

# CHARACTERISTICS OF LAPAROSCOPIC CHOLECYSTECTOMY TACTICS IN PATIENTS WITH CHRONIC DIFFUSE LIVER DISEASE

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## Abstract

Acute cholecystitis and some conditions associated with gallbladder stones, such as depressed common bile duct stones, cholangitis, and biliary pancreatitis, are common diseases in daily practice. Early cholecystectomy or placement of a drain, a procedure with delayed cholecystectomy, is the current standard of care based on published clinical guidelines. Chronic diffuse liver disease is not only a state of chronic liver dysfunction, but also has systemic effects in patients. In individuals with chronic diffuse liver disease, several predisposing factors, including changes in bile acid composition, increased bile nucleation, and decreased gallbladder motility, contribute to the formation of gallstones and the possibility of symptomatic cholelithiasis, which is an indication for surgical treatment. In addition to these predisposing factors for gallstone disease, the systemic effects and local anatomical consequences associated with chronic diffuse liver disease, in particular liver cirrhosis, lead to anesthetic risks and perioperative complications in patients with liver cirrhosis. Therefore, the treatment of the aforementioned biliary conditions in patients with liver cirrhosis has become a challenging task.

**Keywords:** Acute cholecystitis, chronic diffuse liver disease, laparoscopic cholecystectomy.

## Introduction

Currently, gallstone disease and its complication, choledocholithiasis, occupy a leading place in hepatobiliary system diseases. Problematic conditions associated with acute cholecystitis and gallstones, such as common bile duct stones, cholangitis, and acute pancreatitis, are common diseases in daily practice. Chronic diffuse liver disease is one of the most widespread diseases in the world today, and it is not only a state of chronic liver dysfunction, but also has a systemic impact on patients. In people with chronic diffuse liver disease, several predisposing factors, including changes in bile acid content, increased bile nucleation, decreased gallbladder motility, contribute to gallstone formation and symptomatic cholelithiasis. This, in turn, increases the number of indications for surgical treatment. In addition to these predisposing factors for hepatitis C, systemic changes and local anatomical consequences associated with chronic diffuse liver disease, especially in patients with liver cirrhosis (LC), cause anesthesiological risk, prolongation of operation time, and postoperative complications. Therefore, the treatment of patients with acute stone cholecystitis (ASCH) against the background of LS has become a complex task [1,2,3,5,12].



**Liver cirrhosis** are one of the most complex human diseases, causing significant physiological changes, local anatomical changes, changes in the immune status, and other risks that affect the life expectancy of patients. Chronic diffuse liver disease, is a common disease and is more common in patients with liver cirrhosis than in the general population. Currently, surgical treatment, laparoscopic cholecystectomy or traditional cholecystectomy, minilaparatomic cholecystectomy, is the standard for the treatment of gallstone disease. Including, transition of acute form and complications, ASCH, choledocholithiasis, **mechanical jaundice** (MJ), cholangitis and others require surgical treatment.

**Purpose of inspection** Improving the results of surgical treatment of acute cholecystitis developed against the background of chronic diffuse liver disease.

### MATERIALS AND METHODS

The scientific work was carried out at the clinical base of the Department of "Surgical Diseases and Resuscitation" of the Bukhara State Medical Institute named after Abu Ali ibn Sina (I-II Emergency Surgery Departments of the Bukhara branch of the Republican Scientific Center for Emergency Medical Care). From 2015 to 2018, 1120 case histories treated in the clinic for acute stone cholecystitis were retrospectively analyzed, of which 82 (7.3%) developed acute stone cholecystitis against the background of chronic diffuse liver diseases, chronic hepatitis, and liver cirrhosis. and the results of surgical treatment in the patient were studied. These patients were included as a control group.

From 2019-2022, 1,180 patients admitted to hospitalized and underwent operative treatment, of which 95 (8%) patients, with the background of chronic diffuse liver disease, underwent planned examination and treatment (conservative and surgical) methods in order to improve the results of treatment, and was the main group.

Retrospective analysis of medical histories of 82 patients with advanced ASCH on the background of chronic diffuse liver disease, who were treated by surgery, was performed in the I-control group. Intra- and postoperative complications developed against the background of chronic diffuse liver disease were analyzed. Patients in this group underwent standard conservative therapy and operative traditional cholecystectomy (TC) and laparoscopic cholecystectomy (LC).

