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COMPLICATIONS OF ACUTE PANCREATITIS

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Abstract:

In the structure of patients with acute pancreatitis (AP), patients with pancreatic necrosis (PN) usually account for 15-30%, and 70-80% of them are infected with necrosis foci[1]. Postoperative mortality in GP without differentiation of its clinical forms is 23-26 %, and the proportion of purulent complications among the causes of death in patients with PN reaches 80% [2, 3].

Keywords: pancreatic necrosis, differential diagnosis, clinical and laboratory parameters.

INTRODUCTION

In the structure of patients with acute pancreatitis (AP), patients with pancreatic necrosis (PN) usually account for 15-30%, and 70-80% of them are infected with necrosis foci[1]. Postoperative mortality in GP without differentiation of its clinical forms is 23-26 %, and the proportion of purulent complications among the causes of death in patients with PN reaches 80% [2, 3]. Destructive pancreatitis is characterized by a regular transformation of sterile forms into infected ones [4]. Among the purulent-septic complications of acute necrotic pancreatitis, pancreatic abscess and abdominal phlegmare of the greatest practical interest, which is due to the difficulties of their diagnosis and the risk of developing severe secondary complications [5, 6]. Late diagnosis of acute pancreatitis complications, inadequate choice of conservative and surgical treatment lead to high mortality [4, 10]. Programs and approaches to the differential diagnosis and treatment of aseptically infected pnkrkeonecrosis have been developed [3]. The percentage of errors in the differential diagnosis of sterile pancreatic necrosis and infected pancreatic necrosis is still high – up to 40 % [1]. It is quite difficult to differentiate between sterile and infected forms in real time. As an early and accurate method of differential diagnosis of sterile pancreonecrosis and infected pancreonecrosis, many authors suggest fine-needle puncture of fluid formations under ultrasound control or multislice computed tomography (MSCT) , followed by bacteriological examination of the obtained material[10]. Thin-pharyngeal aspiration from liquid accumulations under the control of MSCT with subsequent microbiological examination is currently recognized as a "golden дартомgift", but it is available to few medical institutions and requires considerable time and special equipment [9]. The invasiveness of the procedure and, accordingly, the risk of exogenous infection, as well as the absence of a liquid component in the destruction cell, the presence of gastrointestinal and urinary tract organs, vascular formations, and pronounced violations of the blood coagulation system limit the use of fine-needle puncture in destructive pancreatitis [2].

Currently, the relative number of diagnostic errors in the development of purulent complications of pancreatic necrosis reaches 40 %, and therefore it can be concluded that there are significant difficulties associated with the early differential diagnosis of this form of acute pancreatitis [10]. Most often, this problem leads to a delay in verifying the severity of this surgical pathology and, as a result, the choice of unjustified treatment tactics.

Given that pancreatic necrosis is accompanied by the development of a systemic inflammatory reaction even in the absence of infection, and traditionally used clinical and laboratory indicators for smoking are not specific and sensitive for the diagnosis of pancreatogenic infection, it is very important to search for new effective markers of infection, as well as to conduct a comprehensive diagnosis of infected pancreatic necrosis [3].

At the present stage of clinical modernization of diagnostics, diagnostic computer systems are considered very relevant, which are based on algorithms that make it possible to make truly correct decisions in each specific clinical case [5, 8]. These algorithms are derived using a computer analysis of a complex of various medical indicators A, namely, for the purpose of early prediction of the course of acute pancreatitis, clinicians have a wide range of prognostic scales in their arsenal [5, 9].

The variety of currently used laboratory and instrumental diagnostic methods indicates that none of them fully meets the needsof clinicians, since it does not always allow reliable and timely detection of infection of necrotic changes in the PA and extraperitoneal tissue in patients with destructive pancreatitis and its complications [6, 10].

Thus, the search for objective methods of diagnosis, form and severity of acute pancreatitis, accurate prediction and timely prevention of the

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development of infectious diseases. the problem ofcomplications in this surgical pathology is of great practical importance for modern medicine.

