema (on face, chest, etc.) in case of insufflation of gas. Emergency LCE on an acute calculus cholecystitis can result in complications such as gall flow from the additional channel that was not located and clipped, prolapse of calculus from perforated places of gall bladder wall, and insignificant parenchymatous bleeding from the cavity. These complications have been removed by laparotomy and draining. One complication was difficult to diagnose: overhepatic encysted abscess. This case requires a separate explanation, as lower-lobe pneumonia has been suspected in the right and in sinus of heights during roentgenological inspection of lungs (obviously a joint reaction of lungs). This data stopped us from

secondary penetrations. Repeated ultrasound inspection and laboratory-clinical observation over female patient N, 56 years of age (attended disease sugar diabetes of the 2nd type) led to the conclusion: relaparoscopy is required. Therefore, insufflation of gas has been carried out through subhepatic drainage that was left after emergency LCE. Diagnosis "encysted subphrenic abscess" has been verified after relaparoscopy, then it was misformed, cleaned, and its jacking was completely removed via laparoscopy, drainage for introducing antibiotics was left. The patient recovered quickly and was discharged with improvement. Insignificant complications were observed from the side of near-umbilical wounds such as seroma where gall bladder with infected stones had been discharged. In later periods small postsurgical ruptures were registered in umbilical area, mostly among women who took physical work.

Research objective. The objective of this work is to improve results after emergency cholecystectomy with acute destructive cholecystitis through implementation of laparoscope and also share experience of carrying out emergency LCE on patients with acute cholecystitis.

Materials and methods of research. 1085 patients with cholecystitis have been received in general-surgery department of our clinic during the period 1993–2009. The patients arrived from Kazakhstan, nearby regions of Russia and Chechnya. Contingent of patients was different (authorities, lawyers, school teachers, doctors, pensioners, etc.), age varied from 17 to 85 years of age. Totally 1034 patients were operated via laparoscopy. All patients were hospitalized in emergency to general-surgery department of the clinic in different periods from the beginning of disease. 32,4% of patients were hospitalized during the first day of the disease, the rest were delivered to the hospital after more than one day. 51 patient of 1085 was not operated due to various reasons.

532 of 1034 patients were operated in a planned order via laparoscopy, and 511 patients were treated with emergency LCE with the diagnosed calculus cholecystitis, and 11 (2%) patients were transferred to TCE under emergency LCE. Since 2010 LCE has been carried out on commercial basis, so the number of laparoscopic surgeries for the research has been taken for the period 1993–2009.

There were 105 men (21%) and 395 women (79%). Diagnosis "acute cholecystitis" was established among all patients before surgery, and then confirmed after 7–10 days during histological inspection. During surgery acute phlegmonous cholecystitis has been established among 387 (77,4%) patients, gangrenous cholecystitis – among 85 (17%) patients, and empyema of gall bladder and local peritonitis – among 28 (5,9%) patients.

Attending diseases have been registered among 87 (63%) of patients, besides, several attending diseases have been registered among 43 pa-

tients. Heart-vascular diseases were most frequent (25,3% – hypertonic disease, 27,1% – ischemic heart disease, 18,3% – cardiosclerosis). Chronic bronchitis has been registered among 16,3% of patients, bronchial asthma – among 0,5%, lungs emphysema has been observed among 1,2% of patients. 258 patients had obesity of different degree (24,2% – 1st degree, 16% – second degree, and 9% – 3rd degree).

The following indications were set for emergency laparoscopic cholecystectomy: presence of acute (phlegmonous, gangrenous, and other forms) cholecystitis. Patients were observed in priority: roentgenological inspection, US, ECG, general analysis of blood and urine, biochemical analysis of blood (bilirubin, blood coagulability and glucose, transaminase, remaining nitrous), blood inspection for HIV, reaction of Wasserman, Australian antigen, blood group and Rhesus factor, consultation of anaesthesiologist, cardiologist, endocrinologist, therapist, gynaecologist for women.

Absolute contraindications for emergency LCE were: chronic duodenal impassibility, mechanic jaundice and different types of gall peritonitis. Conditional contraindications were listed as: expressed welding process on the higher level of stomach cavity (earlier operation on stomach regarding perforated ulcer of duodenum), 1 patients was operated. No lethal outcomes were registered after emergency or postponed LCE.

