Treatment of Benign Obturator Jaundice and Cholangitis in Elderly and Elderly Patients

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ABSTRACT

Non-tumour obturation jaundice and cholangitis are frequent complications of cholelithiasis and are especially severe in elderly and old patients. For the last decades, along with wide prevalence of cholelithiasis, increase of frequency of its complicated forms, including choledocholithiasis, is noted.

Keywords: Choledocholithiasis, obturation jaundice, pancreanecrosis.

Introduction. Choledocholithiasis is often accompanied by persistent obstruction of main bile ducts with subsequent development of mechanical jaundice, purulent cholangitis, acute pancreatitis. Mechanical jaundice and cholangitis in anamnesis or at admission as a manifestation of choledocholithiasis is determined in 80-85% of patients, and in 40% of patients it remains by the moment of operation. In 25% of patients acute pancreatitis, pancreanecrosis develops. Among sufferers of choledocholithiasis complicated by mechanical jaundice and cholangitis the main specific weight is elderly and old people, that is most often caused by long history of the disease. The distinctive feature of the course of mechanical jaundice and cholangitis on the basis of choledocholithiasis in patients of these age groups is that it is often combined with primary destructive forms of gallbladder inflammation.

Cholecystectomy in combination with intervention on extrahepatic bile ducts leads to negative results, because even opening of the lumen of hepaticocholedocholedochus in the elderly leads to 3-4 times higher mortality. The main factor causing high operative and anaesthesiological risk in elderly patients is the presence of severe concomitant pathology. In this connection postoperative lethality among elderly patients with acute calculous cholecystitis averages 4-6%, and in case of choledocholithiasis with a combination of mechanical jaundice and cholangitis it reaches up to 25-80%. The tendency to widespread growth of morbidity, unsatisfactory results of treatment cause special social significance and relevance of this problem especially in elderly and old patients.

Aim of the study: Improvement of diagnostic results and treatment of elderly and elderly patients suffering from cholelithiasis complicated by choledocholithiasis, mechanical jaundice and cholangitis through the use of rational methods of examination, modern methods of preoperative preparation and technique of surgical interventions.

Material and methods of research:During the period from 2018 - 2023 in the Andijan branch of the Republican Scientific Centre of Emergency Medical Care 1018 elderly and elderly patients were admitted to the hospital with suspected pathology of extrahepatic bile

ducts. All the patients on admission underwent clinical, biochemical blood and urine tests, coogulogram, electrocardiography, X-ray examination of lungs, ultrasound examination (USG), hepatopancreatobiliary zone, fibrogastroduodenoscopy (FGDS), endoscopic retrograde pancreatocholangiography (ERPCHG), endoscopic papillosphincterotomy (EPST)\, if necessary, intraoperative cholangiography, echocardiography (ECHG) and computed tomography (CT).

According to the data of biochemical investigation in 526 (51,6%) patients there was an increase of bilirubin figures in blood from 26,7 to 368,4 µmol/l, and on the average it was + 3,6 µmol/l. For diagnostics of pathology of extrahepatic bile ducts ultrasound of liver, gallbladder and bile ducts is of great importance. Stones of the common bile duct at ultrasonography were detected in 58% of patients, in 42% of patients the choledochus diameter increase up to 8 and more mm and other indirect signs of biliary tract obstruction thickening, unevenness of the choledochus wall contour, inhomogeneous hyperechogenic inclusions were found. Esophagogastroduodenoscopy gives an opportunity to revise the organs of the upper floor of the gastrointestinal tract and to evaluate the state of the large duodenal papilla (LDP).

At FGDS in 12(1,1%) patients gastric ulcer was found, in 21(2,0%) patients duodenal ulcer as a concomitant disease and in 109(10,9%) patients papillary diverticula were found. Significant progress in solving the problem of choledocholithiasis diagnostics is associated with the introduction of endoscopic retrograde pancreatocholangiography (ERCPG). Nowadays ERCG has entered the daily surgical practice and has become the leading method of choledocholithiasis diagnostics. The indication for ERCG was mechanical jaundice on admission or in anamnesis, dilation of common bile duct more than 8 mm in diameter according to ultrasound, clinic of acute biliary pancreatitis.

Endoscopic papillosphincterotomy (EPST) and concrement extraction are the operation of choice in patients of any age with choledocholithiasis. Often, being an effective method of preoperative preparation, this operation serves as an alternative to abdominopelvic surgery and provides an opportunity to obtain optimal results in patients of such a severe group as elderly patients.

Results and discussion: Out of 1018 elderly and old patients, 916 patients underwent endoscopic retrograde pancreatocholangiography (ERPCHG). In 102 (10,0%) patients ERCG failed due to impossibility of catheterisation of the large duodenal papilla, peripapillary diverticula, scar stenosis of the large duodenal papilla, allergy to X-ray contrast agents and inadequate behaviour.