In addition to the above-mentioned standard examination and treatment procedures, 95 patients in the II-main group, according to the guidelines, hepatoprotectors were used to prevent intraoperative complications, mini-invasive treatment methods and modern ultrasonic harmonic dissectors were used depending on the severity of the patients. Their results and recommendations are presented in the following chapters.

For the purpose of traditional conservative therapy, infusion, spasmolytic, analgesic, antibacterial drugs were used.

- detoxification (glucose 10% + insulin 4 Ed per 1 g of glucose dry matter, 0.9% physiological solution, trisol solutions and other physiological solutions, kolloids) volume at least - 2000 ml;
- for the purpose of antibacterial prophylaxis ceftriaxone 2.0 grams/day ml 2.0% lidocaine with 2 g ramm 2.0 ml 2% lidocaine per day).

In group II, in addition to traditional conservative treatment methods, glutathione and Remaxol were used. In the treatment of postoperative patients, 6-day intravenous drip of Remaxol (NTFF "POLISAN" LLC) in the amount of 400.0 ml (the total volume of infusions was reduced to 400.0



ml) and 1.2-2.4 g intravenously per day on March 1 glutathione solution was slowly dripped into it.

Patients were diagnosed based on anamnesis, clinical data, laboratory and instrumental examination methods. Patients came to the branch, through the emergency line, through a referral from the polyclinic or by private car, and were admitted .

At the initial stage, the research groups were compared according to various clinical, laboratory and endoscopic data - age , sex, blood pressure, pulse, hemoglobin, red blood cells, urea, blood q and mi q drugs, biochemical tests (bilirubin, ALT, AST, urea , creatine, total white matter and albumin), HBsAg, HBeAg, anti-HBe, anti-HBc markers were determined .

**Young.** In terms of structure, the two observation groups are homogeneous in terms of gender ( $r > 0.05$ ). According to the classification of the World Health Organization [1963], according to the age group of patients, in groups I and II of observation, more than half of the patients who developed ASCH against the background of chronic diffuse liver disease were middle 45-59 (75.6 % and 75.8 %, respectively). Old age are 60-89 ( 24.3 % and 24.2 % , respectively ). According to the mean age, both observation groups were similar ( $r > 0.05$ ).

**Table 1.** By gender of patients developed on the background of chronic diffuse liver disease.

Sex	Group 1 (n= 82 ) abs. p. (% ± m)	Group 2 (n=95) abs.p.(% ± m)	Total (n = 177 ) abs.p.(% ±%)
MEN	22 ( 27 %)	28 ( 29.5 %)	50 ( 28.2 %)
Women	60 ( 73.2 %)	67 ( 70.5 %)	127 ( 71.8 %)

- no significant differences were found in the indicators of the main and control groups ( $p > 0.001$ )

**Table 2.** Age distribution of patients who developed on the background of chronic diffuse liver disease .

Age	Group 1 (n= 82) abs abs. p. (% ± m )	Group 2 (n=95) abs abs. p. (% ± m )	Total (n = 177 ) abs (% ±m )
45-59 (Middle age)	62 ( 75.6 ±6.0)	72 ( 75.8 ±5.0)	134 (75.7 ± 5.5)
60-89 (old and senile )	20 ( 24, 3 ±7)	23 ( 24.2 ±6.7)	43 ( 24.3 ± 6.2 )

\*Significant differences were found between the baseline and the two ages control groups (  $r < 0.05$ )

age of patients in group I was  $45.5 \pm 16.5$  years, in group II- $52.5 \pm 17.2$  years. The three observation groups were similar in mean age , and no statistically significant differences were found ( $r > 0.05$ ).

In other age groups (45-59 years, 60-89 years) there is no significant difference between the main and control groups ( $r > 0.05$ ). (Table 2).

According to the gender of the patients, 3 times more cases were observed than men, 27 % of group I patients were male and 73.2% male, 30% of group II patients were male and 70% female. roads were organized .

The main etiological factors of liver damage were infections in both control and primary groups, more than half of the patients were infected with viral hepatitis B 45(54.8%) and 50(52.6%). Viral hepatitis C infection was 22(27%) and 25(26.3%), respectively, which was a quarter of the studied patients. In the remaining cases, B+C was 5(6%) and 5(5.2%) and V+D was 4(4.8%) and 2(2%),



respectively, as a mixed virus infection. According to anamnestic data and negative analysis, alcoholic liver diseases were calculated, and 6(7.3%) and 13(13.6%) cases were recorded in the respective groups.

