Section A -Research paper

THE ROLE OF DIAPEUTIC METHODS IN THE TREATMENT OF COMPLICATED FORMS OF CHOLELITHIASIS

Nurmurzaev Zafar Narbay ugli
Kurbaniyazov Zafar Babajanovich
Khamidov Obid Abdurakhmanovich
Abduraxmanov Diyor Shukurullaevich
Samarkand State Medical University

ABSTRACT

The results of treatment of 171 elderly and senile patients with complicated forms of cholelithiasis are presented. Staged surgical treatment, taking into account the developed criteria for assessing the severity of the condition of patients and the predicted risk of developing postoperative complications with the use of preliminary minimally invasive decompression interventions on the biliary tract, performed in 42.2% of patients in the main group, made it possible to stop purulent- cholemic intoxication and improve the results of subsequent radical operations. In 15.6% of patients, these interventions were the final method of treatment. The priority staged use of minimally invasive interventions made it possible to significantly reduce mortality, postoperative purulent-septic and extra-abdominal complications (3.1%, 12.4% and 29.9%, respectively), while in the comparison group these figures were 8.1%, 32. 4% and 41.9%.

Key words: cholelithiasis, complications, elderly and senile age.

INTRODUCTION

Patients with complicated forms account for 54-65% of those admitted to hospitals for cholelithiasis (GSD). Among patients operated on for acute inflammation of the gallbladder, elderly and senile patients account for up to 30% [1, 4, 6, 7, 9]. Along with severe complications of acute inflammation of the gallbladder in patients of older age groups, lesions of the bile ducts are frequent (35-60%). In the structure of lesions of the bile ducts, the main place is occupied by choledocholithiasis, accounting for 50-78% of all types of pathology [2, 3, 5, 8, 10]. In these patients, the severity of the underlying disease is exacerbated by concomitant pathology. At the same time, in the acute period of the disease, the effect of mutual aggravation of the underlying and concomitant diseases is manifested.

In numerous studies, the results of surgical treatment of elderly and senile patients with cholelithiasis complications do not always satisfy specialists; in 40-65% of cases, patients develop septic conditions, as a result of which from 16.5% to 30.0% of observations end in death [11, 12].

Objectification of the assessment of the severity of the condition and the prognosis of the disease is of particular importance for the development of promising areas for the treatment of complications of cholelithiasis, such as abdominal and biliary sepsis, which is characterized by heterogeneity of clinical manifestations. In recent decades, due to the development of minimally invasive surgical interventions and the introduction of staged surgical tactics, mortality in complicated forms of cholelithiasis in elderly and senile patients has been decreasing. This is

mainly due to the development of minimally invasive surgical interventions and the introduction of staged surgical tactics, the effectiveness of which is recognized by most clinicians.

Purpose of the study: To improve the results of treatment of elderly and senile patients with complicated forms of cholelithiasis by optimizing the tactical and technical aspects of surgical correction with the priority use of minimally invasive interventions.

MATERIALS AND METHODS

The results of treatment of 171 elderly and senile patients with complicated forms of cholelithiasis, who were treated in the surgical departments of the clinic of Samarkand State Medical University in the period from 2015 to 2022, are presented. According to the classification adopted by the WHO Regional Office for Europe (2016), elderly patients (60-74 years old) amounted to 143 (83.6%), senile patients (75 years and older) - 28 (16.4%). The oldest patient in the study was 87 years old. Female patients prevailed - 104 (60.8%), men - 67 (39.2%). The average age is 64.7±3.4 years, the ratio of women and men is 1.5:1.

Of 171 patients with complicated forms of cholelithiasis, 130 (76.1%) were diagnosed with destructive forms of inflammation of the gallbladder, including 56 with gangrenous cholecystitis. In the structure of complications of lesions of the bile ducts, obstructive jaundice occupied the main place, which was observed in 79 patients (44.4%), in 51 of them the content of total bilirubin in the blood serum exceeded 60 μmol / l.

