



POSSIBILITIES OF APPLYING MINIMALLY INVASIVE TECHNOLOGIES IN TREATMENT OF SEVERE ACUTE PANCREATITIS

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ABSTRACT: *To explore the possibilities of laparoscopic methods in the surgical treatment of severe acute pancreatitis, were selected two groups of surgical patients, depending on the method of surgery that were produced various types of open and laparoscopic operations. To assess the effectiveness of the applied treatment methods, in the postoperative period, we used the following laboratory and physiological parameters: progression or regression of a systemic inflammatory response syndrome (SIRS), pO₂ level, neutrophil-lymphocyte ratio (NLR), as well as integrated scales of severity Ranson, APACHE II and BISAP. These results demonstrate the advantages of laparoscopic surgical procedures.*

Keywords: acute pancreatitis, laparoscopy

Introduction. Currently, acute pancreatitis (OP) ranks third in the list of diseases of the "acute abdomen" and accounts for 12.5% of all acute surgical abdominal pathology, second in the total number of days of hospitalization and fifth in the number of nosocomial deaths, which shows the importance of accurate and up-to-date knowledge about this disease [6,8,9]. OP is based on a primary aseptic lesion (edema or necrosis) of the pancreas with a secondary inflammatory reaction, characterized by a phase course, and the main clinical indicators (severity of the course, frequency of complications, surgical activity, mortality, cost of treatment, etc.) are largely determined the prevalence of the destructive process [2,4]. Despite the priority of intensive conservative therapy in the treatment of severe acute pancreatitis (TOP), in various phases of the disease there are indications for surgical interventions that can be performed both by traditional and modern video-laparoscopic

methods, however, the indications for minimally invasive interventions are still not clearly defined ... Despite the fact that surgical treatment is considered effective in the treatment of infected pancreatic necrosis, the risk of developing insufficiency of the endocrine and exocrine functions of the pancreas in the postoperative period remains rather high [1,3,5,7].

The problem of acute pancreatitis does not lose its relevance, despite the achievement of significant success in the diagnosis and treatment of this pathology. The timing and choice of the method of surgical intervention is of great importance for reducing the number and prevention of complications of acute pancreatitis.

Purpose of the study: to analyze the effectiveness of the use of various methods of surgical interventions in the complex treatment of severe acute pancreatitis.

Materials and Methods: We analyzed the results of surgical treatment of 74 patients with severe acute pancreatitis for the period from 2015 to 2020, who were hospitalized in the emergency surgery departments No. 1 and No. 2 of the Samarkand branch of the RSCEMP. To study the possibilities of using the laparoscopic method of treating severe acute pancreatitis, depending on the method of the surgical intervention, two groups of surgical patients were selected: the main and the control. The main group consisted of 36 patients with severe acute pancreatitis, during the treatment of which endovideosurgical surgical interventions were used. The control group included 38 patients with severe acute pancreatitis who underwent various types of open surgical interventions. On the first day after the onset of the disease, 16 (21.6%) patients were admitted, the majority of patients - 58 (78.4%) were hospitalized more than a day after the onset of the disease. To conduct a correct comparative assessment of the treatment results, the age and gender composition of the main and control groups, the severity of the patient's condition upon admission, as well as the presence or absence of concomitant pathology were studied. The diagnosis of severe acute pancreatitis was made based on the study of anamnesis and examination of the patient, clinical symptoms, as well as data from laboratory and instrumental diagnostic methods. Laboratory methods for the diagnosis of severe acute pancreatitis included: hemoglobin, hematocrit, the number of erythrocytes, leukocytes and platelets of peripheral blood, glucose and blood diastasis, creatinine, urea and residual nitrogen of blood serum. For biliary forms of severe acute pancreatitis, ERPCG was used.

To objectify the assessment of the severity of the condition of patients in the postoperative period, we used the following laboratory and physiological parameters: progression or regression of the systemic inflammatory response syndrome (SIRS-systemic inflammatory response syndrome), pO₂ level, neutrophil-lymphocyte ratio (NLR), as well as integral the severity rating scales Ranson, APACHE-II and BISAP. Statistical processing of the results was carried out using traditional reliability criteria (Student's criterion, coefficient and correlation reliability criterion).

Research results and discussion. Conservative therapy of acute pancreatitis included pain relief, infusion therapy (mainly crystalloids, reference point 7-10 ml / kg / h), blockade of the secretory function of the pancreas, inhibition of biologically active substances, suppression of gastric secretion, antibiotic therapy, antispasmodics, anticoagulants, as well as correction of metabolic disorders. Open operations, without the use of endovideosurgical methods, were performed in 38 patients with severe acute pancreatitis. Indications for surgical interventions were: widespread purulent peritonitis, the formation of foci of destruction in the abdominal cavity, zabryushinnye phlegmon and abscesses. The following surgical interventions were performed using a laparotomic approach: necrosectomy, drainage of the omental bursa, opening and drainage of abscesses (or phlegmon) of the retroperitoneal tissue, cholecystectomy with drainage of the common bile duct or cholecystostomy, sanitation and drainage of the abdominal cavity. In 6 (8.1%) patients, pancreatic necrosis was detected after laparotomy for generalized peritonitis.