Retrospectively, the medical histories of 82 patients with chronic diffuse liver disease who underwent surgery were analyzed. the results of the analysis of the functional status of the liver according to the child-pugh scale were as follows.

According to the Child-Pugh scale, Child-Pugh A class 32(39%), B - class 2(2.4%) in ASCH group patients with chronic hepatitis (CHG) accounted for more than 40% of all patients in this group. There were no life-threatening complications in the medical history of these patients, there were 3 patients with Child-Pugh LC in group A, 13(15.8%) in group V, only 6(7.3%) patients with functional status S - scale.

**Table 3.** Child-Pugh distribution of patients with chronic diffuse liver disease in the control group according to the functional state of the liver ( n = 82 )

ASCH, clinical forms and its complications	Child-Pugh functional status			Total
	Class A	Class B	Class C	
ASCH +SG	32(39 % )	2(2.4%)	-	34 (41.5% )
ASCH + LC	3(3.6%)	13(15.8%)	6(7.3%)	22 (26.8% )
ASCH +SG+MJ	-	8(9.7%)	-	8 (9.7% )
ASCH +LC+MJ	-	3(3.6%)	4(4.8%)	7 (8.5% )
ASCH +LC+MJ+decompensation	-	-	5(6%)	5 (6% )
ASCH+LC+decompensation+peritonitis	-	-	6(7.3%)	6 (7.3% )
Total	35(42.7%)	26(31.7%)	21(25.6%)	82(100%)

### **Chronic diffuse liver disease is isolated from the etiological aspect in percentages ( n =177)**

In the control group, complications with mechanical jaundice (MJ) were analyzed in 15 patients with ASCH and diffuse liver changes. In 11 (13.3%) of these patients - class B and 9 (10.8%)-class C liver functional disorders were diagnosed.

In the control group, in the decompensation phase of class C, 6 patients with ASCH on the background of LC had destructive changes of liver and signs of local peritonitis. In these groups of patients there were complications in the intraoperative period and in the postoperative period (table 3).

All patients of the main group (n = 95) were divided according to the Child-Pugh scale according to the complications of HF and liver functional disorders.

Child-Pugh scale, patients in the ASCH group with chronic hepatitis had Child-Pugh A class 45(47.3% ), B class 3(3.2%), which accounted for more than 50% of all patients in this group.



**Table 4.** Child-Pugh distribution of patients with ASCH on the background of chronic diffuse liver disease in the main group depending on the functional status of the liver (n=95)

ASCH, clinical forms and its complications	Chail-Pugh functional status			Chail-Pugh functional status
	Class A	Class B	Class C	
ASCH +SG	45(47.3 , % )	3(3.2%)	-	48 ( 50.5% )
ASCH + LC	4(4.2%)	16(17%)	4(4.2%)	24 ( 25% )
ASCH +SG+MS	2(4.2%)	10(10.5%)	-	12 ( 12.6% )
ASCH+LC+MS	-	1(1%)	2(2.1%)	3 ( 3.2% )
ASCH+LC+MS+decompensation	-	-	4(4.2%)	4 ( 4.2% )
ASCH+LC+decompensation+peritonitis	-	-	4(4.2%)	4 ( 4.2% )
Total	51(53.7%)	30(35.6%)	14(14.7%)	95(100%)

The main etiological factor in the development of diffuse liver diseases in the main and control groups is viral damage (B and C), which is consistent with the data of other researchers. In this main group, 8(8.4%) patients, control group 6(7.3%), it should be noted that the liver cirrhosis stage is decompensated 6(7.3%). This group of patients was introduced in order to provide detailed information about the diagnosis of chronic diffuse liver disease.

## RESULTS

In our control, we observed 95 ASCH patients with chronic diffuse liver disease background: according to the functional state of the liver: Child-P yu A class-51 or 53.7% of patients, Class B-30 or 35.6% and class C-14 or 14.7%.

28 of them are men and 67 are women. Clinical symptoms in patients with chronic hepatitis (CH) varied: from weakness, minor symptoms in CH, to severe manifestations when chronic diffuse liver disease progressed to cirrhosis of the liver (LC).