Concomitant pathology was detected in all 171 patients. 135 of them had a combination of 2-3 or more systemic diseases. On average, one patient accounted for 2.1 comorbidities, while in the first age group (60-74 years) - 1.7, and in the second (over 75 years) - 2.4.

Diagnosis was carried out on the basis of the clinical picture of cholelithiasis, laboratory and instrumental methods of investigation (sonography, RPCG, MR- cholangiography).

In accordance with the purpose and objectives of the study, the patients were divided into 2 study groups. The comparison group consisted of 74 (43.3%) patients who in the period 2015-2018. Operated for acute cholecystitis and lesions of the bile ducts for emergency and urgent indications. The main group of the study consisted of 97 (56.7%), in which the algorithm for conducting diagnostic and treatment measures according to indications was based on the principles of the priority use of surgical treatment methods using minimally invasive surgical interventions. In the study, both groups of patients were identical both in age and in the severity of clinical manifestations and the severity of the disease.

Of all 74 patients in the control group, 47 (63.5%) patients had a clinical picture of acute destructive cholecystitis, and 27 (36.5%) had a clinical picture of obstructive jaundice and cholangitis due to choledocholithiasis and obstructive stenosis. In this group, surgical intervention consisted of performing CE (in 47 patients), or CE with choledocholithotomy (in 27 patients) with external drainage of the choledochus, and surgery was performed from a wide laparotomy approach in 33, from a minilaparotomy approach - 41.

Factor analysis found that the highest percentage of mortality, purulent-septic and extra-abdominal complications (14.8%, 48.1% and 55.6%, respectively) in elderly and senile patients were observed after attempts at one-stage radical surgical correction of acute destructive cholecystitis or obstructive cholangitis (Fig. 1). The cause of mortality was equally biliary and abdominal sepsis, as well as cardiovascular and pulmonary complications.

