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ABOUT TACTICS OF TREATMENT OF ACUTE PANCREATITIS COMPLICATED BY MECHANICAL JAUNDICE

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Abstract:

The aim of the study was to improve the results of treatment of patients with OP in the presence of jaundice syndrome by improving the method of differential diagnosis of the nature of concomitant jaundice.

Keywords: acute pancreatitis, mechanical and parenchymal jaundice, laparoscopic cholecystectomy,choledocholidiasis, ultrasound, endoscopic papilosphincterotomy.

INTRODUCTION.

The severity of the condition of patients with acute pancreatitis (OP) and the presence of jaundice is due to the combined pathology of the pancreas and liver. Literature data indicate that in acute pancreatitis, jaundice syndrome occurs in 48.2 % of cases, but the nature of jaundice may be different, both mechanical and parenchymal [1, 2, 3]. The treatment strategy: operate or treat conservatively, in patients with jaundice syndrome and acute pancreatitis depends primarily on determining the nature of jaundice. Clarification of its cause determines not only the tactics, but also the volumeof conservative therapy in patients with parenchymaljaundice, as well as the timing of surgical intervention in patients with OP in the presence of mechanical jaundice [4, 5, 6]. Thus, in an urgent situation in patients with OP on the background of jaundice syndrome, it is very important to first determine the nature of jaundice.

THE AIM OF THE STUDY was to improve the results of treatment of patients with OP in the presence of jaundice syndrome by improving the method of differential diagnosis of the nature of concomitant jaundice.

MATERIALS AND METHODS OF RESEARCH

A retrospective analysis of the results of surgical treatment of 73 patients with OP in the Department of 1-emergency abdominal Surgery of the Ferghana branch of the Russian National Center for Medical Research of the Republic of Uzbekistan in the period from 2017 to 2022was carried out, of which 45 (61.6%) had mechanical jaundice, and 15 (20.5%) – had parenchymal jaundice. Out of 45 patients with OP, 30 (41.1%) with mechanical jaundice were caused by choledocholithiasis; in 10 (13.7%) patients, the stone of the large duodenal papilla (VDS) was pinched, in 9 (12.3%) stones were in the pancreatic, and in 15 (25%) — in supraduodenal part of the choledoch. In 14 (26.9%) patients, the cause of mechanical jaundice was acute cholecystitis with the presence of infiltrate in the cervical region. Patients with confirmed mechanical jaundice in combination with OP underwent emergency interventions. The most severe group was patients with OP and parenchymal jaundice. When assessing their severity on the Ranson scale, all patients (10) had 5-6 points and fell into the group with a predicted mortality rate of up to 100%. All patients were hospitalized in the intensive care unit, where they received hepatotropic and anti-pancreatic therapy, including somatotropic hormone derivatives, protease inhibitors, antioxidants, hepatoprotectors, antiplateletagents, vitamins, amino acids, and crystalloid solutions.

RESEARCH RESULTS AND DISCUSSION

To detect signs of OP during hospitalization, all patients underwent ultrasound, during which expansion of the common bile and Virsung ducts was detected in 8 patients. This combination is a sign of a pinched BDS stone, which was both the cause of OP and mechanical jaundice. These patients underwent emergency endoscopic papillosphincterotomy (EPST) in the first 3 hours after admission, during which the pinched stone was removed. Patients (7) who, according to ultrasound data, had stones in the pancreatic part of the choledoch, and during emergency papilloscopy, the lack of bile flow into the duodenum was also urgently performed EPST with the removal of calculi using a Dormia basket. Subsequently, these patients underwent pathogenetic anti-pancreatic therapy. The effectiveness of OP treatment was monitored using clinical, biochemical, and ultrasound methods. It was noted that the pain syndrome decreased on the next day after the cause of OP was eliminated. The complete disappearance of pain occurred within the time frame corresponding to the reduction of edema and improvement of the structure of the pancreas (RV). The study of biochemical parameters showed a decrease in the level of amylase by 2-3 days. Normalization of liver