MATERIALS AND METHODS OF RESEARCH

A program for differential diagnosis of sterile and infected pancreatic necrosis was developed with the calculation of the differential diagnostic index (DDI) for each clinical, laboratory and instrumental indicator used in this system. As diagnostic indicators, the system includes the following parameters: patient's age, duration of the disease, heart rate (HR), respiratory rate (HR),leucocyte intoxication index (LII), blood glucose level; blood urea level; blood creatinine level, ferritin (F) level (B or exudate), the level of lactoferrin (LF) (in the blood serum or exudate), the level of alpha2-macroglobulin (MG) (in the blood serum or exudate), the level of C-reactive protein (CRP) (in the blood serum or exudate), the level of alpha-amylase in the blood serum, the level of lipase in крови the blood serum, the level of diastase in the urine, ultrasound data(ultrasound), multispiral computed tomography (MSCT) data. We developed and evaluated the diagnostic capabilities of the method for verifying purulent-septic complications of acute pancreatitis and the transition of a sterile form of pancreatic necrosis to an infectedone. According to clinical, morphological and bacteriological data, groups of patients were identified. The first group included 33 patients with pancreatic necrosis (SP), the second group consisted of 29 patients with infected pancreatic necrosis (IP).

A study of the selected input indicators in the aggregate, data processing and determination of the point gradation of each of themwas carried out.

RESEARCH RESULTS AND DISCUSSION

The difference in the indicators of some laboratory, clinical and instrumental methods identified in patients with acute destructive pancreatitis in dynamics allowed us to note from the entire list of methods only those that, in our opinion, are significant in the question of differential diagnosis of pancreatic necrosis B.the reliability of differences (t) in blood serum and peritoneal exudate of the claimed proteins was calculated (F, LF, MG, CRP), which, in our opinion, may be promising in solving the problem of differential diagnosis of destructive forms of acute pancreatitis. We determined the significance of differences (t) in blood biochemical parameters and levels of the same proteins in blood serum and exudate in patients with SP and IP, which were recorded in the early postoperative period (1-3 days) The use of multi-factor prognostic systems in the structure of a versatile approach to the treatment of patients with pancreatic necrosis is quite firmly established in the practice of modern emergency surgery. These are fairly well-known integral scales SAPS, MODS, SOFA, APACHE, which are based primarily on a comprehensive analysis of a number of traditional and some additional clinical and laboratory indicators and allow for a comprehensive assessment of the severity of the patient's condition, as well as to predict the course of the disease. For this reason, without departing from the diagnostic standards, we calculated the significance of differences (t) for these prognostic scales, since they were used as comparative methods for all patients who participated in the study both at admission and in the early postoperative period (1-3 days after surgery).

According to the above parameters of blood serum and peritoneal exudate, the development of infectious complications in destructive pancreatitis was diagnosed with high accuracy. As a result of timely rehabilitation of abscesses in combination with adequate intensive conservative therapy, the majority of patients ' condition stabilized and diagnostic parameters were restored to normal. For further maximum objectification of calculations, it was necessary to present it in the form of quantitative data. To do this, the diagnosisз оценен нis evaluated by the Student's t-test, followed by calculating the differential diagnosis index in points relative to the highest one, which was accepted for 3 points.

CONCLUSIONS

The differential diagnosis index is the sum of points obtained when adding all diagnostic indicators detected in a patient with destructive pancreatitis. Thus, in the sterile form of pancreatic necrosis, the index of differential diagnosis in the course of our study ranged in the numerical range from 0 to 42 and averaged 19 points. In patients with destructive MR creonecrosis, the total score was in the range of 27-78 and averaged 56 points, which reliably reflects the degree of inflammatory and destructive processes in the pancreas. при It also allows timely recognition of the threat of developing purulent-septic complications.

The use of the developed method for the diagnosis of sterile and infected pancreatic necrosis with the calculation of the differential diagnosis index made it possible to distinguish sterile pancreatic necrosis from infected in 93% of cases and to determine the scope and tactics of treatment measures in a timely manner.

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