



## THE BENEFITS OF X-RAY SURGERY IN THE TREATMENT OF COMPLICATED FORMS OF CALLSTONIS DISEASE

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### ANNOTATION

Acute destructive cholecystitis in combination with choledocholithiasis and purulent cholangitis are one of the most severe and life-threatening complications of biliary tract diseases, which is an acute inflammation of the bile ducts that occurs against the background of a persistent violation of the outflow of bile. Considering the fact that most patients with acute destructive cholecystitis and progressive obstructive jaundice are admitted to general surgical hospitals, different approaches to diagnosis, tactical decisions and treatment are not uncommon. When a diagnosis of complicated forms of cholelithiasis has been established, the choice of surgical intervention method often depends on the capabilities of the hospital on duty and the medical team, and sometimes is determined by the unified treatment tactics approved in a given institution.

### Keywords

Liver, cholecystitis, cholangitis, gallstones, ultrasound.

**Relevance.** Acute cholecystitis and obstructive cholangitis are one of the most severe and life-threatening complications of biliary tract diseases, which is an acute inflammation of the bile ducts that occurs against the background of a persistent violation of the outflow of bile. The leading cause of impaired bile outflow is the development of cholelithiasis, and as retrospective studies show, today every tenth person has cholelithiasis of varying severity, and choledocholithiasis as a complication occurs in 20-30% of cases (Hungness E., 2016).

A feature of this pathology is the development of obstructive jaundice, and statistically in this age group it occurs 35% more often than at a younger age. And it is the development of biliary hypertension, due to mechanical disturbances in the outflow of bile, that explains the formation of cholangitis.

The urgency of the problem has increased due to the increase in the number of patients with complicated forms of cholelithiasis and atypical forms of



choledocholithiasis, and the increase in surgical activity, especially in elderly and senile patients.

Complicated forms of cholelithiasis in patients of older age groups, especially the elderly, are characterized by a nonspecific clinical picture, high variability and often blurred clinical manifestations, and this is the reason for frequent errors in diagnosis and choice of surgical tactics; today, in more than 20% of cases, a similar one occurs painting. As you know, diagnosing bile duct pathology has its own difficulties, because With this pathology, the clinical picture of damage to the gallbladder is very poor. It should also be noted that stones in the bile ducts very often do not manifest themselves, which is why they are called "silent" stones. All this together is the reason for late hospitalization of patients, so in the first 12 hours only 10-12% of the total number of patients seek qualified medical care, after 24 hours or more about 50% of patients, the rest of the patients are hospitalized in the first three days from the moment of the onset of an acute attack. It is these reasons that lead to an increase in the number of complications, thereby worsening the effectiveness of treatment.

**Purpose of the study:** Improving the results of treatment of patients with complicated forms of cholelithiasis by developing and implementing tactics of interventions on the biliary tract using diapeutic and X-ray endoscopic methods.

**Materials and methods of research.** The distribution of patients according to the identified complications of cholelithiasis was as follows: - 206 patients with a predominant clinical picture of acute destructive cholecystitis: - 95 patients with a predominant clinical picture of acute purulent cholangitis.

178 (59.3%) were diagnosed with destructive forms of inflammation of the gallbladder (61 gangrenous cholecystitis, 117 phlegmanous form), 44 - empyema of the gallbladder.

When studying the frequency of bile duct pathology, the following values were identified: in 68 cases, a picture of choledocholithiasis was observed, in 27 patients, along with choledocholithiasis, stenosis of the major duodenal papilla (MDP) was determined.

In 144 (47.8%) patients, extravascular spread of inflammation was observed. Among them, in 35 (11.6%) bile peritonitis was detected in the abdominal cavity, and in 19 it was widespread, in 16 it was limited. In 105 (34.9%) patients, perivesical infiltrate was detected, while in 8 cases (2.7%) there was a perivesical abscess.

The frequency of detection of complicated forms of bile duct diseases showed that the leading place is occupied by the development of obstructive jaundice, while an excess of total bilirubin in the blood above 60  $\mu\text{mol/l}$  was noted in 44 cases. The duration of jaundice in patients was 2-14 days. When analyzing the causes of its occurrence, it was revealed that the appearance of jaundice is due to



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the presence of stones in the extrahepatic bile ducts, and in 21 patients, in addition, stenosis of the obstructive artery was observed.

In 78 patients, the course of the disease was complicated by cholangitis. In 21 admitted patients with a confirmed diagnosis of purulent cholangitis, taking into account the clinical and laboratory studies performed, signs of hepatic renal failure were identified. The study plan included the results of analyzes of functional tests in the form of hyperbilirubinemia, a decrease in albumin content against the background of a decrease in the albumin-globulin ratio, an increase in the level of alkaline phosphatase and transaminases, as well as urea content in the blood, etc. All this together based on the Tokyo classification (2018) became the basis to recognize the condition of these patients as severe cholangitis.