When analyzing the anamnesis of the patients in the main group, it was revealed that: 59(62%) of 95(100%) patients had previously experienced acute viral hepatitis, 12 (12.6%) patients had previously had blood It was known that 6 people had undergone minor surgical invasive interventions , long-term consumption of alcohol .

difficulties in diagnosing chronic diffuse liver disease in patients with ASCH is that liver pathology in many cases is not obvious from the clinico-biochemical point of view, in blood tests, pathological changes in the liver in most cases are not obvious . chronic diffuse liver disease appears only as a result of the aggravation of the main disease , after the activation of liver failure. Often, these conditions develop sharply as a result of increased destructive processes in the gallbladder, complications such as mechanical jaundice(MJ) or negative effects of anesthetic drugs used in general anesthesia for surgery on liver function.

cancer developed against the background of chronic hepatitis, an average increase of aminotransferases in blood samples up to 3 times, a sufficient increase in bilirubin index and signs of dysproteinemia in the synthesis of white blood cells of the liver were detected. Other indicators of liver function were not significantly different from the norm.



In our main group, 51 patients with LC, including 22 men and 25-year-old women aged 48 to 78 years, were treated. In 10 patients, inactive liver LC were divided into A class, 27 patients had subcompensated liver LC Child-P and B class, and 14 patients had decompensated liver LC C class. In addition, the total number of patients with CH was 44 patients and a total of 95 patients. Of the 50 patients with LS in the control group, 3 patients with LC had Child-Pugh class A consists of 26 patients with subcompensated LC Child-Pugh and 21 patients with decompensated LC Child-Pugh C with advanced cirrhotic process. The total number of patients with CH was 32 and a total of 82 patients, respectively.

Epigastric and right heartburn in patients It was found that symptoms of pain under the groin occurred in 100% of cases in both groups, weakness and loss of appetite - in groups I and II-76(92.7%) and 82(86.3%), respectively; nausea, vomiting and dyspepsia-78(95%) and 82(86.3%); jaundice-8(9.7%) and 15(15.8%); skin itching in 3(3.6%) and jaundice in 3(3.6%); tension in the right subcostal muscles was noted in 28 (34%) and 32 (33.6%) cases; inflammatory symptoms of the peritoneum associated with destructive changes were noted in 8(9.7%) and 12(12.6%) cases; ultrasound revealed splenomegaly in 35(42.7%) and 65(68.4%) cases; Hepatomegaly was detected in 56(68.3%) and 48(50.5%) cases. The remaining common symptoms had minor clinical characteristics and frequency.

Both groups, 7(8.5%) and 9(9.5%) patients had symptoms of blood clots on the skin surface, which indicates liver dysfunction associated with chronic diffuse liver disease. More than 70% of patients admitted to a surgical hospital with an anamnesis denied having liver disease.

In the retrospective analysis of the medical history of control group patients, only 10(20%) of 50 patients knew they had LC, 13 (26%) patients were diagnosed with LC preoperatively after ultrasound examination, and 27 (56%) patients were diagnosed with LC during surgery.

From the anamnesis of the disease in the main group, it was revealed that 12 (23.5%) of 51 patients with LC only knew that they had LC, and in the remaining patients, 31 (61%) had a diagnosis of LS before the operation, and only 8(15.5%) was determined during surgery.

The high rate of detection of LC in patients in the main group was found when additional examination of MRPXG was performed in patients outside of UTT. 22 (23%) of the patients were found to have gallstones in the biliary tract, which were not previously seen on ultrasound examination.

When evaluating the specified blood tests: a decrease in the level of hemoglobin and erythrocytes in patients with LS, liver functional disorders, less developed dysproteinemia in Child-Pugh A and B classes, and a decrease in these indicators in Child-Pugh C was more evident. Bilirubin, transaminases, increased thymol probes with dysproteinemia, decreased thrombotest and prothrombin index were found.

Conducting and conclusion of ultrasound and MRPX examination in patients of groups I and II: hepatomegaly in 28 and 32 cases, and splenomegaly in 32 and 52 patients, respectively. According to FGDS 22 and 28 patients were diagnosed, respectively.

In cases of suspected chronic diffuse liver disease, the use of MRPXG allows to identify small multiple gallstones in the biliary tract that could not be detected by ultrasound before.

The above shows that blood tests may not always provide complete blood information in patients with ASCH on the background of chronic diffuse liver disease. Changes in the biochemical parameters of the liver are noted only during the progressive aggravation of chronic diffuse liver disease. Often, these progressive changes are associated with the transition of inflammatory



processes in pancreatitis to a destructive state or the development of complications of pancreatitis. It may occur as a result of the negative effect of drugs used for general anesthesia during surgical procedures.

