

## **SURGICAL TACTICS FOR COMPLICATED FORMS OF CHOLELITHIASIS IN ELDERLY AND SENILE PATIENTS**

**(literature review)**

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**Abstract:** According to researchers, more than half (55-63.8%) of hospitalized patients diagnosed with cholelithiasis have complicated forms of this pathology of varying severity..

**Key words:** According to researchers, Conservative expectant tactics, For choledocholithiasis after EPST.

All over the world, the frequency of detection of cholelithiasis (GSD) shows high values, so in the group of patients 65-70 years old, more than 15% of males and 25% of female patients have stones in the gall bladder cavity. In the group of elderly patients, rates of cholelithiasis increase, reaching values of 23.8-24.5% in men and more than 40% in women [1, 5, 10, 14, 18, 24, 31, 36]. At the same time, in 5% of the total number of patients with cholelithiasis, the annual increase in the development of various forms of complications is canceled; choledocholithiasis, gallstone pancreatitis, cholangitis and acute cholecystitis. According to researchers, more than half (55-63.8%) of hospitalized patients diagnosed with cholelithiasis have complicated forms of this pathology of varying severity. Among the general contingent who received surgical treatment, about 30% is a group of elderly and senile patients [3, 6, 11, 23, 37, 39,].

VC. Gostishchev (2011), Sh.I. Karimov et al. (2018), V.S. Budipranama et al. (2020) note that the clinical picture of acute cholecystitis in older patients has its own characteristics. Firstly, it is a rapid, progressive course from the onset of the disease; secondly, these are developing complications, more than every third patient. The frequency of complications in elderly and senile patients is as follows: destructive-atrophic changes in the wall of the gallbladder in more than 90% of the entire contingent; bile peritonitis in 10-14.7%, acute pancreatitis in 38-50%, peri-vesical abscesses in 10-12%, peri-vesical infiltrates in 25-30% of patients in this age group [5, 10, 12, 18, 25]. In addition to the development of acute cholecystitis, pathology of the bile ducts is also observed in patients of the older age group, often in 45-62% of cases, of which the main share falls on choledocholithiasis, accounting for 50-78% of all types of pathology [6, 27,30,33, 40].

In patients of this age group, against the background of developing involutive changes, detection of cholecystitis, choledocholithiasis, stenosis of the major duodenal nipple (MDS) develops; the incidence of this complication is detected in 8-58% of cases [17, 23, 37, 39,41].

In his many years of research, F.G. Nazirov et al. (2019) claim that due to the anatomical and topographical relationship of the two systems: biliary and pancreatic, along with pathological processes in the biliary tract, more than half (60-70%) of patients experience simultaneous damage to the pancreas. And also, with the development of the inflammatory process in the area of the head

of the pancreas, the terminal section of the bile duct is also involved in the process, all this further leads to a narrowing of the ampulla due to a scarred wall [10, 16,22,28,39].

As a rule, obstructive jaundice often develops in patients with acute cholecystitis, and the older the age, the more often this complication occurs, and according to the literature, on average it is 28-35%. And it is the development of biliary hypertension, due to mechanical disturbances in the outflow of bile, that explains the formation of cholangitis [4, 5, 11, 14, 17, 26].

In accordance with the data of P.S. Vetscheva et al. (2014) the main causes of the development of obstructive jaundice are the following processes: in almost 14% it is stenosis of the obstructive jaundice without choledocholithiasis; in 20.0% the development of indurative pancreatitis; 1.5% of cases: peri-vesical infiltrate with compression of the common bile duct; 2.5% of cases are the development of primary sclerosing cholangitis and the bulk - 62.5% of cases - are choledocholithiasis.

The main problem in older age groups is the presence of concomitant somatic pathology, which very often aggravates the course of cholelithiasis. It is necessary to take into account the fact that in the acute period of the disease, the comorbidity of the pathology is further aggravated, acquiring a new character of clinical manifestations. According to the latest data, in the group of patients 75 years of age and above, 100% of patients with cholelithiasis have one or another concomitant pathology that is systemic in nature. Of course, first of all, this is the pathology of the cardiovascular system (80-100%), then the pathology of the respiratory system; Diabetes mellitus occurs in every 3 patients and another modern scourge of civilization is obesity, of 3-4 degrees [1,3,8,10, 17, 32, 41].