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parameters occurred at a later time and depended on the duration of existing jaundice: the longer the period of hyperbilirubinemia, the longer the period of recovery of liver function, despite the normalization of the structure and function of the pancreas. At the control ultrasound performed on day 3 in all 15 patients after EPST, along with a decrease in the width of the choledochus from (14±0.9) mm to (7±0.08) mm and the main pancreatic duct (AKI) from (3± 0.04) to (1±0.01) mm, it was noted that the gland decreased in size, its contours have become clearer. In patients with OP and the presence of calculi in the supraduodenal part of the choledoch (13), EPST was performed in the first 24 hours after admission. The cause of choledocholithiasis and OP in all cases was found to be stenosing papillitis. In addition, areas of focal gastritis were found in the stomach, the intensity of which correlated with the degree of pancreatic inflammation. After performing EPST, these patients назобилиарныйhave nasobiliary drainage installed. In 6 patients, the stones from the choledochus receded independently, and against the background of conservative therapy, the inflammation of the pancreas acquired an abortive form. The final treatment for them was the further execution of the LHE, with the introduction of drainage to theVinslovo branch. In 7 cases, when thecalculi could not be removed due to their large size with the help of a Dormia basket and nasobiliary probe, we performed laparotomy, during which the gallbladder was removed andтocholedocholitomy was performed. In all cases, the operation is completed with a blind suture of the choledochus and drainage to theлVinous opening. In 5 patients, due to severe edema of the pancreatic head, the duodenum was mobilized behind the Kocher and drainage was applied to the retroperitoneal space behind the pancreatic head. There were no deaths in this group of patients.

In 14 patients, according to ultrasound data, OP and mechanical jaundice are caused by acute cholecystitситом. During the study, they were found to have gallbladder block желчетокаand the cause of mechanical jaundice was an inflamed gallbladder, the average volume of which was (136±5.3) cm3, and the wall thickness was (5±0.4) mm. Echograms show an enlarged common hepatic duct and reduced choledochus. The cause of obstruction is a dense infiltrate of the gallbladder neck. These patients did not have ERCP performed due to the lack of indications for this. Upon admission, they were prescribed antibacterial, anti-pancreatic, and hepatotropic therapy, including antiplateletagents. After 7-10 days, during the study, there was a decrease in the level of bilirubin from (64±1.1) mmol/l to (38±0.9) mmol/l. Ultrasound showed visualization гепатикохоледохуof hepaticocholedochu throughout and a decrease in infiltrate in the area of the gallbladder neck. The pancreas was still enlarged, but its structure will be collected. We performed elective LCE in all patients after the signs of OP subsided. The data indicate that timely determination of the nature and causes of jaundice allowed the use of minimally invasive methods of surgical treatment of patients with OP and mechanical jaundice without fatal outcomes. Analysis of the results of treatment of patients with OP and parenchymal jaundice showed that it is difficult to determine the nature of jaundice based on a biochemical blood test. The level of total bilirubin was (88.3±4.4) mmol/L, conjugated - (53.0±3.5) and unconjugated — (31.7±3.1) mmol/L, with ALT – (126±5.4) units, AST- (98±2.3) units. Ultrasound examination of these patients showed an enlarged liver in the dorsoventral direction up to (17 ± 0.9) cm, its angle was greater than 90°, a uniform parenchyma structure, uniformly increased echogenicity, a symptom of "chopped hepatic veins" and undeveloped bile. Despite hyperbilirubinemia due to the conjugated fraction, patients did not have dilated intrahepatic and extrahepatic bile ducts. The gallbladder is slightly enlarged or of normal size, and its walls are notsignificantly thickened. Ultrasound and histological examination биоптатовof liver biopsies taken during further operations revealed toxic liver dystrophy in these patients, which is characterized by the presence of lymphoid infiltrates with inclusions localized in the interlobular connective tissue and in the hepatocyte. In the latter, the phenomena of adipose dystrophy were found.

The most severe group of patients with a score of 6 on the Ranson scale consisted of 6 patients who had significant changes in the pancreas and pronounced changes in the liver upon admission. Во времяUltrasound examination of the pancreas revealed in all cases an increase in the head (41.2±1.0) mm, body (29.8±0.9) mm and tail (51±1.1) mm, as well as fluid accumulation in the omentum sac in 4 patients, in the small pelvis in one and retrocolarly on the left, fluid was localized in 2 patients. Inaddition to an increase in the size of the liver, echogram хни showed a sharply increased echogenicity — a "white" liver that resembles the liver of patients with fatty hepatosis, the presence of a symptom of "desolation" of the gallbladder, and the absenceof a band of ultrasound extinction. These changes were regarded by us as a severe dystrophic lesion of hepatocytes, which was subsequently confirmed by histological examination data. Histograms of these patients showed dense inflammatory infiltration of the portal zone with the presence of segmented white blood cells. The гепатоцитахaccumulation of brown pigment in the cytoplasm of hepatocytes of hepatic particles was