To date, specialists have no difficulty in making the diagnosis of acute cholecystitis in most cases. It is more difficult to determine pathological changes in the liver parenchyma in the form of hepatitis C and LS against the background of ASCH. The situation becomes even more difficult when its complications appear in the form of mechanical jaundice, cholangitis, and peritonitis. It is often accompanied by background diseases, diabetes, obesity, hypertension, and chronic obstructive pulmonary disease in elderly patients.

In the control group, 50 patients with complications such as progression of MS, peritonitis, and liver failure in patients with chronic obstructive pulmonary disease developed on the background of LS were analyzed. was shown to be laid.

When the complaints were received, there was pain in the right rib cage and epigastric area, nausea, vomiting, general weakness.

15 (30%) of patients in this group had jaundice of the skin and visible mucous membranes. Skin itching was observed in 3 patients.

All 50(100%) patients in the control group underwent a comprehensive ultrasound examination, in which all patients had symptoms of ASCH, the presence of single and multiple gallstones of different sizes, thickening of the walls of the liver, double contours, fluid accumulation around the O'P, and the presence of dark bile and pus in the liver.

6(12%) patients in the control group had a severe general condition on admission. The severity of the condition is related to the presence of the main disease of ASCH and the development of liver failure. Ultrasound examination shows clinical peritonitis, fluid accumulation in the subhepatic area, thickening and doubling of the wall of the liver wall, and the presence of many stones of various sizes.

In the main group, 51(100%) of all patients showed clinical peritonitis, fluid accumulation in the subhepatic area, thickening and doubling of the liver wall, and many stones of different sizes in the ultrasound examination of ASCH. In this group, 4(8%) patients with ASCH+LS+MS+decompensation and 4(8%) patients with ASCH+LS+decompensation+limited peritonitis were the most severely ill. The general condition during admission is severe. The severity of the patients' condition was related to the symptoms of the main disease of ASCH and the development of liver failure, the presence of MS and LS.

It should be noted that the negative results of diagnosis and surgical treatment of patients in the control group prompted us to conduct additional modern instrumental research methods, in particular MRPXG, in order to check for all patients in the main group. Functional status of the liver, determination of the degree of damage to the liver parenchyma, residual score reduces the frequency of edocholithiasis, and based on the obtained data, it is aimed at making preoperative preparation plans and determining the optimal methods and optimal time of surgical treatment.

If in the control group 10(20%) patients knew about the presence of LS during admission, after ultrasound examination, i.e. 13(26%) and during surgery LS were detected in 27(56%), more than half of the cases.

Patients in the main group gave the following results of MRPXG. In the main group, 12 (23.5%) patients were aware of the presence of LS, 31 (61%) patients were detected before surgery, which



was 3 times more patients than in the control group, and 8 (15.5%) patients were detected during surgery.

Ultrasound examination of the liver revealed an increase in the size of the liver only in 12 (23.5%) patients of the main group (right lobe  $16.3 \pm 0.7$  cm, left lobe  $9.2 \pm 0.7$  cm) and was noted in the summary. In the same patients after MRPX, hepatomegaly was detected in 32 (62.7%) patients and was characterized by acoustic inhomogeneity of the liver parenchyma. The diameter of the vessels in the splenoportal vascular system was higher than normal. Ultrasonography showed splenomegaly in 10(20%) patients, and 51(100%) patients had splenomegaly after MRI. Also, only 7 (36.8%) of 19 (37%) patients with jaundice had hepatic choledochal enlargement and presence of gallstones, but intrahepatic ducts were not enlarged. After MRPXG, 22 (43%) patients with hepatocholeox and liver It was noticed that there are several small gallstones in the inner grass. 19 (37%) of them were complicated by MS, and in the remaining 3 (6%) symptomatic choledocholithiasis was detected without hyperbilirubinemia.

Thus, we considered that the use of ultrasound in diagnosing the condition of the liver parenchyma, the presence of gallstones in the hepatocholex and intrahepatic bile ducts in patients with ASCH on the background of LS is not sufficient. Choledocholithiasis was detected in 19(37%) patients using MRPXG in the main group, and in 5(10%) patients in the control group. Also, in the main group, hepatomegaly was detected by ultrasound in 12(23.5%), MRPXG in 32(62.7%), splenomegaly in 10(20%) patients and after MRPXG in 51(100%).

