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Features of Clinical Course and Surgical Tactics in Bilious Peritonitis

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Abstract:

Biliary peritonitis, as a complication of acute destructive cholecystitis, accounted for 7.1% and most often (35.2%) developed in elderly patients. According to the mechanism of development, 67.1% observed profuse bile peritonitis with the absence of pathognomonic signs of a catastrophe in the abdominal cavity. Optimization of the tactical and technical aspects of surgical treatment of patients with bile peritonitis using puncture diapeutic methods, laparoscopy and transduodenal endoscopic interventions made it possible to improve treatment results in the main study group, where complications in the immediate postoperative period amounted to 16.3%, mortality 4.1% (in group comparison - 33.3% and 6.1%, respectively)

Keywords: clinical, surgical destructive, diapeutic,

Biliary peritonitis is one of the most severe and prognostically unfavorable diseases of the abdominal organs [1,5]. The frequency of biliary peritonitis only in acute calculous cholecystitis, according to the authors, ranges from 2.2 to 8.4% [3,6,9]. Postoperative mortality ranges from 17.4 to 28% [4,11]. The main problem of biliary peritonitis is associated with a hidden course in the initial stages of its development and late diagnosis. This necessitates studying the causes, improving diagnostic methods and surgical treatment of patients with this pathology. Based on the reasons for the flow of bile into the abdominal cavity, bile peritonitis can be divided into perforated and sweating, destruction and perforation of the gallbladder wall in the first case and sweating in the second [5,7]. The frequency of relaparotomies after operations ranges from 5.6 to 17%; the most common reason for relaparotomies after these operations is ongoing and progressive biliary peritonitis [2,10].

Purpose of the study. Improving the results of surgical treatment of biliary peritonitis in patients with cholelithiasis.

Materials and methods of research. In the surgical departments of the 1st clinic of Samarkand State Medical University over the past 20 years in the period 2004-2023. 5849 patients with cholelithiasis were operated on, of which 1167 (19.9%) had acute destructive cholecystitis. We noted a significant increase (1.9 times) in the number of operated patients with cholelithiasis (GSD) in the period 2014-2023. (the number of operations was 3801) than in the period 2004-2013. (number of operations

2048). At the same time, the frequency of acute destructive cholecystitis in the analyzed time periods was 19.2% (394 patients - 2004-2013) and 20.3% (773 patients - 2014 -2023) of the total number of operated patients with cholelithiasis.), i.e. approximately equal. At the same time, the frequency of operated patients with peritonitis decreased significantly - 8.4% (33) and 6.3% (49), as complications of acute destructive cholecystitis - a total of 82 (7.1%) patients.

Among patients with peritonitis there were 29.7% men and 70.3% women, the gender ratio was 1:2.5. The same ratio among all operated patients with cholelithiasis was 1:6, which confirms the literature data on the more complex course of cholelithiasis in males. Patients aged 60-74 years prevailed - 35.2% and 45-59 years - 28.2%. 8.3% of patients were over 75 years of age, 22.1% were 30-44 years old, and 6.1% were under 29 years of age. The average age of the patients was 55.2±1.3 years.

Biliary peritonitis most often developed in elderly and senile patients, which was due to an increase in their destructive forms of acute cholecystitis, which occurred with erased symptoms of the disease. Elderly people, as a rule, had a long history of cholelithiasis and were carriers of a dormant infection, significant morphological changes not only in the gallbladder, but also in the liver and pancreas. In addition, these patients had severe concomitant diseases, which to a certain extent required careful preparation of such patients to perform surgical interventions. Concomitant diseases were present in 82 (62.6%) patients. Cholangitis, as a complication of the main pathological process, was identified in 67 patients (51.1%) patients.

Taking into account modern trends in the development of surgery, to solve research problems aimed at developing new treatment and diagnostic tactics for biliary peritonitis, patients were divided into two groups. Group I (comparison group) included 33 patients with peritonitis as a complication of acute destructive cholecystitis, operated on in the period 2003-2010, in the complex treatment of which standard generally accepted approaches were used. The second group (main group) included 49 patients operated on in the period 2011-2020, in whom the algorithm for carrying out treatment and diagnostic measures was based on the principles of the FTS - accelerated recovery program (FTS) and minimally invasive surgical procedures were used as priority methods of surgical treatment . In the clinical implementation of PUV, the approach was based on the recommendations of the Society for Enhanced Recovery Surgery - ERApoS (Enhanced Recovery After Surgery).

