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ACUTE NECROTIZING PANCREATITIS: UNFAVORABLE OUTCOME RISK FACTORS

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Abstract. *There is an analysis of surgical treatment of 125 patients with severe forms of an acute pancreatitis. The indication to operation were: clinic of a peritonitis at 117 (93,6%) patients, increase of a mechanical jaundice at 4 (3,2 %) patients, a bleeding from areas of necrosis at 4 (3,2 %) patients. 80 patients had an infected pancreatic necrosis. 80 patients had an injury of retroperitoneal cellulose. 34 patients died. Factors that influence in outcome were: infected pancreatic necrosis, injury of retroperitoneal fat, cachexia, obesity, inefficiency of cardiovascular system, presence of injury of liver. Peripheral blood reaction of patients with acute necrotizing pancreatitis was studied. Prognostic value of hematological indexes was shown. Estimation of patient's state by Acute Sepsis Severity Evaluation Scale was carried out. It was shown, that Acute Sepsis Severity Evaluation Scale is objective in timely estimation of degree of severity of the state of patient with an acute pancreatitis and prognosis of flow of disease.*
Key words: *acute pancreatitis, retroperitoneal cellulose, postoperative lethality, hematological indexes, Acute Sepsis Severity Evaluation Scale*

Introduction: Severe acute pancreatitis remains one of the most difficult diseases in diagnostic and treatment [1,2,3]. The results of treatment of severe acute pancreatitis last years became better, but mortality from its destructive forms still very high on level 30-70% [4,5]. The course and prognosis of acute pancreatitis depend directly from the destruction of the pancreas, and from extrapancreatic complications - retroperitoneal fat damage and peritonitis. Retroperitoneal fat that damaged in aseptic phase of pancreatitis is the focus of developing of infection and the source of sepsis [6,4]. To prevent postoperative complications and to optimize medical tactics in patients with necrotizing pancreatitis, it is important and topical to find criteria that will quickly and accurately separate patients requiring more intensive medical tactics [1,5,6,7,8].

The purpose of research: to conduct the analysis of surgical treatment of patients with acute necrotizing pancreatitis and to identify clinical and laboratory parameters, which reflect the high probability of an unfavorable course of the disease.

Methods: There is an analysis of surgical treatment of 125 patients with severe acute pancreatitis. The age of patients ranged from 19 to 90. Men were 80 (64%), women - 45 (36%). the minimum age in men was 19 years old, maximum - 86, women - 24 and 90 years. At age 20 was 2 (1.6%) patients, from 21 to 40 - 42 (33.6%) patients, from 41 to 60 years - 35 (28%) patients, from 61 to 75 years - 31 (24.8%) patients, more than 76 years - 15 (12%) patients.

The indications to operation were: clinic of a peritonitis and parapancreatitis at 117 (93,6 %) patients, increase of a mechanical jaundice at 4 (3,2 %) patients, a bleeding from arosive vessels from necrotic areas and sequesters at 4 (3,2 %) patients.

In postoperative period 34 (27,2%) patients died. Causes of death of 26 (76.5%) patients were multiple organ failure; of 8 (23.5%) patients were heart failure.

Reaction of periphery blood by hematological indexes (one of these hematological indexes – the intoxication indicator – offered by us) [9]; estimation of severity of the patient's state by the Acute Sepsis Severity Evaluation Scale[10,11]; presents of parapancreatic fat injury; presents of concomitant diseases in dynamics of treatment of the patients also were studied.

To defining criteria that significantly affect the course of the disease; we carried out the analysis of clinical characteristics of patients with acute pancreatitis with the isolation of a group of patients who died in the hospital from complications of pancreatic necrosis.

Statistical data processing was to calculate the arithmetic mean value (M) and error (m). Parametric and nonparametric data was filed by M+m. Comparison of the signs carried out using a U-Mann-Whitney test. Assessing the statistical significance of indicators was carried out at the level of p<0.05.

Results: The average age of the deceased patients was (60,5±3,56) years. In comparison with the average age of the survived patients (47,75±1,89) years. The differences are statistically significant at the level of p<0.05.

Analysis of mortality by gender showed that among those women who survived were 31 (68,89 %), dead - 14 (31.11 %), among those men who survived - 60 (75 %), dead - 20 (25 %) (p>0.05).

The average time from onset of illness prior to admission of patients in the surgical hospital was (5.2±2.1) days; hospitalization of patients with severe acute pancreatitis was quite late.