Due to the development of natural involutive processes in elderly and senile patients, the adaptive capabilities of the body itself also change, against the background of which the clinical manifestations of the disease take on new forms, asymptomatic or erased clinical manifestations. The characteristic polymorbidity of diseases in older people forces doctors to consider the presence of a whole “bouquet” of concomitant pathologies as contraindications to performing certain surgical interventions. And, consequently, overestimation or underestimation of concomitant somatic pathology, the lack of targeted prevention of their complications leads to an increase in the number of complications and, unfortunately, mortality rates.

As mentioned above, the clinical picture of acute cholecystitis in patients of older age groups is atypical, without clear clinical manifestations. All this together leads to various kinds of diagnostic and treatment errors; according to the authors, this is detected in 18-20% of cases. The pathology of the bile ducts in patients with acute cholecystitis with preserved patency for bile flow is complex, since it is dominated by symptoms of gallbladder damage. More than half of the patients are diagnosed with so-called “silent” stones in the bile ducts, which have absolutely no clinical symptoms [2, 12, 17, 18,24,28,32,37].

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 [1,3, 6, 11,14,18,26, 32].

Traditional diagnosis of acute cholecystitis in this population group does not bring clear results; therefore, fundamental changes have occurred in solving these problems through the introduction of new technical diagnostic tools. This is primarily ultrasound examination, endoscopic methods such as laparoscopy, duodeno- and choledochoscopy, computed tomography and direct radiopaque studies of the bile ducts. New hardware and instrumental studies make it possible to determine the presence of erased forms of gallbladder pathology, the degree of

development of the pathological process, and identify the prevalence of complications primarily in the abdominal cavity [2,4,5,8,10, 17, 22].

**Results and its discussion.** The most important aspect of the treatment of acute cholecystitis in patients over 70 years of age is surgical tactics. For decades, two opposing surgical tactics have been used:

1. Conservative expectant tactics – carrying out complex drug therapy in the acute period of cholecystitis, followed by surgical intervention after the acute phase of inflammation subsides, through a thorough examination and preparation [14, 18,23,35]. This tactic has its advantages; various studies have been devoted to this. In particular, Ya.M. Vakhrushchev et al. (2016) observed 969 patients with acute cholecystitis. Of these, only 8 patients were operated on for emergency reasons, the rest received conservative treatment and were operated on as planned after the acute phenomena subsided [10].

2. Active surgical tactics for acute cholecystitis involve performing surgical intervention in the early stages (up to 72 hours) after hospitalization of the patient at the time of the attack. And as an analysis of modern scientific periodicals has shown, many surgeons are in favor of revising contraindications for elderly and senile people, justifying the presence of a significantly low degree of risk when performing cholecystectomy in the early stages of the disease, as well as low rates of surgical and anesthetic mortality, on average about 1% . Although in patients of these age groups there remains a high percentage of postoperative mortality (up to 12%) [3, 8, 11, 14, 17, 22, 31].

Somewhat contradictory data are provided by V.K. Gostishev et al. (2011). Thus, in seriously ill patients of older age groups, the mortality rate from cholecystectomies reaches up to 35-40%.

The research of Yu.S. turned out to be very interesting. Weiner et al. (2017), who conducted a retrospective analysis of the results of surgical treatment of acute cholecystitis, carried out according to active treatment tactics. The study found that the mortality rate of operated patients has not changed over the past 10 years and is 0.014 per thousand population. And as the author points out, the results of surgical treatment using conservative-wait-and-see or active tactics practically do not differ from each other [9].

The focus of surgeons' attention remains on the question of how much "volume" of surgical intervention should be, both in the acute period of the disease and at the peak of the severity of jaundice in patients. We must not lose sight of the age-related characteristics of this group of patients, and it would seem that with a technically correctly constructed operation, age-related and polycomorbid problems prevail, leading to high mortality rates.

Considering the high percentage of postoperative risks instead of cholecystectomy, surgeons often resort to cholecystostomy (25-36% of the total number of operations for acute cholecystitis). However, when performing open cholecystostomy under local anesthesia in the operating room, the main disadvantages are laparotomy and heavy sedation of the patient. At the same time, mortality rates ranged from 11.0% to 25%, due to complications of concomitant somatic diseases [10, 17, 31,35,41].