The clinical form of peritonitis was determined according to the classification of V.D. Fedorova et al. (2000).

Results and its discussion. According to the mechanism of bile leakage into the abdominal cavity as a complication of acute destructive cholecystitis, we observed two forms of bile peritonitis: perforated and profuse. Perforated biliary peritonitis occurred in 27 (32.9%) patients (12 comparison group, 15 main groups), which manifested itself as an acute catastrophe in the abdominal cavity against the background of the destruction of the gallbladder wall. Sweating bile peritonitis developed against the background of destructive cholecystitis and since there was a gradual leakage of bile into the free abdominal cavity, peritonitis occurred with subtle symptoms. Only with a significant accumulation of bile in the abdominal cavity did signs characteristic of peritonitis appear, which was the reason for their delivery to the surgical hospital. According to our observations, profuse peritonitis occurred in 55 (67.1%) patients (21 groups compared, to 34 group main). Thus, there is a significant prevalence of profuse bile peritonitis

In the development of bile peritonitis, according to Academician F.G. Nazirov (5), the nature, quantity and speed of bile outpouring are fundamental. The reaction of the peritoneum and the body differs with a massive simultaneous outpouring of bile, slow flow or its sweating. In the first case, abdominal shock will develop, and when bile sweats, this occurs clinically unnoticed (in our observations, out of 27 patients with biliary perforated peritonitis, 3 were admitted to the clinic in a state of shock). The quality of bile also influenced the development of the pathological process caused by bile. With empyema of the gallbladder, perforation of the wall is not accompanied by shock (in our observations there were 10 such patients). The spread of bile throughout the abdominal cavity was accompanied by a severe shock reaction. With the effusion and accumulation of bile in a delimited space, there is no clear picture of the manifestation of peritonitis.

Thus, in our observations, among 82 patients with destructive cholecystitis complicated by bile peritonitis, according to the nature of the pathological process, profuseity was observed in 55 (67.1%) patients, of which diffuse - in 9 (16.4%) and limited - in 46 (83.6%). Perforated biliary peritonitis occurred in 27 (32.9%) patients, of which diffuse – in 10 (37.1%) and limited – in 17 (62.9%).

In patients with perforated and profuse bile peritonitis upon admission to the hospital, an acute onset of the disease was noted in 57 (69.5%) and a gradual increase in 25 (30.5%).

During hospitalization, a relatively satisfactory general condition was noted in 17 (20.7%) patients, moderate in 31 (37.8%), severe in 24 (29.3%) and extremely severe in 10 (12.2%).) sick.

On the first day of the disease, 31 (37.8%) patients were admitted, on the second day - 22 (26.8%), on the third - 18 (21.9%), from four to seven days -6 (7.3%) and over seven days -5 (6.1%). Thus, we can note a significant percentage of late hospitalization of patients, which is explained by their late seeking medical help as a result of an inadequate assessment of their condition.

Based on the diagnostic criteria for sepsis, systemic inflammatory response syndrome (SIRS) was observed in 114 (87%) patients, 10 of them were in a septic state.

Patients with biliary peritonitis required emergency surgical treatment, while the presence of bile in the abdominal cavity required its immediate removal and elimination of the source. At the same time, most often the patients were elderly, with severe concomitant pathology, which required a differentiated approach to the timing and volume of surgical intervention. In these cases, there was a need for intensive infusion detoxification therapy, correction of water and electrolyte balance, and replenishment of the protein composition in the body. However, it was impossible to normalize these disorders without surgical intervention, so it was necessary to be guided by the relative indicators of improvement and stabilization of the patient's condition.

Of the 82 patients admitted to the hospital with biliary peritonitis, 31 (37.8%) were operated on within the first 6 hours. This group of patients was admitted in a relatively stable condition, when diagnostic measures and preoperative preparation were required. Within 6 to 24 hours, i.e. 43 (52.4%) patients underwent surgery on the 1st day. Later than 24 hours from the moment of admission to the clinic, the operation was performed in 8 (9.8%) patients.

In patients in the comparison group, depending on the volume, the operations performed were divided into 3 types: – cholecystectomy (CE) and drainage of the subhepatic space was performed on 19; – CE and drainage of the abdominal cavity (right lateral canal and small pelvis) were performed 9; – CE, choledocholithotomy and drainage of the subhepatic space were performed in 5 patients. In all cases, the upper midline approach was used.