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detected. The presence of leukocyte infiltration of the hepatic lobules in patients with pancreatic necrosis can be explained by a pronounced inflammatory reaction of the liver in response to a massive intake of decay products through the portal vein. The latter cause significant metabolic disorders in the hepatocyte, which lead to a violation of both the structure of the liver cell and its function. Violation of the liver structure leads to a violation of the conductivity of ultrasound and various images of the liver on echosonograms. In turn, changes occurring in the hepatocytelead to a violation of the function of the organ as a whole, including bilirubin-ysynthesizing function, manifested by parenchymal jaundice. Conservative therapy in this group of patients included providing physiological rest of the pancreas, administration of sandostatin analogues, inhibition of the proteolytic activity of blood plasma, intensive hepatotropic, detoxification, antioxidant and antibacterial therapy. At the same time, patients received intensive hepatotropic therapy in the form of drugs aimed at stabilizing the metabolism of hepatocytes, as well as their cytolems (lipic acid). Improvement in the condition of patients in this group under the influence of conservative therapy was manifested primarily by normalization of liver function, which was expressed by a decrease in external signs of jaundice, a decrease in transaminases, and an improvement in the proteinogram. These signs correlated with the echosonogram dataэхосонограммами. Dynamic monitoring of liver parameters showed that normalization of liver function in the surviving patients occurred faster than the change in its size (Table 3). In this group, already in the anterior period on 10-12 days, 4 patients with ultrasound revealed fluid accumulation in the omentum sac and 2 in the free abdominal cavity. Patients with diarrhoealfluid accumulation under local anesthesia underwent transcutaneous puncture under ultrasound control. 180-300 ml of liquid was evacuated, in which the level of amylase activity was (580±2.1) g/h. In the future, these patients began to recover slowly against the background of conservative therapy. Two patients underwent laparoscopic surgery. rehabilitation of the abdominal cavity with evacuation of hemorrhagic fluid volume of 460-500 ml with amylase activity in it (220±5.3) g /h. l. At the same time, liver biopsies were taken from these patients биоптатыfor morphological verification. Out of 10 patients with OP and the presence of parenchymal jaundice, 4 died from progressive multiple organ failure caused by hepatargy. The overall mortality rate in patients with OP on the background of jaundice was 7.7%. If we sort the group of patients with OP and parenchymaljaundice, the mortality rate is 40%.

The causes of mechanical jaundice in patients with OP are primarily associated with obstruction of the hepatocholedochus at different levels. This, in turn, requires a personal choice of the size of the surgical intervention. The presence of obstruction in the distal part of the choledochus is a common factor of OP and mechanical jaundice. In these cases, emergency restoration of the bile passage is necessary to avoid the progression of destruction in the gland itself, as well as the development of cholestatic hepatitis, which can result in hepatocellular insufficiency. Eliminating the causes of cholestasis prevents the progression of OP, reduces the number of purulent complications, and reduces the length of hospital stay and the number of deaths. A differentiated approach to the treatment of OP on the background of mechanical jaundice made it possible to avoid useless interventions in BDS and PFA, avoid the number of deaths, and reduce the length of hospital stay from (45±8.6) to (15±3.5) bed-days. In patients with parenchymal jaundice, changes in the liver detected on echograms were confirmed by histological examination data and corresponded to the indicators of biochemical blood tests, which reflected the degree of functional insufficiency of the organ and determined the composition of conservative therapy. Normalization of hepatocyte function prevents the development of multiple organ failure syndrome, in which hepatocellular insufficiency plays a key role.

CONCLUSIONS.

Thus, the conducted research shows that:

- In patients with acute pancreatitis and the presence of jaundice, the main method of differential diagnosis of parenchymal and mechanical jaundiceи is ultrasound.
- The effect on the liver of breakdown products in the pancreas and pancreatic enzymes entering through the portal vein leads to toxic dystrophy of hepatocytes and lymphoid infiltration of interlobular connective tissue, whichis accompanied by the development of hepatocellularinsufficiency. основеAcute pancreatitis and mechanical jaundice are based on a common cause, which must be eliminated by surgical intervention. The choice of terms (emergency, urgent, planned) and methods of surgery depends on the level and type of obstruction of the biliary tract.
- The chosen treatment strategy for patients with OP in combination with jaundice syndrome made it possible to avoid fatal outcomes and reduce the length of hospital stay to (15±3.5) bed days in patients with mechanical jaundice. In patients with OP and parenchymal jaundice, the mortality rate was 40%.

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