Among comorbid pathologies, the leading place was occupied by pathology of the cardiovascular system. It should be noted that as age increases, the number of complications of cardiovascular pathology increases significantly, this is especially noticeable in older age groups of patients. For example, more than 88.0% of their patients had a picture of coronary heart disease, among them (13.0%) coronary artery disease with angina pectoris. In the anamnesis of 9 patients, myocardial infarction was noted; in 11 cases, attacks of angina pectoris were provoked by sharp pain in the projection of the gallbladder and the development of acute cholecystitis.

An analysis of the ECGs performed (39 patients with coronary artery disease) showed that there were the following heart rhythm disturbances: atrial fibrillation - in 17 patients, extrasystole - in 22 patients. The dynamics of the course of the disease showed a reliably confirmed dependence of electrocardiographic parameters on the severity of the disease itself. For example, with the effective treatment of acute cholecystitis in a number of patients (n = 15 patients), the condition of the heart myocardium significantly improved, while restoring the heart rhythm. More than half of the patients noted a history of hypertension, while some of the patients (n=14) had hypertensive crises while in hospital.

**Results and discussion of the work:** in the structure of concomitant pathology, chronic diseases of the respiratory system were identified in 43 patients, and there is a clear tendency to increase the number of diseases with increasing age. In our observation, this increase was twofold in the group of patients over 60 years of age. The structure of morbidity is as follows: chronic pneumonia and bronchitis - in 14 patients, pneumosclerosis - in 32 patients, bronchiectasis - in 1 patient, bronchial asthma - in 3 patients. During follow-up, six patients developed pneumonia due to bed rest.

Concomitant pathology of the gastrointestinal tract, in particular the stomach and duodenum, was identified in 37.1% of all cases. The group distribution of the incidence showed that in the group of older patients it was 33.8%,

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Liver damage was also diagnosed (17.1%), among them chronic hepatitis and, unfortunately, liver cirrhosis prevailed.

There is another common disease – diabetes mellitus. In our study, 12.8% of the patient sample was diagnosed with type 2 diabetes. Despite the fact that correction of carbohydrate metabolism parameters was started from the first days of hospital stay, during the acute phase of the disease, continued correction became difficult. In the case of effective treatment of acute cholecystitis and biliary hypertension, correction of diabetes mellitus brought good results.

In the structure of concomitant comorbid pathology, diseases of the urinary system were also common, on average this amounted to about 5% of the total number of diseases. Among them are urolithiasis (7 patients), pyelonephritis (4 patients), cystitis (3 patients). The following nosologies also occur: grade 2-3 obesity (66 patients), thyroid pathology (9 patients), allergic condition (8 patients).

Based on the data presented, we can come to the conclusion that the indicators of the specific gravity, the nature of the severity of clinical symptoms increases with age, i.e. There is a clear age gradation in the spread of diseases.

The nature of the course of acute cholecystitis, which was aggravated by pathological transformations in the bile ducts, showed that in patients at the peak of the disease, a syndrome of mutual aggravation of both the main and concomitant diseases occurs. Both according to the literature and the data of this study, this particular syndrome is one of the main causes of death in patients with AC. In the case of timely, clinically effective treatment of an acute process in the gallbladder against the background of pain relief, tension in the biliary system was the key to the effectiveness of treatment of comorbid pathology.

Thus, the analysis of clinical material showed that in patients the picture of acute cholecystitis, occurring against the background of complications in the bile ducts, is characterized by destructive changes in the wall of the gallbladder, the development of peritonitis, the formation of peri-vesical infiltrate and abscess against the background of choledocholithiasis and papillostenosis, leading to the development of cholangitis and mechanical jaundice. All these processes occur against the background of a syndrome of mutual burden of both the main and concomitant diseases.

**Conclusion.** Prognostically unfavorable factors in the treatment of patients with complicated forms of cholelithiasis are the performance of emergency simultaneous radical operations in patients with acute destructive cholecystitis and purulent cholangitis with severe intoxication according to the Tokyo classification TG 18.

Sonodiapetic methods of decompression of the gallbladder are an effective emergency method of treating complications of acute cholecystitis, allowing to stop

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purulent intoxication and at the subsequent stage of treatment to perform cholecystectomy laparoscopically in 29.6% and from a mini-access in 53.7%.

It is advisable to carry out X-ray endoscopic interventions in the scope of EPST with mandatory nasobiliary drainage in cases of purulent cholangitis and hyperbilirubinemia over 100  $\mu\text{mol/l}$ , and EPST was the final method of treatment in 16.1% of patients.

The priority use of minimally invasive decompression interventions in the staged treatment of patients with complicated forms of cholelithiasis contributed to early relief of the infectious process, prevention of the development of biliary and abdominal sepsis and reduced mortality from 5.1% to 2.4%, biliary and septic complications from 17.5% to 7.3%.

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