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Research Article

MODERN METHODS OF DIAGNOSIS AND TREATMENT OF ACUTE PANCREATITIS

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ABSTRACT

We used modern diagnostic methods of instrumental investigations. All patients in this work was divided to groups depended on estimating patient statement with APACHE II and RANSON scale. Instead at this, we estimated multislice computed tomography sings depended on Balthazar scale. This scale helped us to purpose existing and spreading of the lesion in pancreas, prognoses course of the disease after diagnosing disease. We entered new diagnostic and treatment algorithms, which helps to chose right surgical methods of treatment of acute pancreatitis in different stages of disease. After using this tactics in patients with difficult forms of acute pancreatitis (total ball 3-9 on integral scale RANSON and 9-20 on APACHE II scale) results was: mortality 25.9%, which conforms to low limit prognosing mortality in this group.

KEYWORDS

acute pancreatitis, RANSON, APACHE II, Balthazar scale, surgical treatment.

INTRODUCTION

Acute pancreatitis (OP) is one of the most complex and frequently discussed problems of modern surgery, the relevance of which causes a steady increase in morbidity. Among acute surgical diseases of the abdominal cavity, acute pancreatitis ranges from 4.7 to 15.6%. In 15-25% of patients with acute pancreatitis, severe infected forms occur, accompanied by various complications, the mortality in which reaches 25-70% [1-4,10,18]. According to most authors, conservative therapy is effective in 75-85% of patients. Surgical

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treatment is indicated with the ineffectiveness of conservative therapy, increasing endogenous intoxication and the development of various purulent complications. Early operations at the height of endogenous intoxication and shock give a high percentage of deaths in the early postoperative period. At the same time, a prolonged delay in surgical intervention may contribute to the development of purulent complications, progression of pancreatic tissue necrosis, and the increase in poly organ insufficiency [2,3,7, 14,19,21].

Modern high-tech methods of medical imaging of the pancreas (ultrasound and MSCT with a three-dimensional image, laparoscopy) have reached a qualitatively new level, which made it possible to determine the severity of the pathological process, assess the development of acute pancreatitis in real time and conduct dynamic monitoring [2,7,8,13,15].

Currently, in a comprehensive assessment of the severity of a patient's condition with acute pancreatitis, depending on the equipment of the medical institution, clinical and laboratory methods (Ranson, Glasgow, APACHE II, MODS, SOFA scale systems) and biochemical (C-reactive protein, interleukins, neutrophil elastase) are used in different accuracy and timing [1-3,14,17].

MATERIAL AND METHODS

The paper analyzes the principles of modern diagnostics and approaches to the treatment of acute pancreatitis in 54 patients admitted by the RCEMI AF for the period from 2012 to 2013. There were 25 men (46.2%), 29 women (53.7%). The majority of patients (46) were of working age 20-59 years. A large number of classifications of acute pancreatitis are known, the generally recognized of which is the classification proposed by H.J.Beger, adopted in Atlanta in 1992 and subsequently modified by V.S.Savelyev et al. (2003). This modified classification reflects in the most detail all the features of the course and complications of acute pancreatitis.

According to the international classification, edematous pancreatitis was diagnosed in 21 (38.8%) patients, acute severe pancreatitis with the development of pancreatic necrosis – in 13 (24.1%). Of these, sterile pancreatic necrosis occurred in 9 (16.6%) patients, infected pancreatic necrosis - 11 (20.3%) patients.

RESULTS AND DISCUSSION

The etiology of acute pancreatitis is determined by biliary, autoimmune, angiogenic, alimentary (including alcoholic), post-traumatic and postoperative factors. Pathology of the biliary ducts was detected in 11 (20.3%) of our patients, alimentary factor – in 7 (12.9%), pancreatic injury – in 2 (3.7%), after endoscopic interventions – in 3 (5.5%) patients. Total pancreatic

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lesion was diagnosed in 5 (9.2%) patients, focal in 17 (31.4%), subtotal in 9 (16.6%).

Diagnosis of acute pancreatitis should be comprehensive and include generally accepted and special research methods. The combination of such clinical manifestations as peripancreatic infiltrate, resorptive fever, leukocytosis with a shift to the left, lymphopenia, increased concentration of fibrinogen, C-reactive protein, as well as characteristic ultrasound and MSCT signs may indicate the presence of sterile pancreonecrosis in the patient.

With sterile pancreatic necrosis, ultrasound can visualize an increase in the size of the pancreas, the fuzziness of its contours, the appearance of fluid in the parapancreatic region.

The most informative method of diagnosing pancreatic necrosis is currently considered to be multispiral computed tomography, which most clearly reveals signs of enlargement of the pancreas, the fuzziness of its contours, the appearance of fluid in the parapancreatic region. At the stage of infected pancreonecrosis, clinical signs of purulent-necrotic peripancreatitis, purulent omentobursitis, acute abscess and retroperitoneal phlegmon are added. Laboratory studies help to identify the progression of acute inflammation, an increase in the level of fibrinogen by 2 times or more, high levels of C-reactive protein, procalcitonin.

With infected pancreatic necrosis, an increase in fluid formations with inclusions is noted on ultrasound, devitalized tissues are detected. The presence of gas bubbles during multispiral computed tomography is most likely to determine infected pancreatic necrosis.