The following types of operations were performed in the main group of patients:

– laparoscopic cholecystectomy (LCE) and drainage of the subhepatic space was performed 9; – LCE and drainage of the abdominal cavity (right lateral canal and pelvis) 4; LCE and drainage of the subhepatic space, EPST 3; – Microcholecystostomy and punch puncture 11; – CE from minilaparotomy access and choledocholithotomy, drainage of the common bile duct and subhepatic space 6; – Cholecystectomy and drainage of the abdominal cavity from an open laparotomy approach in 16 patients (Table 1).

In 11 patients of the main study group with acute destructive cholecystitis and limited accumulation of bile, decompression of the gallbladder was performed using percutaneous transhepatic microcholecystostomy (PTMC) and puncture of the biloma under ultrasound control. Drainage of the gallbladder was carried out through a section of the liver parenchyma in order to seal the channel and prevent bile leakage. Drainage in all cases was carried out with an “umbrella” stylet - a catheter with a “basket” at the end, catheter diameter 4F and 9F. After performing microcholecystostomy, these patients required puncture with a beacon under ultrasound guidance in order to evacuate a limited accumulation of fluid in the abdominal cavity. The contents of the gallbladder and the biloma were completely evacuated, the cavity was washed with saline until the discharge was clear, and the drainage was extended. The drainage discharge was assessed visually and sent for bacteriological examination. The completeness of emptying of the gallbladder cavity was monitored by echography.

Table 1
The volume and nature of surgical interventions in patients with bile peritonitis

Объем операции	Всего больных		Гр. сравнения		Основная гр.	
	кол-во	%	кол-во	%	кол-во	%
Лапаротомия, ХЭ и дренирование подпеченочного пространства	19	23,2	19	57,6		
Лапаротомия , ХЭ и дренирование брюшной полости (правый боковой канал и малый таз).	25	30,5	9	27,3	16	32,6
Лапаротомия , ХЭ, холедохолитотомия и дренирование подпеченочного пространства	5	6,1	5	15,2		
ЛХЭ и дренирование подпеченочного пространства	9	11			9	18,4
ЛХЭ и дренирование брюшной полости(правый боковой канал и малый таз)	4	4,9			4	8,1
ЛХЭ и дренирование подпеченочного пространства, ЭПСТ	3	3,7			3	6,1
Микрохолецистостомия и пункции билом	11	13,4			11	22,4
Минилапаротомия, ХЭ и холедохолитотомия, дренирование холедоха и подпеченочного пространства	6	7,3			6	12,2
Всего	82	100	33	100	49	100

Laparoscopic cholecystectomy was completed with sanitation and drainage of the subhepatic space in 9 patients with acute destructive cholecystitis and local peritonitis. In case of diffuse biliary peritonitis, LCE was supplemented with sanitation of the abdominal cavity with mandatory additional drainage of the right lateral canal and the pelvic cavity in 4 patients. In 3 patients, in combination with choledocholithiasis after LCE, EPST was performed; in 6 patients, CE and choledocholithotomy were performed from an open mini-access. At the same time, in 16 patients with diffuse bile-purulent peritonitis, cholecystectomy and sanitation of the abdominal cavity were performed through a wide laparotomy approach.

Thus, according to the principles of minimally invasive interventions, 33 patients (67.3%) with acute destructive cholecystitis complicated by various forms of biliary peritonitis were operated on in the main study group.

The most serious complication in the control study group of patients was abdominal sepsis, which was the cause of death in 2 patients; the mortality rate was 8.2%.

At the same time, in the main group, 2 of the 49 operated patients also died, the mortality rate was 2.1%. The cause of the unfavorable outcome was acute pancreatitis as a complication of transduodenal endoscopic intervention in 1 patient and ongoing peritonitis in 1 observation.

Various purulent-septic complications were observed in 11 patients in the comparison group, which amounted to 33.3%. At the same time, in 2 (6.1%) bilomas formed in the subhepatic area, which were drained by recanalization of contrapertures. In 2 (6.1%) patients, prolonged bile leakage from drainage tubes installed in the subhepatic space was observed, 4 (12.1%) patients underwent repeated operations for ongoing peritonitis, 1 – opening and drainage of subhepatic and subdiaphragmatic abscesses. Also, 1 patient was re-operated for cholemic intra-abdominal bleeding. In 9 (27.3%) patients, suppuration of the postoperative wound was observed.