In recent years, open cholecystostomy has been replaced by percutaneous cholecystostomy, performed using ultrasound or computed tomography [8, 12, 17, 23,27,33].

The active introduction into surgical practice of new technologies aimed at creating organ-sparing methods of surgical intervention on the gallbladder under the control of a laparoscope and ultrasound has made it possible not to perform operations at the peak of an attack of acute cholecystitis. As a result, it became possible to delay surgery and carry out the necessary conservative treatment more thoroughly, which led to a reduction in mortality to 5-7%. And today,

it is percutaneous cholecystostomy that has shown itself to be the most effective method of surgical treatment of acute cholecystitis [12,15,19,23,29].

According to A.M. Shulutko (2013), S.A. Bystrov et al. (2019) percutaneous cholecystostomy is a complete alternative to the generally accepted open cholecystostomy, since the procedure itself is safe, relatively easy to perform, and can be performed even in bed under general anesthesia; all this was the reason for the reduction in mortality and the development of postoperative complications. There are 2 surgical approaches for cholecystectomy: transperitoneal and transhepatic. The choice of approach is up to the surgeon. The choice of transperitoneal access is due to the significantly low risk of bleeding, contamination with infected bile, but despite this, the risk of colon perforation, disturbances in the portal system due to vascular injuries, catheter displacement after decompression of the gallbladder, and the development of biliary peritonitis is significantly increased. Transhepatic access to the gallbladder reduces the risk of developing these complications, however, with this access, hepatic bleeding and often pneumothorax are possible. Analysis of the results of laparoscopic and ultrasound cholecystostomy showed that these methods are quite comparable with each other according to various criteria - the number of complications, the effectiveness of gallbladder decompression, as well as the results of the treatment performed in the early stages.

Due to the rapid decrease in pressure inside the bile ducts, the reduction in the degree of tension of the walls of the ducts and the cavity of the gallbladder, the possibility of complete sanitation of the cavity, it is possible to completely stop the acute phase of calculous cholecystitis. After the elimination of the acute phase against the background of corrective treatment of multimorbid pathology, in almost 75-80% of patients, complete drainage of the gallbladder is achieved, which provides grounds for further complete surgical treatment, thereby significantly reducing the risk of postoperative complications [10, 12, 17, 33,].

However, there is another group of patients in this age group who, due to the presence of concomitant severe somatic diseases, are unable to perform decompressive cholecystostomy or radical surgery after it. According to the literature, this group of patients makes up about 3-5% of the total number of patients with acute cholecystitis [23, 24,29,33].

Despite a number of advantages of decompression surgery, 25-80% of patients develop relapses of the underlying disease within 6-15 months. According to E.I. Galperin et al. (2019) in 40% of cases, the picture of an acute inflammatory process due to the persistence of cholecholithiasis remains in the wall of the bile ducts.

Research by E.S. Burnevich et al. (2019) subjected 518 biopsies of removed gallbladders during the “cold” period of the disease. The results obtained showed that despite competently performed decompression of the gallbladder, antibiotic therapy against the background of a “calm” clinical picture, in 32.5% of cases (169 patients), phlegmonous and even focal gangrenous changes in the tissue structures in the wall of the gallbladders were preserved on histological preparations. However, despite this, the patients were transferred to outpatient treatment.

As can be seen from the above, laparoscopic and ultrasound cholecystostomy should not be considered as the only, without alternative, method of treating acute cholecystitis.

G. Donatelli et al. (2014) performed cholecystostomy with careful sanitation of the gallbladder, lithoextraction and electrohydraulic lithotripsy in patients with 4 - 5 risk categories of surgery due to the severity of the general condition in order to prevent relapse of acute cholecystitis. However, even after sanitization of the gallbladder, removal of stones from its cavity, and relief of acute inflammation, the likelihood of relapse of the disease remains very high. This is due to pronounced sclerotic and atrophic changes in the wall of the gallbladder.

