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MINIMALLY INVASIVE INTERVENTIONS IN SURGICAL TREATMENT OF ACUTE BILIARY PANCREATITIS

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Abstract:

The paper presents a retrospective analysis of treatment of 221 patients with acute biliary pancreatitis. In case of stone embedding in the large duodenal papilla endoscopic papillotomy in the first hours is recommended, in case of choledocholithiasis, mechanical jaundice, cholangitis and acute biliary pancreatitis - endoscopic papillotomy and lithoextraction performed in the first day after the patient's admission to the clinic. Cholecystectomy, as a rule, laparoscopic, it is expedient to perform after conservative resolution of mild biliary pancreatitis in the next 3-7 days. After performing endoscopic papillotomy, it is justified to perform cholecystectomy also without discharge from the hospital, if the procedure is performed without complications. In acute biliary pancreatitis complicated by sterile or infected fluid accumulations, cholecystectomy should be postponed until their complete resolution and elimination of systemic inflammatory reaction.

Keywords: Acute pancreatitis, surgical treatment, complications of acute pancreatitis, pancreonecrosis

INTRODUCTION. Acute biliary pancreatitis (ABP), is a common disease occurring in 25-30% of the total number of patients with acute pancreatitis and in 15-25% runs in severe form [1,3,5]. Its main causes are the existence of gallstone disease, anatomical relationships of common bile and main pancreatic ducts and embryonic development between them "common channel", microlithiasis, wedging and migration of stones through the large duodenal papilla (LDP) [2, 7,9] Currently, active surgical tactics of biliary stone disease treatment are advocated, wide introduction of laparoscopic cholecystectomy and endoscopic retrograde pancreato- and cholangiography with the possibility of performing papillotomy and stone extraction. However, the results of surgical treatment of OPD patients leave much to be desired, because in severe forms of this disease lethality reaches 15-30% [4,8]. In this connection timely detection of specific laboratory and data of special investigations characteristic for OPD is relevant, it is necessary to substantiate the choice of the type of surgical aid, minimally invasive or "open", depending on the prevalence of those or other changes of the gallbladder, bile ducts, pancreas, parapancreatic and retroperitoneal space. The question about the necessity, effectiveness and danger of endoscopic papillotomy in the conditions of complicated course, as well as the determination of the terms of cholecystectomy after the management of ED of different severity degrees requires final decision [6,9].

PURPOSE OF THE STUDY: development of rational surgical tactics of treatment of patients with acute biliary pancreatitis

MATERIAL AND METHODS OF THE STUDY. The retrospective analysis of treatment of 221 patients with acute biliary pancreatitis observed in the clinic for the period of more than 10 years is presented in the work. From them 2 groups were singled out, the first one with mild course of the disease - 142 patients (64,2%) and the second one, which is of the greatest interest for practical surgery - with medium and severe course - 79 (35,8%) patients. The criterion for inclusion in the study was proven biliary pancreatitis (presence of LCB, blood amylase elevation 3 times higher than normal), patients in whom the onset of an attack occurred after alcohol intake were excluded from the study. It is generally recognized that biliary pancreatitis more often affects women, and the known ratio of 1:1.5 in favor of women was found in our study. The age of 221 patients varied widely from 18 to 75 years, the mean age of patients was 54.5±1.9 years. Among 79 patients with severe and moderately severe forms were patients of working age from 20 to 50 years made up 84.7% of this number of patients. There were 34 (43.1%) males and 45 (56.9%) females.

Laboratory analysis included: - Clinical blood analysis was performed on a Sysmex XT 4000i analyzer in

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peripheral blood. Blood was drawn in a tube for clinical blood analysis with ethylenediaminetetetraacetic acid (EDTA); - General urinalysis; - Determination of the content of indicators in the biochemical analysis of blood: (bilirubin total, direct, amylase, alkaline phosphatase, alanine transaminase (ALT), aspartate transaminotransferase (AST), albumin, total protein, urea, creatinine, glucose, electrolyte composition, C-reactive protein, procalcitonin in serum. Venous blood in the volume of 3.0 ml was collected with a tube with heparin; - Study of the hemostasis system (thromboelastogram, hemostasiogram); - Microbiological study of biomaterials sterility, culturing.

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The risk of pancreonecrosis progression after ERCPG is 4%. At the same time, there were no cases of serious complications with PON in the studied patients after endoscopic retrograde ERCPG with EPST. After endobiliary interventions the patients showed positive dynamics. In 86% of cases no repeated interventions were required to eliminate the causes of biliary hypertension. In these patients the presence of intraductal pathology was the reason of bile outflow disturbance and pancreatitis development. After interventions aimed at elimination of intraductal pathology (ERCPG with EPST) clinical condition of patients improved, normalization of laboratory parameters - normalization of amylase, bilirubin, transaminases, parameters of clinical blood analysis, resolution of inflammatory process and signs of systemic inflammatory reaction, normalization of pancreas size, diameter of bile ducts, gallbladder size were noted.