#### **Principles of prevention of operative complications in patients with CJDK by using remaxol and glutathione drugs for preoperative preparation.**

At the beginning of the study, we analyzed the medical history of 82 patients treated in the surgical departments of the Bukhara branch of the Republican Scientific Center for Emergency Medical Care. Special attention was paid to preoperative preparation of patients, complications related to operations, and unsatisfactory results of the postoperative period.

**Remaxol** is the first hepatotropic endogenous ademetionine that stimulates the synthesis of the first ademetionine, which reduces the manifestation of fatty degeneration of hepatocytes by increasing the rate of anaerobic glycolysis and ensuring the supply of nad.

The active component of Remaxol, remaxol - carbamic acid is a product of the substrate of the fifth and sixth reactions of the tricarboxylic acid cycle of the Krebs cycle, a universal energy supply intermediate.

**Glutathione** is an important component of the body's antioxidant defense. Since the liver is a metabolically active organ, it is the detoxification "laboratory" of the body and the main synthesis of proteins, lipoproteins and other important molecules, where many oxidation-reduction reactions take place. Oxidative stress accompanies almost any pathology of the liver and becomes one of the main factors of disruption of its functions and structure.

Remaxol is taken 400 ml intravenously once a day in the amount of 70-80 ml drops per minute. Glutathione 1.2-2.4 g in 0.9% physiological solution is administered intravenously for 5-7 days. The results of a study conducted after a course of treatment with Remaxol and Glutathione in addition to conventional training showed that ALT in patients in the main group remained above the physiological norm, but was much lower than the level of the control group. A similar trend occurred in AST indicators. But after decompression of the gallbladder with the help of as a result of the reduction of inflammatory processes in the gallbladder, these indicators decreased significantly.





### Results of surgical treatment of patients in the control group (based on a retrospective analysis of medical records)

The general characteristics of patients with ASCH on the background of chronic diffuse liver disease are presented in the previous chapters. On the background of chronic diffuse liver disease, the symptoms of otx as the main disease were clearly manifested.

The control group consisted of 50 patients with LS, of which LS Child-Pugh class A - in 3 patients, LS subcompensated Child-Pugh class B - in 26 patients, and advanced LS decompensated Child-Pugh class B - in 21 patients. The total number of patients with C hepatitis is a total of 82 patients. In this group of patients, only 10(20%) patients knew they had LS; 13 (26%) patients were found to have LS preoperatively during ultrasound; in most patients, 27 (56%) LS were identified as an intraoperative finding at the time of surgery.

### Clinical features and complications in patients with ASCH on the background of LS in the control group (n=50)

**Table- 4.2.1.**

Clinical forms of HF and its complications	I - control group ( n=50 )
ASCH +LS	24 ( 48% )
ASCH +SG+MS	8 ( 16% )
ASCH+LS+MS	7 ( 14% )
ASCH+LS+MS+compensation	5 ( 10% )
ASCH +LS+ decompensation+ peritonitis	6 ( 12% )
Total	50 (100%)

With signs of destructive cholecystitis and local peritonitis underwent surgery after standard preoperative preparation. Of these 6 patients, laparoscopic cholecystectomy was performed in 4 cases, and traditional cholecystectomy was performed in 2 cases (table 4.2.2). The diagnosis of peritonitis was confirmed intraoperatively, in which the signs of inflammation in the gallbladder and swelling in the hepatoduodenal region were noted. According to the operating protocols, macronodular changes in the liver parenchyma (nodules more than 3 cm) and signs of portal hypertension were noted. ASCH complications underwent surgery, including 18 (75%) patients with laparoscopic cholecystectomy and 6 (25%) patients with traditional cholecystectomy. (table. 4.3.3)

Revealed the enlargement of the choledox and the presence of gallstones in it , while in 5 patients the choledox was enlarged, but no enlargement of bile ducts in the liver was detected

This group of patients was diagnosed with ASCH, choledocholithiasis and MS. Of these 15 patients, only 9(60%) were diagnosed with LS preoperatively and 6(40%) were diagnosed intraoperatively. Of these 15 patients, ERPXG, EPST and LE were performed in only 5 cases of gallstones before surgery. In these patients, 10(66.6%) laparoscopic cholecystectomy and 5(33.4%) patients underwent urgent and delayed traditional cholecystectomy operations as a second stage operation.