As is known, developing involutive processes in people of both sexes over 60 years of age affect all organs and systems, in particular, in the wall of the gallbladder the muscular layer becomes significantly thinner, reaching values of 170-180 microns, sclerotic changes in the blood vessels are also observed, leading to the development of vasculitis and thrombosis. Consequently, sclerotic and atrophic changes in the wall of the gallbladder are caused primarily not by pathological transformations in cholelithiasis, but by developing aging processes, leading to a decrease in the functional activity of the organ [10, 14, 22,27,34,40].

Consequently, the introduction of laparoscopic cholecystectomy into surgical practice does not change the overall picture. Laparoscopic cholecystectomy for acute complicated cholecystitis is performed predominantly (56 - 80%) after preventive percutaneous cholecystostomy or endoscopic papillotomy [14, 16,19,27,35].

Thus, based on the large number of patients over 70-75 years of age and above, as well as the presence of a history of concomitant somatic pathology, the treatment of acute cholecystitis complicated by obstruction of the bile ducts due to choledocholithiasis and papillostenosis becomes even more relevant [1,3,5,10, 14, 22,27,34,40].

It should also be taken into account that the introduction of endoscopic technology into practice reduces morbidity rates, improves the clinical effectiveness of this treatment, and performs laparoscopic cholecystectomy along with endoscopic papillotomy [2,6,8,11,19, 29, 30, 33].

For EPST, stenosis of the terminal part of the common bile duct, the canal of the major duodenal papilla, isolated or combined with choledocholithiasis is an absolute indication for it. The presence of acute biliary pancreatitis, chronic recurrent pancreatitis, persistent spasm of the sphincter of Oddi, detection of multiple small stones in the hepaticocholedochus may be relative indications for EPT. It is necessary to keep in mind that the existing anatomical features of the obstructive joint, the presence of a diverticulum, adenoma and papillitis, deformations of the edematous duodenum can lead to difficulties in performing EPT [3,6, 17, 22, 31, 38]. In this regard, there is a need for open cholecystectomy, with further transduodenal papillotomy and choledochoduodenoanastomosis [3,6,15,18,29,38]. Many surgeons are attracted to the EPT technique due to its accessibility and good clinical effectiveness, because EPT is low-traumatic and is a complete alternative to transduodenal surgical operations on the abdominal joint.

EPST can be an independent operation or precede other transpapillary operations (lithotripsy, lithoextraction), creating conditions for their implementation. Contraindications to EPST are extensive stenosis of the terminal part of the common bile duct, location of the BDS in the diverticulum, pancreatitis of non-biliary etiology, duodenostasis, bleeding disorders, severe condition of patients, limiting the duration and timing of the operation [2,4,6,9, 11, 15, 36].

For choledocholithiasis after EPST, two options for surgical tactics are possible:

1. Active tactics - destruction or extraction of stones is carried out;
2. Passive tactics - waiting for the spontaneous passage of stones; here the ratio of the diameter of the stone and the terminal section of the common bile duct will play an important role. Stones with a diameter of up to 10 mm, as a rule, pass spontaneously. In patients with a complicated medical history, if there is a risk of stone impaction in the terminal part of the common bile duct, as well as with a combination of choledocholithiasis and cholangitis, or multiple small stones, it is advisable to perform lithoextraction.

Lithoextraction is contraindicated for stones whose diameter exceeds the size of the terminal portion of the common bile duct, therefore ultrasonic monitoring is very important. To increase clinical effectiveness, it is recommended to use mechanical, electrohydraulic, laser contact biliary lithotripsy [3,6,8,11,13,18]. Despite the great advantages of endoscopic operations, such technologies have limits to their use. Many doctors exaggerate technical capabilities, unreasonably

increasing indications, etc., which led to a large number of various types of complications, chronicity of the process, worsening the patient's condition. The main reason for the development of complications with lithiasis of the common and bile ducts is the inability to independently enter the duodenum or exit from the outside. According to many studies, the effectiveness of endoscopic papillosphincterotomy is on average 85 to 97%, the development of various types of complications is 7 to 12%, the mortality rate of endoscopic interventions is about 1.5% [10, 15,19,23,25,30 ].

According to E.I. Galperin (2012) has a twofold attitude towards surgical intervention of EPST; it is a radical operation with a high degree of clinical effectiveness (on average 76-85%). On the other hand, EPST can be used as a stage of preoperative decompression of the bile ducts, but immediately after EPST further stages of surgical treatment must be carried out immediately.