In the main study group, postoperative complications developed in 8 patients, which amounted to 16.3%. At the same time, bilomas of the subhepatic region re-formed in 2 (4.1%) patients who were successfully sanitized by punctures under ultrasound control. One patient had cholemic bleeding from the liver from the area of transhepatic puncture of the gallbladder. External bile leakage was also observed in 1 patient - relaparoscopy revealed incompetence of the cystic duct stump, which was re-clipped. Duodenal bleeding was observed in 1 patient after EPST, the bleeding stopped. In 1 patient, a subdiaphragmatic abscess was formed, sanitized by repeated punctures under ultrasound guidance. With ongoing peritonitis, relaparotomy was performed in 1 patient, suppuration of the postoperative wound was performed in 5 patients.

Conclusions.

1. Biliary peritonitis, as a complication of acute destructive cholecystitis, accounted for 7.1% and most often (35.2%) developed in elderly patients. According to the mechanism of development, 67.1% observed profuse bile peritonitis with the absence of pathognomonic signs of a catastrophe in the abdominal cavity.

2. Optimization of the tactical and technical aspects of surgical treatment of patients with bile peritonitis using puncture diapeutic methods, laparoscopy and transduodenal endoscopic interventions made it possible to improve treatment results in the main study group, where complications in the immediate postoperative period amounted to 16.3%, mortality 4.1% (in the comparison group - 33.3% and 6.1%, respectively).

References

1. *Арзиев и. А. Совершенствование хирургической тактики в коррекции желчеистечений после холецистэктомии с использованием миниинвазивных технологий //international scientific review. – 2021. – №. Lxxviii. – с. 59-62.*
2. *Арзиев и. А. И др. Оптимизация хирургической тактики при ранних билиарных осложнениях после холецистэктомии //проблемы современной науки и образования. – 2022. – №. 2 (171). – с. 57-63.*
3. *Акимов в.п., баталов и.х., творогов д.а., зенкова а.в. послеоперационный желчный перитонит: профилактика и хирургическая тактика //перитонит от а до я (всероссийская школа). –2016.–с. 66-67.*
4. *Врабие е.е., ашевский в.в. лечение желчных перитонитов// бюллетень медицинских интернет-конференций. – общество с ограниченной ответственностью «наука и инновации», 2017. – т.7.– № 5.*

5. *Гумерова г.н., нуриева а.и., шайхутдинова а.м., стяжкина с.н. билиарный перитонит – как осложнение хронического калькулезного холецистита // столица науки.–2020.–№ 5.–с. 25-31.*
6. *Зубрицкий в.ф., гардашов н.т., голубев и.в., масленников д.г., михопулос т.а., осипов и.с. послеоперационный желчный перитонит: диагностика и хирургическое лечение // медицинский вестник мвд–2017.–№ 3.–с. 4-11.*
7. *Назыров ф.н., девятов а.в., бабаджанов а.х., байбеков р.р. повреждения абберантных желчных протоков при лапароскопической холецистэктомии // вестник экстренной медицины. –2019.–т.12.–№ 5.*
8. *Стяжкина с.н., сайфуллина а.р., загидулина с.и. осложнения холецистита //синергия наук. –2017.–№ 10. – с. 818-822.*
9. *Чернокозинкая с.в., буланова н.м. ятрогенные повреждения желчных протоков: диагностика тактика, лечение // трудный пациент. –2021. –т.19. – № 3. – с. 52-55.*
10. *Budipranama v.s., meilita m. Obstructive-type jaundice without bile duct dilttion in generized peritonitis is a specific sign of spontaneous gall bladder perforation// case reports in medicine. – 2020. –t. 2020.*
11. *Hamura r., haruki k., tsutsumi j., takayama s., shiba h., yanaga k. Spontaneous biliary peritonitis with common bile duct stones: report of a case //surgical case reports. – 2016. – t.2. – № 1. – c. 1-4.*
12. *Lock. J.f., eckmann c., germer c.t. characteristics of postoperative peritonitis // der chirurg; zeitschrift fur alle gebiete der operativen medizen.– 2016. – t.87. – № 3. – c. 52-55.*
13. *Staatz a.j. peritonitis // the icu book. – crc press, 2020. – c. 724-730.*