At ERCG choledocholithiasis was detected in 776 (84,7%) patients, stenosis of the terminal choledochus in 41 (4,5%), combination of choledocholithiasis with stenosis of the terminal choledochus in 97 (10,7%) patients. In 76,9 % of patients ERCP was performed once, in 20,1 % of patients twice. As a result of examination of these patients, including in the process of surgical interventions, it was found that out of 916 patients with choledocholithiasis in 738 (80,6%) of them was complicated by jaundice and cholangitis. At the age from 60 to 69 years there were 382 patients, from 70 to 79 years - 286, from 80 and older years - 70 patients. The mentioned complications were manifested by combination of jaundice and cholangitis in 386 patients (35,3%), only jaundice in 206 (18,8%) patients and only cholangitis in 146 patients (13,3%). In all patients of this group treatment was started with conservative measures including paranephral novocaine blockade or blockade of round ligament of the liver, detoxification, antispasmodic and antibacterial therapy as well as application of means aimed at correction of various metabolic disorders. As the analysis shows, conservative therapy was relatively effective in treatment of obturation jaundice and contributed to elimination of this complication in 143 (24%) of 592 patients. At the same time it was not possible to estimate the effectiveness of medical treatment of cholangitis due to absence of objective data on its frequency at the moment of hospitalisation in many patients. We can only confidently assert that

disappearance of jaundice did not mean elimination of cholangitis even in complete absence of clinical manifestations of this complication. Comparative analysis of the effectiveness of conservative treatment in different age groups in case of jaundice and cholangitis showed that it was higher in young and middle-aged patients and noticeably decreased with increasing life expectancy. Before introduction in practice of endoscopic operations on the large duodenal papilla we considered it possible to carry out intensive therapy in patients of the older age group during 5-7 days. After this period if there was no effect from the conducted treatment patients with jaundice were operated. During this period the only indication for emergency operation was cholangitis. This diagnosis in 69 patients was established on the basis of hectic temperature, chills, pronounced leucocytic reaction, which persisted against the background of jaundice for 2-3 days despite the treatment. In 31 more patients the diagnosis of cholangitis was confirmed as a result of retrograde pancreatocholangiography and endoscopic papillosphincterotomy (EPST), which promoted decompression of bile ducts, but did not provide liquidation of choledocholithiasis and cholangitis. Besides, in 84 patients (14,3%) by the moment of operation cholangitis was not accompanied by jaundice (including 1 patient after EPST) and had no other clinical manifestations, and its presence was found out only at cholangioscopy performed during the surgical intervention. The data presented above convincingly demonstrate that the clinical picture and dynamics of cholangitis under the influence of conservative treatment cannot be the main and even more the only criterion in choosing the duration of conservative treatment, as well as in determining the indications and the time of surgical intervention. Objective confirmation of the diagnosis of cholangitis before surgery in the absence of symptoms of this complication is possible only on the basis of indirect signs detected by retrograde pancreatocholangiography (inflammatory changes in the area of the large duodenal papilla, blurred contours of the choledochus and concretions on cholangiogram), and more rare - direct (inflow of purulent bile from the large duodenal papilla or from the choledochus after EPST). The basis of preoperative diagnostics of cholangitis in elderly and old patients should be the presence of choledocholithiasis and obturation, even quickly resolved jaundice. According to our data, the probability of cholangitis development in such patients is 72,4%, and in case of combination of obturation jaundice and subfebrile temperature it reaches 100%. However, only in a part of elderly patients the clinical picture of cholangitis corresponds to the classical symptomatology of this complication and can be the basis of diagnosis. At occurrence of jaundice and cholangitis the condition of elderly and senile patients was always severe, which was largely explained by the constant development of respiratory failure syndrome (RDS), which consisted of disorders in the system of external respiration, systemic oxygen transport and its utilisation in tissues The degree of hypoxia increased with increasing age of patients, severity of pathological process and intoxication. Compensatory reactions in respiratory failure syndrome took place with stimulation of metabolism in erythrocytes, but the reaction to hypoxia, as a rule, was inadequate and characterised by additional energy expenditure and depletion of energy reserves of elderly and elderly patients.

One of the forms of acidosis compensation in respiratory failure syndrome was the renal mechanism, which provided a steady state of active blood reaction in case of massive invasion therapy. At the same time its role was noticeably, and in some patients sharply reduced in hepatic and renal failure, which was present in 72 patients (16.2%). Progressive jaundice, intoxication, lethargy, adynamia and oliguria were the main clinical symptoms of hepatic and renal failure in these patients. The diagnosis of hepatic and renal failure was also undisputed when blood urea and creatinine were elevated. It should be especially noted that respiratory and hepatic-renal failure syndrome developed in patients suffering from severe concomitant diseases of various organs and systems. Therefore, the