According to many experts, the main reason for the low clinical effectiveness of endoscopic treatment is the impossibility of its use in two-stage surgical treatment of the disease. Many years of clinical experience show that, in fact, both endoscopic and open papillosphincterotomy do not differ from each other. Duodenoscopic papillosphincterotomy can be performed in two different ways, through the introduction of a pillotome into biliary fistulas or into special external drainages of the bile ducts [9, 41]. When performing EPST in the surgical treatment of papillostenosis and choledocholithiasis, the main complications are bleeding, acute cholangitis, retroduodenal perforation and acute pancreatitis, the frequency of which reaches 15-17% [15, 17, 19,24].

If acute cholecystitis is detected in an elderly and senile patient, the use of active surgical tactics is justified, since emergency surgery involves patients with gallbladder perforation and the development of peritonitis (on average, about 10% of patients). At the same time, in such patients it is necessary to perform operations on the extrahepatic bile ducts. In destructive forms of acute cholecystitis, urgent surgical interventions are performed in 58-75% of patients in the first 3 days (on average, the interval is 48-72 hours) [6,9,11, 16, 17].

As an analysis of scientific periodicals has shown, despite a number of interesting data, in the clinical protocols for the surgical treatment of complicated forms of cholelithiasis in older and elderly patients there are no clear recommendations for restoring the paths of bile outflow into the duodenum. From this perspective, the question remains open and requires further scientific and experimental research.

Thus, the interpretation of the results of numerous studies has shown that the incidence rate of complicated forms of cholelithiasis is continuously growing, and many aspects of the problem of treating such pathology remain open. Also in the spotlight are the development of targeted treatment for complicated forms of cholelithiasis in elderly and senile people. Based on the low clinical effectiveness, a large number of complications and a high mortality rate, the current results of generally accepted treatment methods cannot be considered satisfactory. Consequently, all of the above determined the relevance of research in this direction.

## REFERENCES

1. Антонюк О.С., Шаповалов И.Н., Хацко В.В., Мамисашвили З.С., Коссе Д.М. Клинические проявления холедохолитиаза //Вестник гигиены и эпидемиологии№ 2 2018. – 2021. – Т. 25. – №. 1. – С. 62-65.
2. Алмазов А. А. и др. Современные методы лечения желчекаменной болезни у пациентов пожилого и преклонного возраста //Вестник Кыргызско-Российского славянского университета. – 2019. – Т. 19. – №. 9. – С. 3-7.
3. Бойко В.В. и др. Изменение физико-химических свойств желчи в процессе возникновения и манифестации холангита. Острый холангит: возможные механизмы запуска //Новости хирургии. – 2021. – Т. 29. – №. 1.