Endovideosurgical methods of surgical intervention were performed in 36 (48.6%) of 74 patients with

severe acute pancreatitis; all operations were performed in the early stages of the disease. The indications in these cases were: an increase in free fluid in the abdominal cavity over time, preservation or progression of intoxication syndrome despite ongoing conservative therapy, acute destructive cholecystitis, diffuse enzymatic peritonitis. The main goal was the sanitation and drainage of the abdominal cavity and / or limited fluid accumulations of the zabrechinny space as a method of surgical detoxification of the body. The patients underwent such surgical interventions as laparoscopy, sanitation and drainage of the omental bursa and abdominal cavity, laparoscopic cholecystectomy. Drainage tubes from the abdominal cavity were removed 2–3 days after the cessation of exudative fluid discharge.

To compare the clinical effectiveness of the use of endovideosurgical and traditional methods of surgical treatment, in the main and control groups, in addition to the dynamics of the general condition, an analysis was carried out: the outcome of the disease, the duration of stay in the surgical intensive care unit after surgery, the duration of treatment in the postoperative period, the nature and frequency of complications. The presence of certain complications largely determined the severity of the patients' condition after operations, influenced the duration of the postoperative period, the outcome of the disease.

The duration of treatment with the use of endovideosurgical methods was 17.3 bed / days, mortality - 13.8%, and with open surgery - 28.6 bed / days, mortality - 21.5%. The cause of death in one patient was acute cardiovascular failure in an elderly patient. The cause of mortality in the remaining patients was increasing multiple organ failure in the period from 3 to 24 days after the operation. It should also be noted that all deceased patients were admitted to the hospital later than 36 hours from the onset of the disease, the severity of the condition of these patients at the time of hospitalization exceeded 20 points on the APACHE-II scale and 4 points on the BISAP.

The results of the study show the preferable use of endovideosurgical methods in the treatment of severe forms of acute pancreatitis. The advantage of laparoscopic operations is to reduce the trauma of the performed debridement, mainly by minimizing the operative access, which makes them the method of choice for sanitizing operations, and the use of this method is especially effective in the early stages of the course (enzymatic and reactive phases) of the disease. Thus, the results of our study confirm the effectiveness of modern laparoscopic methods of surgical treatment of severe acute pancreatitis, their use can reduce the number of complications from 36.4% to 28.6% ($p < 0.05$) and reduce postoperative mortality from 21.5% to 13.8% ($p < 0.05$).

Conclusions:

1. The use of laparoscopic methods of surgical treatment in combination with conservative therapy provides early evacuation of toxic products contained in fluid accumulations, which helps to prevent multiple organ failure and leads to a reduction in treatment time, a decrease in the number of postoperative complications and mortality in patients with severe acute pancreatitis.
2. The method of choice in the treatment of severe acute pancreatitis in the early stage of the disease (enzymatic and reactive phases) is laparoscopic debridement and drainage of the abdominal cavity.
3. The introduction of laparoscopic methods of surgical treatment made it possible to reduce the number of traditional "open" operations and significantly reduce the number of complications, mortality, and the length of hospital stay.

LITERATURE

1. Avazov A.A., Mukhammadiev M.KH., Samiev KH.ZH., Dzhumageldiev SH.SH., Daminov F.A., Normamatov B.P., KHudoinazarov U.R. Severe acute pancreatitis: diagnostic and treatment options. Problems of Biology and Medicine 2019; 3 (111): 7-9.
2. Bagnenko S.F., Tolstoi A.D., Krasnorogov V.B., Kurygin A.A., Grinev M.V., Lapshin V.N., Goltsov V.R. Acute Pancreatitis (Diagnostic and Treatment Protocols). Annals of Surgical Hepatology 2006; 1 (11): 60-66.
3. Kudelich O.A., Protasevich A.I., Kondratenko G.G. Minimally invasive surgical interventions in the treatment of patients with acute necrotizing pancreatitis. Experimental and Clinical Gastroenterology 2014; 5 (105): 27-32.
4. KHadzhibaev A.M., Altiev B.K., Rizaev K.S., Baimuradov SH.E. Determination of the severity of the course and treatment of acute pancreatitis. Emergency surgery. XXII Congress of the Association of Hepatopancreato-Biliary Surgeons. Tashkent 2015; 193.
5. TSkhai B.V., Toleubaev E.A., Alibekov A.E., Kalieva D.K., Balykbaeva A.M., Kusainov M.I. Comparative analysis of the effectiveness of various surgical methods for the treatment of acute pancreatitis. Medicine and Ecology 2018; 4 (89): 91-94.
6. Guerrero A., de Miguel A.F., Albillos A. Acute pancreatitis Diagnostic and therapeutic protocol. Medicine 2019; 12 (87): 5140-5144.
7. Karakayali F.Y. Surgical and interventional management of complications caused by acute pancreatitis. World journal of gastroenterology 2014; 20 (37): 13412-13423.
8. Lankisch P.G., Apte M., Banks P.A. Acute pancreatitis. Lancet 2015; 386 (9988): 85-96.
9. Leppäniemi A., Tolonen M., Tarasconi A. et al. 2019 WSES guidelines for the management of severe acute pancreatitis. World journal of emergency surgery 2019; 14:27.