Of the 50 patients in the control group, 29 (58%) underwent immediate surgery, 15 (30%) underwent urgent surgery, and 6 (12%) underwent delayed surgery. Types of surgical interventions, conditions for their implementation, and postoperative complications and death are presented in the table. 4.2.2-4.2.3. Postoperative mortality was 8%.



Complications were observed in both surgical methods, which were noted in the form of intraoperative bleeding from the liver wall bed and hepatoduodenal area, postoperative wound suppuration, enteritis, cholemic bleeding, and the development of postoperative liver failure.

Mortality was recorded in this group of patients in the postoperative period. In particular, mortality after traditional cholecystectomy in patients complicated by peritonitis observed. The cause of death in 3 (6%) patients was caused by liver-kidney syndrome, development of liver failure and polyorgan orphan diseases. These patients are emergency surgery patients. One patient died after acute blood loss due to bleeding from dilated esophageal varices. Analyzing the patient's anamnesis showed that LS were not detected in the preoperative ultrasound examination.

Among the intraoperative complications, bleeding from the liver wall bed is often noted. During the analysis of the operation protocols, as a result of portal hypertension after laparoscopic cholecystectomy, the dilation of the visceral vein blood vessels in the abdominal cavity and bleeding in the removed tissues of the gallbladder bed and hepatoduodenal cord were observed. Hemostasis was achieved during the operation, but despite this, in the postoperative period, in 5 (10%) cases, there were cases of bleeding and their exit from the drainage tubes or accumulation of hematomas in the subhepatic area. Therefore, repeated relaparoscopy was required in 2 cases.

The success of surgical treatment of patients with advanced chronic liver disease on the background of chronic diffuse liver disease largely depends on the functional state of the liver before surgery. One of the most severe postoperative complications of laparoscopic cholecystectomy and traditional cholecystectomy in this group of patients is the development of peritonitis and hematomas, bleeding in the liver bed and leakage of bile into the abdominal cavity in the postoperative period. However, experience shows that even after careful hemostasis of the gallbladder bed, blood often escapes through the drains in the postoperative period. This fact indicates that portal hypertension and disturbance of local hemostasis caused by chronic diffuse liver disease are also important in postoperative bleeding from the gallbladder bed.

Thus, it was determined that hemostasis disorders in chronic diffuse liver disease are associated with local hemostasis disorders, local and including adverse changes in platelet activity associated with clinical manifestations, coagulation disorders, changes in physiological anticoagulant systems and fibrinolysis processes. This led to the development of bleeding in the isolated liver bed. On the basis of the specified complications, it is possible to indicate liver failure, which caused a decrease in the production of many coagulation factors of hemostasis.

### **Analysis of direct results of surgical treatment of ASCh on the background of chronic diffuse liver disease in the main group**

The comparative analysis of the results of the complex treatment of patients with developed ASCh on the background of chronic diffuse liver disease in the main and control groups showed that using the scheme of pre-operative preparation we proposed and its use of modern diagnostic and treatment tools made it possible to determine certain advantages of the complex surgical treatment. The use of remaxol and glutathione in the preoperative complex treatment, together with the use of conventional treatment methods, can reduce the risk of developing liver pathology and the development of liver-cell failure.

In 47 (92%) patients of the main group (22 of them immediately, 2 urgently and 23 urgently laparoscopic cholecystectomy) were performed. In 2 (3.9%) patients, traditional cholecystectomy was performed without an incision. When performing urgent operations, the pre-operative time is



allocated not only for monitoring the course of ASCH and evaluating the effectiveness of conservative therapy, but also for examining the patient, conducting detoxification therapy, and correcting the functional state of the body's vital systems. In the first stage, 15 (29%) patients with ASCH complicated by LS underwent EPRXG, EPST for diagnosis and decompression of bile ducts and then emergency operations were performed. All operations were carried out in the laparoscopic cholecystectomy method.

Detoxification, antioxidant, hepatoprotective therapy in the preoperative period, as well as decompression of the liver wall under local agaric control under the control of herbal medicine, and procedures were performed in order to improve the pain and general condition of the patients. Due to the ineffectiveness of complex conservative therapy, secondary operations were also performed in 4 patients who developed limited peritonitis. Development of peritonitis during treatment was noted in 4 patients. After performing laparoscopic cholecystectomy was performed in the second stage, and in the patient, traditional cholecystectomy was performed through a minilaparotomy section.

In the control group, 4(5%) patients died immediately after traditional cholecystectomy. In the main group, 1 death developed after traditional cholecystectomy.