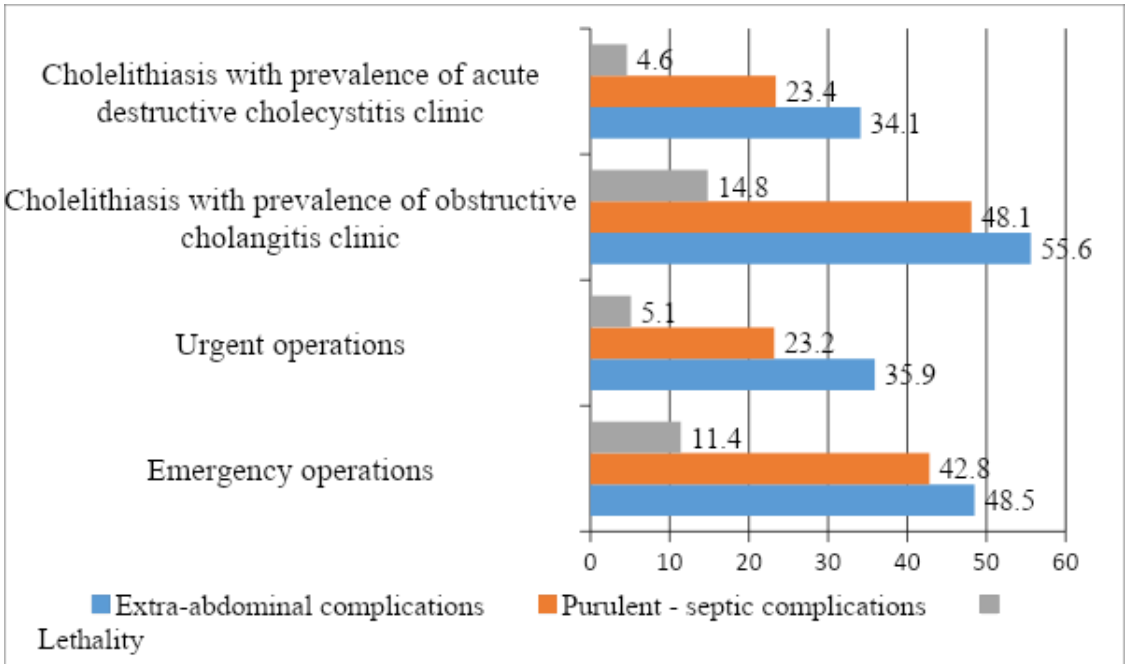

Diagram. 1. The frequency of mortality and postoperative complications, depending on the urgency of operations and the complicated clinic of cholelithiasis in gr. comparisons in elderly and senile patients.

In the main group of 97 elderly and senile patients operated on in 2019-2022. for complicated forms of cholelithiasis, treatment was carried out not only taking into account the severity of acute cholecystitis and cholangitis according to the classification adopted in Tokyo 2018 (Tokyo Guidelines, 2018, TG 18), but also according to our criteria for predicting the risk of postoperative complications.

In accordance with these criteria, 42 (43.3%) patients were assigned to the group with moderate severity of the condition and predicted relatively low risk of postoperative complications. 55 (56.7%) patients of this contingent were assigned to the group with a severe clinical course of the disease and a predicted high risk of postoperative complications. The patients were operated on, taking into account the proposed criteria for the severity of the condition, as well as the clinic of the complicated course of cholelithiasis. (Table 1,2).

At prevalence of the clinic of acute destructive cholecystitis in the main group of 58 patients 39 were assigned to the group with a severe clinical course of the disease and a predicted high risk of postoperative complications. In 11 of them, biliary peritonitis was stated (diffuse in 5, in 6 it was delimited in the form of a formed billomas).

Table 1.

Surgical interventions in elderly and senile patients with severe condition and a predicted high risk of postoperative complications (n=64)

Disease Clinic	**Type of operation**		**Number of patients**	
Cholelithiasis with	CHCHMHS	LHE	6	17

prevalence of acute destructive cholecystitis clinic (n =39)	CHCHMHS	MLCE	2	
	CCMS + biloma puncture	MLCE	6	
	only HHMHS		3	
	MLCE		14	22
	MLCE, opening of a perivesical abscess		3	
	Laparotomy, CE and debridement of the abdominal cavity		5	
Cholelithiasis with prevalence of obstructive cholangitis clinic (n =25)	EPST and NBD →	LHE	4	20
	EPST and NBD →	MLCE	7	
	only EPST		5	
	EPST and CHCHMHS	MLCE	2	
	only EPST and CHCHMHS		2	
	MLCE and choledocholithotomy (if EPST fails)		5	5

Table 2.

Surgical interventions in elderly and senile patients with moderate severity of the condition and a predictable low risk of postoperative complications (n=33)

Disease Clinic	**Type of operation**		**Number of patients**	
Cholelithiasis with prevalence of acute destructive cholecystitis clinic (n =19)	CHMHS →	LHE	2	4
	CHMHS→	MLCE	2	
	LHE		7	15
	MLCE		8	
Cholelithiasis with prevalence of obstructive cholangitis clinic (n =14)	MLCE and choledocholithotomy		14	14

Due to the severity of the condition, 17 patients underwent stage 1 percutaneous-transhepatic microcholecystostomy (CCMCS), of which 6 also had punctured and sanitized bilomas delimited in the subhepatic space. At the 2nd stage of treatment, on days 10-14, cholecystectomy was performed in 14 patients, including LChE-6, ChE from minilaparotomic access-8. 3 patients were discharged without CE with a functioning cholecystostomy. 22 patients were operated on in one stage. 17 patients with acute destructive cholecystitis, MLCE was performed, of which in 3 cases, due to the melting of the wall of the gangrenous gallbladder (perivesical abscess was essentially opened). 5 patients with a clinic of diffuse bile peritonitis underwent CE with sanitation of the abdominal cavity from a wide laparotomy access.