The obtained MSCT signs were evaluated according to the scale proposed by Balthazar (1990), according to which the presence and extent of necrosis in the pancreas can be assumed. The scale of evaluation of MSCT signs allows predicting the course of the disease and Computed tomography examination was performed in 105 (85%) patients. The severity of the patients' condition was assessed according to the Ranson and APACHE-II scales. The Ranson scale, based on 11 factors (5 at admission and 6 during the first 48 hours), allows you to differentiate the form of the disease and predict its further course. The reliability of the method reaches 96%. Dynamic daily assessment of the severity of the patient's condition according to APACHE II forms the basis for objectification of indications for surgery and a differentiated approach to the choice of an intensive conservative therapy complex. According to APACHE II, the score is more than 8 points – acute destructive pancreatitis, less than 8 points – moderate severity of OP; more than 15 points – severe complicated acute destructive pancreatitis (EDP), unfavorable prognosis. The reliability of the method is 76%.

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Today, the strategic directions of management of patients with acute pancreatitis are:

- dynamic objective assessment of the severity of the condition of patients using integral scales (Ranson, ARASNE);
- determination of the scale and nature of the lesion of the pancreas and retroperitoneal tissue (ultrasound, MSCT, laparoscopy);
- identification of infection (microbiological studies, determination of procalcitonin concentration);
- intensive therapy (maintenance of optimal oxygen delivery, nutritional support, extracorporeal detoxification);
- antibacterial prevention and therapy;
- adequate anesthesia;
- blockade of the secretory function of the pancreas, prevention of stress ulcers;
- timely surgical rehabilitation.

Conservative treatment was effective in 17 (31.4%) of 54 patients. Basic therapy included:

- hunger (3-7 days);
- constant aspiration of gastric contents;
- suppression of pancreatic secretion (octreotide);
- prevention of stress ulcers and antisecretory therapy (proton pump inhibitors and H2-adequate anesthesia (NSAIDs, drugs);
- infusion therapy;
- anti-enzyme therapy (kontrikal, gordox in high doses);
- antibacterial therapy and prevention;
- rheological preparations;
- extracorporeal detoxification.

In severe acute pancreatitis, drugs were administered through an intra-aortic catheter. Indications for surgical treatment for pancreatic necrosis were considered:

- infected pancreatic necrosis and pancreatogenic abscess;
- septic phlegmon of retroperitoneal fiber;
- purulent peritonitis;
- persistent or progressive multiple organ failure;
- persistent symptoms of a systemic inflammatory reaction;
- regardless of the fact of infection during competent conservative basic therapy and its ineffectiveness for 3-7 days.

37 (68.5%) patients were operated on at various times from the onset of the disease.

Endoscopic papillosphincterotomy 3(8.1%).

Laparoscopic sanitation with drainage of the abdominal cavity 5 (18.5%).

Laparoscopic cholecystectomy, drainage of the choledochus according to Pikovsky-Halsted, sanitation and drainage of the abdominal cavity 7 (18.9%).

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Laparotomy, cholecystectomy, drainage of the choledochus according to Pikovsky-Halsted. Opening of the omentum bag, necrectomy, sanitation, drainage and tamponing of the omentum bag, drainage of the abdominal cavity 10(27%).

Laparotomy, cholecystectomy, choledocholithotomy, drainage of the choledochus by Keru. Opening of the omentum, necrectomy, sanitation, drainage and tamponing of the omentum, drainage of the abdominal cavity 7(18.5%).

Laparotomy, cholecystectomy. Opening of the omentum bag, necrectomy, sanitation, drainage and tamponing of the omentum bag, drainage of the abdominal cavity 5(18.5%).

The key to the success of the management of patients in the postoperative period, we consider adequate drainage of the abdominal cavity and the omentum in order to remove necrotic masses.

The drainage method allows for the lavage of the omentum bag with antiseptic solutions already on the 10th – 12th day. Our experience shows that the semi-closed drainage method is sufficient for the rehabilitation of the abdominal cavity and the omentum. After removing the tampons (on the 10th-14th day), we install thick drains (up to 10 mm in diameter) in their bed, which also contributes to the discharge of purulent-necrotic masses and provides flow washing. In case of blockage of drains by necrotic masses, they can be replaced with new ones.

Intensive therapy in the postoperative period is carried out according to the same principles as before the operation, taking into account the severity of the patients' condition.

One of the main factors of successful management of patients is rational antibacterial therapy depending on the sensitivity of the microflora and the combined use of broad-spectrum antibiotics.

The total mortality was 25.9% (14 patients), postoperative mortality was 18.9%. 7 The analysis of mortality depending on the indicators of the APACHE II integral scale in the postoperative period in patients with infected pancreatic necrosis revealed a direct correlation between these indicators.

CONCLUSIONS

The active and expectant tactics of treatment of patients with acute pancreatitis chosen by us must be justified by the results of the examination, dynamic monitoring, and a reliable assessment of the severity of the functional state of vital organs according to the Ranson and APACHE II system. As a result of the application of the proposed tactics for the treatment of patients with severe forms of acute pancreatitis (total scores from 3 to 9 on the integral Ranson scale and from 9 to 20 on APACHE II), the mortality rate was

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25.9%, which corresponded to the lower limit of the predicted mortality in this group of patients.

Despite the successes of modern pancreatology and the emergence of high technologies in the diagnosis and treatment of acute pancreatitis, in our opinion, the following issues remain controversial:

- early surgical interventions with the increase of multiple organ failure and the absence of the effect of conservative therapy;
- the expediency of using programmed relaparotomies;
- the expediency of resection methods of treatment in patients with acute severe pancreatitis.

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