condition of elderly patients with jaundice and cholangitis was essentially critical, and the necessity of surgical intervention sharply aggravated the situation. Hollow surgical operations in the presence of obturator jaundice and cholangitis always turned out to be significant in volume and were severely tolerated by patients due to expressed disturbances of homeostasis system caused by metabolic shifts and endogenous intoxication. Depending on the character of the revealed changes the operative interventions after cholecystectomy, choledochotomy and bile ducts sanation were completed in 73 patients by choledochoduodenostomy, in 41 patients by suturing of the choledochal wound and its drainage through the stump of the bladder duct, in 32 patients by external drainage of the choledochus and in 9 patients by transduodenal papillosphincterotomy used according to the generally accepted indications. The postoperative course in all these patients was severe. Intensive detoxification of the organism, measures aimed at restoring liver function, combating respiratory failure syndrome and correction of metabolic disorders, antibacterial therapy were effective and contributed to recovery of 121 (76.9%) out of 183 patients with jaundice and cholangitis. After operations 38 patients(23,1%) died. The obtained results are a reflection of the severity of the course of the disease, but cannot be recognised as satisfactory. Therefore after introduction in practice of endoscopic operations on the large duodenal papilla our tactics at these complications of cholelithiasis was radically revised.

In 108 elderly and elderly patients with unresolved jaundice we used EPST. In obstructive jaundice, when bilirubin content in blood reached 100 μmol/l and more, we strived to perform EPST on the 1st day of hospital stay. Such tactics was used in 188 patients (59,6%). Besides jaundice, 122 of them had cholangitis with manifestations of hepatic insufficiency in 69 patients. For this reason EPST was performed in 69 patients in the first 12-14 h after hospitalisation.

In case of moderate jaundice (up to 100 μmol/l), absence of temperature reaction and relatively satisfactory condition in 86 patients (40,4%) EPST was performed on the 3-5th day after examination and intensive treatment. We saw the main value of EPST in the fastest decompression of bile ducts, which was achieved by dissection of the phaternal papilla and elimination of choledocholithiasis. After EPST the stones from the common bile duct moved away independently in 98 patients, and in 86 patients they were removed by Dormia basket. Thus, EPST promoted restoration of unobstructed bile outflow in 184 (87,9%) of 208 patients. At the same time in 34 patients (12,1%) it was not possible to remove stones from the common bile duct, in connection with this all of them underwent cavity surgery. An important measure of bile ducts decompression and their sanation in purulent cholangitis (35 patients) and non-removable hepaticocholedochal stones (34). According to our data, nasobiliary drainage applied in 59 patients turned out to be successful. Along with the general principles of postoperative period management stated above, it served as a highly effective means of cholangitis treatment. This was largely promoted by constant, during 1-3 days, washing of bile ducts through the nasobiliary tube with sterile solution of decasan (up to 1000ml per day). Washing out of detritus, purulent bile provided fast recovery of liver function and secretion of concentrated clear bile by the end of 2-3 days.

As a whole EPST proved to be the most effective and relatively safe way of treatment of obturation jaundice and cholangitis in elderly and senile patients. This operation contributed to elimination of biliary hypertension and its formidable complications in 493 patients (83,3%) or significant regression of jaundice was achieved in 189 (95,5%) of 198 patients.

Thus, EPST was the only means of treatment of obturator jaundice and cholangitis in 592 patients. Twenty-eight patients (5.0%) died after this operation. All of them were operated in the presence of diffuse purulent cholangitis. The causes of death in 18 of them were cholangitis and progressive liver failure and 10 complications of EPST: pancreonecrosis (in 7) and bleeding after papillotomy (in 1), perforation of retroperitoneal part of the 12

peritoneum 2. Elimination of choledocholithiasis, jaundice and cholangitis allowed to prepare for surgery and operate in the cold period of the disease in 92 patients, including 42 patients older than 70 years. The scope of surgery in patients of this group was limited to cholecystectomy. Its risk was minimal, postoperative period in all patients was favourable.

Due to the severity of the condition and contraindications to surgery, the treatment of 104 patients was limited to EPST, which turned out to be the only possible surgical intervention that preserved the patients' life. EPST led to a sharp reduction in the number of elderly patients requiring surgical treatment for vital indications and allowed to reduce postoperative lethality in jaundice and cholangitis from 26.1 to 5.8%, i.e. 4.6 times. Our results have shown that EPST is currently one of the most effective methods of treatment of jaundice and cholangitis in elderly and elderly patients. EPST for choledocholithiasis and its most dangerous complications in the absence of contraindications to surgery can be the first stage of treatment of jaundice and cholangitis. Performing the second stage - cholecystectomy - in the cold period of the disease has minimal risk and will achieve the best results of treatment of complicated cholecystitis. In severe condition, high risk and contraindications to surgical interventions EPST serves as the first and final stage of treatment providing reliable decompression of bile ducts and preserving patients' life.

Conclusions: Thus conservative therapy at obturation jaundice and cholangitis in elderly and senile patients is not an independent method of treatment and should serve only as a means of preparation for surgery. Cavity surgical interventions at obturation jaundice and cholangitis have a great risk for elderly patients. Indications for their performance should be limited as much as possible.The optimal way of treatment of biliary hypertension in patients aged 60 years and older is EPST, application of which allowed to reduce postoperative lethality in jaundice and cholangitis by 4.6 times.

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