19 patients with a clinic of acute destructive cholecystitis with a moderate severity of the condition and a predictable relatively low risk of postoperative complications, 15 underwent cholecystectomy (7-LChE, 8-ChE from the mini-access). Two-stage treatment with preliminary cholecystostomy (CCMCS) was performed in 4 patients, 2 of them with puncture debridement of delimited perivesical bilomas. These 2 patients subsequently underwent CE through a mini-access. 2 more patients after microcholecystostomy carried out LHE.

In the group of patients with a prevalence of obstructive jaundice and obstructive cholangitis (n = 39), with a severe clinical course of the disease and a predicted high risk of postoperative complications, 25 patients were assigned. Due to the severity of the condition, 16 (64%) patients at the 1st stage of treatment successfully underwent endoscopic papillosphincterotomy (EPST) followed by nasobiliary drainage (NBD). In 5 (20%) patients, attempts at EPST and installation of NBD were unsuccessful. These 5 patients with a progressive clinic of obstructive jaundice and cholangitis underwent CE and choledocholithotomy from a minilaparotomic access in the right hypochondrium. Of the 16 patients who successfully underwent stage 2 EPST, after improvement of the condition and relief of the clinic of cholangiogenic intoxication, 11 underwent CE, of which 4 were LCE, 7 patients underwent CE through minilaparotomic access. After successful EPST, 5 patients abstained from radical surgery and were also discharged from the hospital.

With a combination of obstructive cholangitis and acute cholecystitis, 4 patients underwent minimally invasive decompression transduodenal interventions - EPST with lithoextraction. These patients also underwent TCHMHS. Subsequently, 2 of them were carried out by MLCE. 2 were discharged from the hospital with a significant improvement in their condition.

14 patients with moderate severity of the condition underwent simultaneous surgical interventions in the volume of CE and choledocholithotomy with external drainage of the choledochus from a mini-access in the right hypochondrium.

Thus, two-stage surgical treatment was performed in 27 (42.2%) patients with severe severity of the condition and a high risk of postoperative complications. 10 (15.6%) patients were limited to minimally invasive decompression intervention on the biliary tract. One-stage radical surgery was performed in 27 (42.2%) patients, and in 13 (20.3%) patients the presence of a clinic of peritonitis (5 patients) or perivesical abscess (3 patients) or with the failure of EPST.

Two-stage surgical interventions in patients with moderate severity of the condition and predicted low risk of postoperative complications (n=33) were performed in 4 (12.1%) patients, one-stage radical surgery was performed in 29 (87.9%) patients.

RESULTS AND DISCUSSION

PTCS in the surgical treatment of patients with acute cholecystitis was performed in 25 (25.8%) patients of the main study group. Drainage of the gallbladder under ultrasound control was performed through the area of the liver parenchyma in order to seal the canal and prevent leakage of bile into the abdominal cavity. Drainage in all cases was performed with an "umbrella" stylet - a catheter with a "basket" at the end, catheter diameter 4F and 9F (Fig. 2).