Conclusions

Emergency laparoscopic procedures can be performed in acute, allowing early intensify patients and significantly reduce the length of stay in the hospital, get a good cosmetic effect, restore the ability to work, the most optimal deadlines emergency laparoscopic cholecystectomy is the first day of onset of the disease, as in this time do not have time to develop gross anatomical and morphological changes in biliodigestive zone. Performing emergency laparoscopic cholecystectomy in acute cholecystitis is technically more difficult than in chronic. Difficulties encountered when capturing busy with thickened gallbladder wall (especially if the stone inside the gallbladder large or pus), the allocation of the elements of the triangle Kahlo, aspirate the contents of the subhepatic space and removing the gallbladder from the abdomen, etc. Absolute contraindication for emergency LCE in patients with acute calculous cholecystitis are: chronic duodenal obstruction, gangrenous cholecystitis, ruptured and diffuse peritonitis. In the preoperative evaluation of patients, particular attention should be given to U.S. hepatobiliary zone because of the technical features depend LCE (better look with the operating surgeon Medical ultrasonography). Cholecystectomy using laparoscopic techniques in patients with acute calculous cholecystitis is performed under general anesthesia with tracheal intubation and the use of muscle relaxants. During emergency LCE in patients with acute calculous cholecystitis should:

1) puncture and aspirate the contents of the large and busy gallbladder; 2) CAUTION carefully and highlight elements of the triangle Kahlo and well klipirovat; 3) rinse thoroughly, drain and aspirate obstructive and suprahepatic space. Thus, emergency laparoscopic cholecystectomy was performed in 511 patients with acute cholecystitis, 11 of them with the transition to the traditional method. Were no deaths.

List of our works, published on topic of laparoscopic cholecystectomy:

1. "Advantages, possible mistakes, dangers, and complications of laparoscopic cholecystectomy", Collection, materials of Russian symposium, Moscow, May 1996, p. 26–28 (co-authors B.I. Bapayev, K.E. Ergaliyev, A.B. Baizharkinova, and others).

2. "Laparoscopic cholecystectomies" – Collection, 2nd Moscow international congress on endoscopic surgery, Moscow, IV, 1997, pp. 12–13 (co-authors B.I. Baspayev, A.B. Baizharkinova).

3. "Results of medical ezophagogastrodeudenscopy". Russian symposium Clear space endoscopic surgery: Theses of report – Surgery, № 5, 1998, pp. 150–151 (co-author A.B. Baizharkinova).

4. "Abilities and closest results of videolaparoscopic surgery" – Collection: 3rd Moscow international congress on endoscopic surgery, Moscow, April 1999, pp. 30–31 (co-authors B.I. Baspayev, A.B. Baizharnikova, and others).

5. "Closest and distant result results of videolaparoscopic surgery" – Collection: 4th Moscow international congress on endoscopic surgery, Moscow, IV, 2000, pp. 34–35 (co-authors B.I. Baspayev, A.B. Baizharnikova, and others).

6. "Complex treatment of ulcer disease of duodenum via videopendosurgical method" – Collection: 6th Moscow international congress on endoscopic surgery, Moscow, IV, 2002, pp. 377–378 (co-authors K.R. Taishibayev, Z.A. Doskaliyev, A.B. Baizharkinova, and others).

7. "Videolaparoscopy in surgery of complicated appendicitis" – Collection: 8th Moscow international congress on endoscopic surgery, Moscow, IV, 2004, 127–129 (co-authors M.N. Izimbergenov, A.B. Baizharkinova, etc).

8. "On laparoscopic treatment of acute cholecystitis". pp. 388–389, Materials of scientific-practical conference, Almaty, 1994, October (A.B. Baizharkinova).

9. "Results of endovideosurgery of complicated calculus cholecystitis". Materials of plenum of scientific society of surgeons in Republic Tatarstan. Workds on problems of emergency surgery, Almaty, 2000, pp. 46–49 (co-authors Z.A. Doskaliyev, A.B. Baizharkinova, and others).

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tion", devoted to 50 years of Western-Kazakhstan state medical academy of Marat Ospanov, Aktobe, 2007, pp. 185–186 (co-authors B.I. Baspayev, A.B. Baizharkinova, and others).

11. "Combined research in diagnosing and treating diseases and injuries of stomach" The I Congress of Kazakhstan surgeons – 1997, IX, pp. 108–109 (co-authors B.I. Baspayev, A.B. Baizharkinova, and others).

12. "Laparoscopic cholecystectomy" The II Congress of Kazakhstan surgeons, 2003, IX pp. 38–40 (co-authors N.A. Akatayev, B.I. Baspayev, A.B. Baizharkinova, and others).

13. On history of laparoscopic surgery", "Experience of 1000 of LCE", and other articulated in Kazakh medical editions of medical university, edited by A.B. Baizharkinova.

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THE DIVERSITY OF THE MEDICAL DEVICE ARENA AND THE RATIONAL CHOICE OF THE REQUIRED PRODUCT

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Information systems in Health care that are based on service-oriented architectures should not only capture, present and evaluate information about the person's health status, but also they should increase the efficiency of the hospital. For example, health care information systems should control rational choosing a medical device in the hospital.

Medical devices are used to enhance health care in general and to enhance the health of everyone. On the one hand, the use of medical devices brings health care to the next level and it has a lot of benefits to the patients. One the other hand, the process of choosing a medical device is intricate. In many cases the choice and use of medical devices is not based on the needs of a hospital. So information systems, models and methods should be developed