4. Бурневич Э. З. и др. Вариантная форма аутоиммунного поражения печени (первичный билиарный холангит/аутоиммунный гепатит-перекрест), ассоциированная с генерализованным саркоидозом (клинические наблюдения и обзор литературы) //Терапевтический архив. – 2019. – Т. 91. – №. 1.
5. Вайнер, Ю.С. Антеградные эндобилиарные операции в лечении больных механической желтухой / Вайнер Ю.С., Атаманов Г.В., Верятин Л.С., Шидловская Е.В. //Альманах Инс-та хирургии им. А.В.Вишневого. - 2017.- № 1.- С. 664.
6. Вахрушев Я.М. Желчнокаменная болезнь: эпидемиология, факторы риска, особенности клинического течения, профилактика / Я.М. Вахрушев, М.А. Хохлачева // Архивъ внутренней медицины. – 2016. – N 3(29). – С. 30-35.
7. Врабие Е. Е., Ашевский В. В. Лечение желчных перитонитов //Бюллетень медицинских интернет-конференций. – Общество с ограниченной ответственностью «Наука и инновации», 2017. – Т. 7. – №. 5. – С. 767-767.
8. Гальперин Э.И., Ахаладзе Г.Г., Ветшев П.С., Дюжева Т.Г. Дифференцированный подход к применению минимально инвазивных методов лечения опухолевой механической желтухи //Анналы хирургической гепатологии. – 2019. – Т. 24. – №. 2. – С. 10-24.
9. Гостищев В. К. Особенности хирургической тактики при остром холецистите у больных старческого возраста// Хирургия. -2001. — № 9. — С. 30-31.
10. Гумерова Г. Н. и др. Билиарный перитонит-как осложнение хронического калькулезного холецистита //Столица Науки. – 2020. – №. 5. – С. 25-31.
11. Дибиров М. Д. и др. Алгоритм диагностики и лечения больных пожилого и старческого возраста с острым холециститом, холедохолитиазом и механической желтухой //Журнал им. НВ Склифосовского Неотложная медицинская помощь. – 2017. – Т. 6. – №. 2. – С. 145-148.
12. Дундаров З. А. и др. Холангиогенная инфекция у пациентов с рубцовыми стриктурами желчных протоков //Хирургия Беларуси на современном этапе. – 2018. – С. 55-57.
13. Дурлештер, В.М. Комплексное применение эндоскопических вмешательств при механической желтухе / Дурлештер В.М., Габриель С.А., Гучетль А.Я. и др. //Альманах Инс-та хирургии им. А.В.Вишневого. - 2017.- № 1.- С. 101-102.
14. Зубрицкий В. Ф. и др. Послеоперационный желчный перитонит: диагностика и хирургическое лечение //Медицинский вестник МВД. – 2017. – №. 3. – С. 4-11.
15. Ильинский И. М., Цирульникова О. М. Первичный билиарный холангит //Вестник трансплантологии и искусственных органов. – 2021. – Т. 23. – №. 1. – С. 162-170.
16. Каримов, Ш.И., Хакимов, М.Ш., Адылходжаев, А.А., Рахманов, С.У., Хасанов, В.Р. Лечение осложнений чреспеченочных эндобилиарных вмешательств при механической желтухе, обусловленной периампулярными опухолями //Анналы хирургической гепатологии. – 2018. – Т. 20. – №. 3. – С. 68-74.
17. 110. Кабанов М. Ю. и др. Подходы к диагностике и лечению холедохолитиаза у пациентов пожилого и старческого возраста //Вестник Национального медико-хирургического Центра им. НИ Пирогова. – 2022. – Т. 17. – №. 1. – С. 107-115.
18. Корольков А.Ю., Попов Д.Н., Китаева М.А., Танцев А.О., Теплов В.М., Багненко С.Ф. Холангит и билиарный сепсис на фоне холецистохоледохолитиаза. Критерии диагностики, лечебная тактика в стационарном отделении скорой медицинской помощи //Скорая медицинская помощь. – 2018. – Т. 19. – №. 1. – С. 31-35.
19. Косаева С.Б. Современный взгляд на диагностику и лечение острого холецистита у лиц старше 60 лет. Обзор литературы / С.Б. Косаева, М.Ж. Аймагамбетов // Наука и