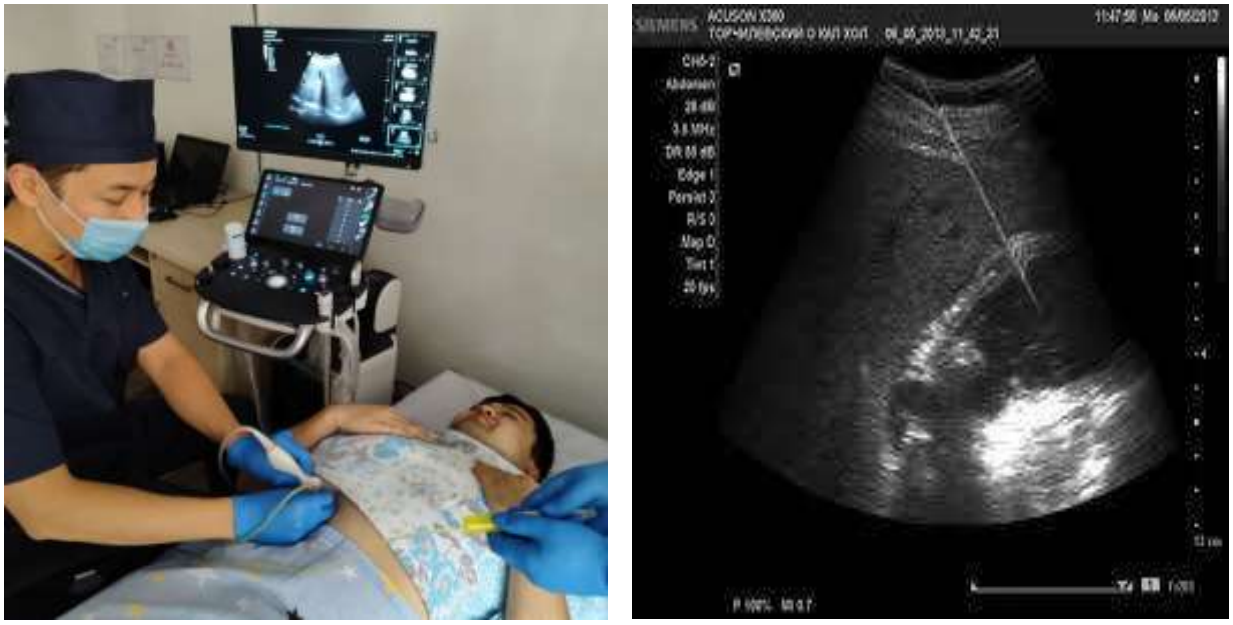

Fig. 2. Percutaneous transhepatic microcholecystostomy under ultrasound guidance (MINDRAY Consona N9)

In the group of patients of elderly and senile age, with the prevalence of the clinic of acute obstructive cholangitis, endoscopic papillosphincterotomy was performed in only 20 (20.6%) patients. EPST was performed in an endoscopic operating room using a duodenoscope, an electrosurgical unit, and a sphincterotomy. At the same time, it should be noted that in 5 patients, attempts at EPST and installation of NBD were unsuccessful, in one case the patient developed acute pancreatitis with a fatal outcome, in another 1 observation, duodenal bleeding, which was cured conservatively (Fig. 3).

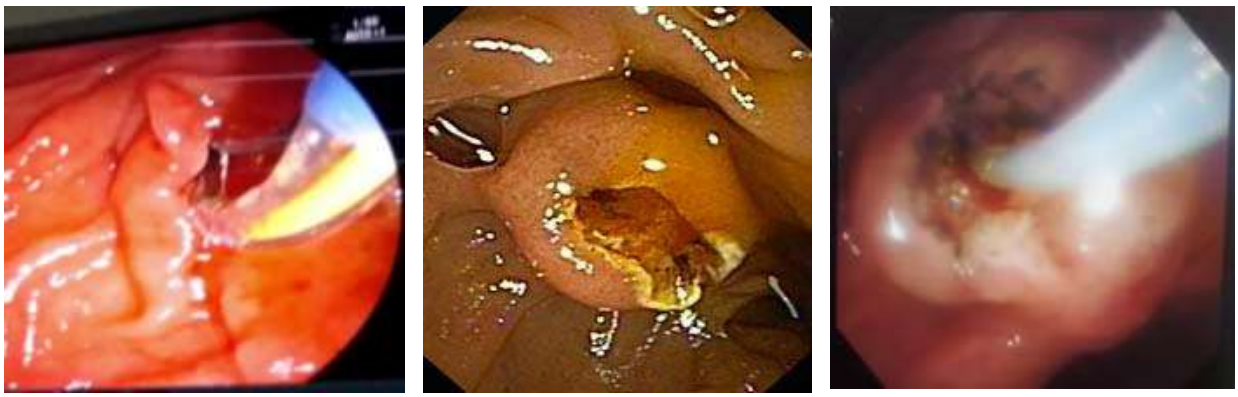

Fig. 3. Endoscopic papillosphincterotomy and installation of nasobiliary drainage

Thus, 2-stage surgical treatment was performed in 31 patients of the main group, which amounted to 31.9%. These patients after preliminary minimally invasive decompression of the biliary tract at the second stage on days 7-14 underwent CE, 12 - LCE, 19 - MLCE.