A deep and extensive detailed analysis of observations (n=51) showed that it allowed to identify some features common to operations in patients with ASCH on the background of LS. This is, first of all, the tissue of the subhepatic region is full, and it is very difficult to achieve adequate hemostasis in the usual way.

Another feature is that during laparoscopic manipulations in the area of the gallbladder neck and elements of the hepatoduodenal cord, during their dissection, due to the presence of portal hypertension, the probability of tissue bleeding is high. Hemorrhagic complications that occur are usually difficult to correct due to technical difficulties of local hemostasis, blood coagulation disorders. These patients require the use of additional methods to achieve hemostasis.

Thus, traditional surgical interventions are associated with a high risk of intraoperative and postoperative complications in patients with ASCH and LS. Decompression and sanation of performed under ultrasound and control is characterized by relative convenience, low trauma and low cost. In such cases, the use of mini-invasive interventions under ultrasound control allows patients to undergo surgery in more comfortable conditions and with a delay. The use of mini-invasive methods plays an important role in treatment and reduces lethality.

## DISCUSSION

Against the background of chronic diffuse liver disease, careful collection of anamnesis, assessment of the clinical appearance of functional tests, symptoms of viral hepatitis; Along with ultrasound, EFGDS, MRPXG should be widely used.

Surgical interventions in patients with advanced chronic liver disease on the background of LS are accompanied by technical difficulties, the risk of developing liver failure in the postoperative period, and an increase in the number of complications during and after surgery. Therefore, in order to reduce complications, it is necessary to add Remaxol and glutathione preparations to the complex preoperative preparation.

In patients with advanced ASCH and its complications (MS, limited peritonitis) against the background of LS, in addition to comprehensive preoperative preparation, it is necessary to widely



use two-stage treatment tactics with ultrasound-controlled decompression interventions, and these patients allows for delayed operation.

Several published studies have shown the effectiveness of percutaneous transhepatic cholecystostomy in such patients [21]. Even attempts were made to endoscopically stent the cystic duct as an alternative to cholecystectomy in patients with cirrhosis [22]. HL in patients with cirrhosis differs in some features that should be taken into account when performing this operation. First, rigorous patient selection is required based on Child-Pugh operative risk assessment or end-stage liver disease (MELD) model. Secondly, a good surgical technique is needed to skillfully circumvent the difficulties and complications to which patients with cirrhosis are especially prone. Thirdly, modern equipment should be used, such as an ultrasonic scalpel or argon plasma coagulator, to minimize bleeding from incised tissues. Finally, great patience is required in this operation in order to successfully complete it laparoscopically, since the transition to open surgery may not always be successful with some complications, such as bleeding due to coagulopathy.

## CONCLUSION

The inclusion of MRPXG in the control plan revealed 3 times more liver changes in the preoperative period in patients in the main group and made it possible to plan preoperative preparations. Gallstones in the biliary tract were detected in 22 (23%) patients, previously undiagnosed in UTT. Also, in the main group, according to UTT, hepatomegaly was detected in 12 (23.5%), MRPXG 32 (62.7%), splenomegaly - 10 (20%), MRPXG 51 (100%).

Inadequate preoperative preparation of patients, expansion of the volume of surgical intervention, severe complications in the postoperative period, and high mortality rate. In this regard, the inclusion of remaxol and glutathione in the complex treatment showed a significant positive effect in patients after 5-6 days.

In the control group, 57% of patients underwent immediate surgery, which is more than in the urgent and delayed period, and in 28% of cases traditional cholecystectomy was performed. Therefore, complications were noted in the form of bleeding from the liver bed, suppuration of the wound, eventration, development of postoperative liver failure, which was 56%.

Technical difficulties were observed due to increased bleeding and surgical interventions in patients with ASCH against the background of LS. Bleeding from the liver bed was noted in the control group. In the main group of patients, these complications were not observed when the ultrasonic dissector harmonica was used to prevent these complications.

MS and destructive cholecystitis, limited peritonitis from the complications of ASCH on the background of LS, surgical treatment involves the use of two-stage treatment tactics. In the first stage, UP decompression under ultrasound control with the help of and trans liver puncture interventions, as well as endoscopic decompression, allowed patients to undergo surgery in a delayed manner. The principles of differentiated surgical tactics were developed to reduce mortality from 4 (8%) to 1 (2%) and postoperative complications from 56% to 8%.

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