- Здравоохранение. – 2018. – N 2(20). – С. 148- 167.
20. Кравец, К. В., Бородаев, И. Е., Муравьев, П. Т., & Запорожченко, Б. С. (2020). Современное лечение пациентов с перфорацией стенки желчного пузыря и перитонита.
  21. Капралов С. В., Копылов В. В., Масляков В. В. Результаты лечения острого холецистита с использованием малоинвазивного декомпрессионного эхоконтролируемого вмешательства у больных в пожилом и старческом возрасте //Вестник Чеченского государственного университета. – 2017. – №. 1. – С. 93-101.
  22. Корольков А.Ю., Попов Д.Н., Китаева М.А., Танцев А.О., Теплов В.М., Багненко С.Ф. Холангит и билиарный сепсис на фоне холецистохоледохолитиаза. Критерии диагностики, лечебная тактика в стационарном отделении скорой медицинской помощи //Скорая медицинская помощь. - 2018. - Т. 19. - №. 1. - С. 31-35.
  23. Косаева С.Б. Современный взгляд на диагностику и лечение острого холецистита у лиц старше 60 лет. Обзор литературы / С.Б. Косаева, М.Ж. Аймагамбетов // Наука и Здравоохранение. - 2018. - N 2(20). - С. 148- 167.
  24. Кульчиев А. А. и др. Лечение малоинвазивными методами осложнённых форм желчекаменной болезни у лиц пожилого и старческого возраста //Альманах мировой науки. – 2016. – №. 1-1. – С. 47-51.
  25. Майстренко Н.А., Ромащенко П.Н., Прядко А.С. и др. Обоснование хирургической тактики при ятрогенных повреждениях желчевыводящих протоков. Вестн. хирургии им. И.И. Грекова. 2015; 174(5): 22-31.
  26. Михин А.И., Орлов С.Ю., Василенко К.В., Сажин А.В. Эндоскопическое лечение пациентов старческого возраста со сложным холедохолитиазом //Эндоскопическая хирургия. – 2019. – Т. 25. – №. 1. – С. 53-60.
  27. Мизгирёв Д. В. и др. Инфицированность желчи и холангит при механической желтухе опухолевого генеза //Инфекции в хирургии. – 2018. – Т. 16. – №. 1-2. – С. 120-125.
  28. Михайлова Д.А., Нуштаева С.А., Стяжкина С.Н. Механическая (обтурационная) желтуха. Клинический случай //Modern Science. – 2020. – №. 3-1. – С. 299-301.
  29. Мумладзе Р. Б., Чеченин Г. М., Баринов С. С. Миниинвазивные технологии хирургического лечения острого холецистита и механической желтухи у больных пожилого и старческого возраста // Клиническая геронтология. — 2008. — № 4. — С. 11-18.
  30. Назиров Ф.Г., Бабаджанов А.Х., Абдуллажанов Б.Р., Байбеков Р.Р. [Особенности течения острого билиарного панкреатита](#) // Хирургия Узбекистана 2019. №1. Стр. 326.
  31. Назиров Ф.Г., Девятков А.В., Бабаджанов А.Х., Байбеков Р.Р. Повреждение aberrantных желчных протоков при лапароскопической холецистэктомии. // Вестник экстренной медицины. 2019, № XII(5). Стр.11-15.
  32. Назиров, Ф.Г., Туракулов, У.Н., Акбаров, М. М., Саатов, Р.Р. Использование малоинвазивных методов коррекции ятрогенных повреждений внепеченочных желчных протоков и наружных желчных свищей //Эндоскопическая хирургия. – 2018. – Т. 24. – №. 5. – С. 7-9.
  33. Нестеренко Ю. А., Михайлузов С. В. Острый холецистит у пожилых и стариков // Клиническая геронтология. — 2006. -№ 6. — С. 34-39.
  34. Оморов Р. А. и др. Миниинвазивные методы в лечении желчнокаменной болезни у больных старшего возраста //Вестник Смоленской государственной медицинской академии. – 2019. – Т. 18. – №. 4. – С. 147-150.



35. Павлей Д. С. Интервенционная ЭРХПГ при конкрементах желчных протоков //Бюллетень медицинских интернет-конференций. – Общество с ограниченной ответственностью «Наука и инновации», 2020. – Т. 10. – №. 11. – С. 288-298.
36. Alves K. Frequency of cholecystectomy and associated sociodemographic and clinical risk factors in the ELSA-Brasil study / K. Alves, A. Goulart, R. Ladeira, I. de Oliveira, I. Bensenno // Sao Paulo Med J. – 2016. – N 134(3). – P. 240-250.
37. Anand G. Factors and Outcomes Associated with MRCP Use prior to ERCP in Patients at High Risk for Choledocholithiasis / G. Anand [et al.] // Canadian journal of gastroenterology & hepatology. – 2016. – doi:10.1155/2016/5132052
38. Ansaloni L. 2016 WSES guidelines on acute calculous cholecystitis / L. Ansaloni, M. Pisano, F. Coccolini, [et al.] // World J Emerg Surg. – 2016. – N 11(25). – P. 2-23.
39. Barrett M, Asbun HJ, Chien HL, Brunt LM, Telem DA. [Bile duct injury and morbidity following cholecystectomy: a need for improvement.](#) Surg Endosc. 2018; 32(4):1683-88.
40. Budipramana V. S., Meilita M. Obstructive-type jaundice without bile duct dilatation in generalized peritonitis is a specific sign of spontaneous gall bladder perforation //Case Reports in Medicine. – 2020. – Т. 2020.
41. Dash B. R. et al. Diagnosis of Gall Bladder Mucocele, Calculi and Bile Peritonitis in a Dog //INTAS POLIVET. – 2020. – Т. 21. – №. 1. – С. 208-211.