Criteria of severity of condition of patients with necrotizing pancreatitis are systemic inflammatory response syndrome (SIRS) and multiple organ failure.

The systemic inflammatory response syndrome detected in 75 (60 %) patients. Phenomena of acute organ failure were detected in 107 (85.6 %) patients. In 63 (58.9 %) patients of this group clinic of acute cardio-pulmonary insufficiency dominated, in 44 (41.1 %) patients clinic of renal and hepatic insufficiency dominated.

Infected necrosis revealed at 80 (64,0%) patients. Sterile necrosis revealed at 45 (36,0%) patients. In the group of died infected necrosis revealed at 30 (88,2%) patients, sterile necrosis revealed at 4 (11,8%) patients

Parapancreatic fat injury revealed at 80 (64,0%) patients. At 26 (76,5%) patients from 34 died parapancreatic fat injury revealed. Thus infected panceatic necrosis increase lethality risk in 37,5%, parapancreatic fat injury increase lethality risk in 32,5%.

With chronic concomitant diseases in 63 (50.4%) patients revealed cardiovascular pathology; in 49 (38.0%) - gall-stone disease. Liver diseases diagnosed in 17 (13.18%) patients; chronic gastric ulcer and duodenal ulcer - in 13 (10.08%) patients. Obesity II-IV degree detected in 6 (4.8%); cachexia - in 4 (3.2%) patients. 7 (5.43%) patients had alcoholism; 7 (5.43%) patients had renal pathology; 7 (5.43%) patients had diabetes. Pathology of the respiratory system detected in 4 (3.2%) patients; 2 (1.55%) patients had malignant neoplasms; 1 (0.8%) patient suffered from syphilis.

In the analysis of concomitant diseases has been revealed that among patients with cachexia, obesity and alcoholism, the mortality rate was 100%. Our results coincide with literature facts about mortality cases frequency in patients with alcohol pancreatitis [12,13]. Among patients with chronic liver disease and kidney disease mortality rate was 54,2%, among patients with pathology of the cardiovascular system rate was 47.6% (p<0.05).

It was revealed, that values of the index of organism's resistance less than 31,59; the leukocyte intoxication index more than 8,18; the reactive neutrophilic response index more than 40,77; the intoxication indicator more than 1,14 are the factors of adverse outcome of severe acute pancreatitis (<0,05). At severity of the patient's state by the Acute Sepsis Severity Evaluation Scale in a preoperative period more than 13 points lethality in a postoperative period was 51,85%, less than 13 points - 19,44%. In an early postoperative period at severity of the patient's state more than 16 points lethality was 70,59%, less than 16 points - 11,11%. At severity of the state of patient in a preoperative period more than 13 points mortality in a postoperative period was 51,85%, less than 13 points - 19,44%. In an early postoperative period at severity of the state of patient more than 16 points mortality was 70,59%, less than 16 points - 11,11%.

The analysis of individual estimations of patients by the Acute Sepsis Severity Evaluation Scale conducted. The method of cluster analysis divided patients into three clusters. The first cluster - sum of points increased at first twenty-four hours of postoperative period, decreased after. The second cluster - the sum of points decreased gradually. The third cluster- the sum of points increased progressively. The analysis of mortality in clusters conducted. Mortality was 11,11% in the first cluster, 21,43% - in the second, 50,0% - in the third.

Conclusions:

1. Postoperative mortality from complications of acute necrotizing pancreatitis is 27.2%. However infected pancreonecrosis and parapancreatic fat injury revealed at 64% of patients with acute necrotizing pancreatitis.

2. High risk of developing of post-operative complications in patients with severe acute pancreatitis is caused by the nature of the injury of the pancreas and retroperitoneal fat, age, alcoholic etiology of the disease, presents of disorders of body weight, diseases of liver, kidneys, cardiovascular system.

3. The indexes of peripheral blood, individual estimation of patient's state by the Acute Sepsis Severity Evaluation Scale are prognostic criteria of course of severe acute pancreatitis.

4. Sum of points by the Acute Sepsis Severity Evaluation Scale more than 13 in a preoperative period and more than 16 in an early postoperative period are factors of high probability of fatal outcome for a patient with severe acute pancreatitis. A progressive increasing of sum of points by the Acute Sepsis Severity Evaluation Scale in the dynamics of postoperative period is an unfavorable factor for a patient with the severe acute pancreatitis.

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