In 61 (62.9%) patients of the main study group, a one-stage radical operation - cholecystectomy was performed both from a wide laparotomic approach in 5 patients with peritonitis complication, 49 from a minilaparotomy approach (moreover, in combination with choledocholithotomy in 19 patients), LChE was performed in 7 patients.

In total, LCE was performed in only 19 (19.6%) patients, CE from the mini-access 63 (64.9%), from the wide laparotomy access 5 (5.1%). It should be noted that 10 patients did not undergo CE due to the severity of the condition.

LCE was carried out using the instruments of the firm " Karl Storz, ChE from mini-access with SUN tools.

A comparative analysis of the results of treatment in the study groups showed a decrease in mortality and postoperative complications in the main study group of patients (Fig. 4).

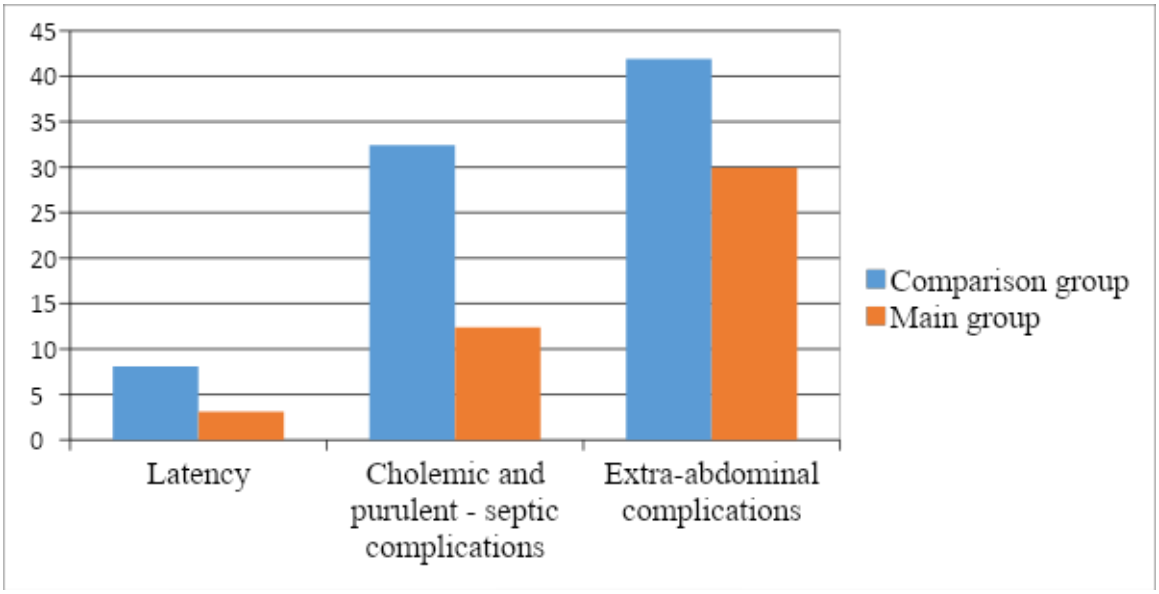

Diagram. 4. Results of surgical treatment of elderly and senile patients with complicated forms of cholelithiasis in the comparison groups

The most formidable complications in the control study group of patients were cholangiogenic liver abscesses and biliary sepsis, which caused deaths in 2 patients. Continuing peritonitis in 1 observation also led to an unfavorable outcome. At the same time, in 3 patients, the cause of death was complications from the existing competing comorbid pathology. In 2 cases, the cause of death was acute myocardial infarction. In 1 observation - pulmonary embolism against the background of postoperative pneumonia. Thus, mortality in the control group of patients (n = 74) was 8.1% - 6 patients died. Of these, in 3 cases, the cause of death was abdominal complications - biliary sepsis in 2, abdominal sepsis in 3 deaths occurred due to cardiovascular and pulmonary complications from the existing comorbid pathology.