As can be seen from our data, endoscopic interventions in patients with OPD are effective, there is a statistically significant improvement in objective parameters of patients' health status, both laboratory and instrumental. Endoscopic correction is the most preferable method for elimination of intraductal pathology in patients with OPD. From 23 patients of this group 15 patients were operated in the nearest 2-3 weeks after the resolution of acute pancreatitis, jaundice and cholangitis - 12 patients underwent laparoscopic cholecystectomy, and in 2 observations conversion and "open" cholecystectomy were performed. Another 2 patients were also operated in an "open" way due to the development of acute cholecystitis 3 days after endoscopic papillotomy. Other 5 patients were operated 4-7 days after endoscopic papillotomy due to the development of not only acute cholecystitis but also migration of stones from the gallbladder to the bile ducts with the development of jaundice. Open cholecystectomy, choledocholithotomy and drainage of bile ducts were performed. In 10 patients with gallbladder destruction and fluid accumulations drainage of gallbladder and sterile fluid accumulations under ultrasound control with subsequent cholecystectomy was performed. At formation of infected delimited accumulations in 10 more patients puncture-catheterization treatment or "open" intervention was performed; cholecystectomy after resolution of complications. The development of sterile or infected pancreatic accumulations, as a rule, requires their drainage under ultrasound control. Puncture-catheterization intervention for sterile accumulations is indicated when they are larger than 10 cm or multiple. Puncture-catheterization method in infected accumulations, as our observations have shown, is effective in cases of delimited, single and containing no more than 100 ml of pus. Otherwise, their resolution by this method is ineffective and it is

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necessary to resort to "open" surgery. Correction of arising disorders in moderate and severe degree of acute pancreatitis, the main sign of which is transient or growing multiorgan failure, began with installation of central venous catheter, installation of nasojejunal tube for the purpose of intestinal decontamination and enteral nutrition, epidural catheter for anesthesia. Antibiotic therapy with broad-spectrum drugs, prophylaxis of stress ulcers, inhibition of external secretory function of the pancreas with octreotide, antimediator therapy, extracorporeal detoxification in case of exceeding 15 points on APACHE II scale were carried out.

We observed 30 patients with infected pancreonecrosis without tendency to delimitation. Depending on the detection of changes in the functions of organs and systems, their co-conservative restoration was additionally carried out. The result of such therapeutic tactics was successful prevention of evolution of medium severity pancreatitis with transient multiorgan failure into severe degree in 14 patients. In 23 observations out of 30 with infected accumulations without tendency to delimitation, spread of necrotic changes to parapancreatic, left, right or both retroperitoneal spaces, large omentum the method of "open" abdomen was chosen and cholecystectomy, choledocholithotomy and T-drainage of bile ducts were performed. The "open" abdomen was also applied in other 7 cases, but it was impossible to perform cholecystectomy and intervention on bile ducts due to the severity of infiltrative changes. Therefore, cholecystolithotomy and cholecystostomy were used.

With the described changes in the parapancreatic and retroperitoneal space and the greater omentum, it is unlikely to be reasonable to count on the success of conservative therapy or minimally invasive interventions. We believe that it is advisable to use the following princes of management of such patients developed in the clinic: - double subcostal access, subcostal on the left or right depending on the localization of necrotic masses; - wide opening of the omental sac and mobilization of the right and/or left bends of the colon; - opening of the right and/or left retroperitoneal space; - abdominization of the pancreas; - maximum preservation of the pancreas; - opening of all purulent congestion and removal of only free-lying sequestrations, refusal of forced necrectomy, limitation of indications for pancreas resection; - tamponization of omental sac and retroperitoneal space, refusal of drainage tubes; - narrowing of the wound with provisor sutures;

- refusal of relaparotomies on "demand" and performance of stage sanation every 48-72 hours. The period of the disease in this group of patients, from 7-12 days to 2-3 weeks before admission to the clinic, attracts attention. The use of the strategy of surgical treatment of infected pancreonecrosis without tendency to delimitation developed in the clinic allowed to achieve quite encouraging results of treatment of this extremely severe group of patients. Thus, 7 out of 30 such patients died, that makes 23,3% in the considered cohort of patients.

CONCLUSIONS.

1. The decisive importance in the choice of rational tactics of management in acute biliary pancreatitis is the severity of the patient's condition, laboratory examination parameters, detection of organic changes of the biliary tract, pancreas, involvement of retroperitoneal space in the inflammatory process.
2. Endoscopic papillotomy effectively resolves the obstruction of bile and pancreatic ducts at acute biliary pancreatitis and eliminates ductal hypertension, which are the main cause of purulent cholangitis and necrotic pancreatitis.
3. Cholecystectomy, usually laparoscopic, is reasonable to perform after conservative resolution of mild biliary pancreatitis in the next 3-7 days. After endoscopic papillotomy it is justified to perform cholecystectomy also without discharge from the hospital, if the procedure is performed without complications. In acute biliary pancreatitis complicated by sterile or infected fluid accumulations, cholecystectomy should be postponed until their complete resolution and elimination of systemic inflammatory reaction.
4. The proposed algorithm of examination and treatment of biliary pancreatitis, as well as reasonable indications for different types of surgical intervention allowed to individualize surgical tactics. Lethality in severe pancreonecrosis amounted to 23,3%.

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