At the same time, in the main group, 3 out of 97 operated patients died, the mortality rate was 3.1%. The reason for the poor outcome was acute pancreatitis as a complication of transduodenal endoscopic intervention in 1 patient and ongoing peritonitis in 1 observation. In another case, the cause of death was acute cardiovascular failure due to myocardial infarction.

Various cholemic and purulent-septic complications were observed in 24 patients of the comparison group, which amounted to 32.4%. At the same time, bilomas formed in the subhepatic region in 3 (4.1%) patients, which were drained by recanalization. counteropening. In 5 (6.7%) patients, bile leakage from the drainage tubes installed in the subhepatic space was observed, 5 (6.7%) patients underwent repeated operations to open and drain subhepatic and / or subphrenic abscesses, 2 (2.7%) patients underwent relaparotomy due to biliary peritonitis. Also,

4 (5.4%) patients were re-operated for cholemic intra-abdominal bleeding. In 12 (16.2%) patients, suppuration of the postoperative wound was observed.

In the main study group, postoperative complications developed in 12 patients, which amounted to 12.4%. At the same time, bilomas subhepatic region formed in 3 (3.1%) patients who were successfully sanitized by ultrasound-guided punctures.

In 3 (3.1%) patients there was cholemic bleeding from the liver from the area of transhepatic puncture of the gallbladder. External bile leakage was observed in 3 patients, during relaparoscopy, in 1 case, a failure of the cystic duct stump was detected, which was repeatedly clipped, in 2 more cases, the gallbladder bed was coagulated as a source of bile leakage into the abdominal cavity.

Duodenal bleeding was noted in 1 patient after EPST, bleeding was stopped conservatively - hemostatic therapy. In 2 patients, subdiaphragmatic obscess sanitized by repeated punctures under ultrasound guidance. In 4 (4.1%) patients, suppuration of the postoperative wound was observed.

CONCLUSSION

Factor analysis found that the highest percentage of mortality, purulent-septic and extra-abdominal complications (14.8%, 48.1% and 55.6%, respectively) in elderly and senile patients were observed after attempts at one-stage radical surgical correction of acute destructive cholecystitis or obstructive cholangitis. The cause of lethality was equally biliary and abdominal sepsis, as well as cardiovascular and pulmonary complications.

Staged surgical treatment, taking into account the developed criteria for assessing the severity of the condition of patients and the predicted risk of developing postoperative complications with the use of preliminary minimally invasive decompression interventions on the biliary tract, performed in 42.2% of patients in the main group, made it possible to stop purulent- cholemic intoxication and improve the results of subsequent radical operations. In 15.6% of patients, these interventions were the final method of treatment.

The developed therapeutic and diagnostic algorithm for staged surgical treatment, depending on the prevalence of the clinic of destructive cholecystitis or obstructive cholangitis, using PTMC under ultrasound guidance, EPST, or a combination of them, made it possible to perform cholecystectomy at a subsequent stage of treatment. by laparoscopic method in 19.6% and from minilaparotomy access - 64.9%.

Optimization of the tactical and technical aspects of the surgical treatment of elderly and senile patients with complicated forms of cholelithiasis, taking into account the severity of the condition of patients and the predicted risk of developing postoperative complications with the priority staged use of minimally invasive interventions, made it possible to significantly reduce mortality, postoperative purulent-septic and extra-abdominal complications (3.1%, 12.4% and 29.9%, respectively), while in the comparison group these figures were 8.1%, 32.4% and 41.9%.

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