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OBJECTIVE ASSESSMENT OF THE LEVEL OF ENDOGENOUS INTOXICATION AND THE CHOICE OF A MINIMALLY INVASIVE DETOXIFICATION METHOD IN PATIENTS WITH ACUTE PANCREATITIS

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ABSTRACT
The authors studied the endogenous intoxication index in 87 patients with acute pancreatitis, which allows us to objectively assess the severity of intoxication in the body, the severity of the patient's condition, and suggest the severity of morphological changes in the pancreas. Enterosorption with AU-K was used in complex treatment of 51 patients.AY-K Effectively reducing endotoxemia, enterosorption made it possible to predict the course of acute pancreatitis with good reason, had a favorable effect on the treatment of the disease and significantly improved the results of treatment.
KEY WORDS: *Acute Pancreatitis, Endogenous Intoxication, Enterosorption.*

RELEVANCE OF THE PROBLEM

Acute pancreatitis is a polyethological, phase-based disease of the pancreas associated with the activation of its enzymes and the impact of the latter on the gland tissue up to autolysis and necrosis [6, 7, 8].

The problem of acute pancreatitis is one of the most important in modern abdominal surgery. This is due to the significant spread of the disease, insufficient development and lack of common views on the pathogenesis and treatment of this severe pathology.[2, 11, 12, 13]. The choice of treatment methods for patients with acute pancreatitis depends on the equipment of the medical institution, the availability of qualified specialists, and trained personnel. In any case, the approach to treating a patient with acute pancreatitis should be multidisciplinary, and the tactics of treatment should be determined by a consultation consisting of surgeons, endoscopists, and ultrasound and X-ray service doctors [3, 4, 14].

The severity of the condition of patients with acute pancreatitis is largely determined by the severity of endogenous intoxication caused by proteolytic enzymes, products of lipolytic necrosis of the pancreas itself and parapancreatic tissue, as well as purulent inflammation [5, 9, 10]. Intoxication in combination with hypovolemia, decreased BCC, CP, and CSF disorders cause the development of pancreatogenic shock. Due to the need to eliminate the phenomena of enzyme toxemia, which underlies the systemic manifestations of the disease, detoxification measures are an integral component of therapy мероприятия. For this purpose, forced diuresis, as well as plasma andlymphosorption, and plasmapheresis are widely used in medical practiceлимфосорбция, плазмоферез. Peritoneal lavage, using drains installed during laparoscopy, also allows you to reduce intoxication, remove the resulting sequesters, toxic exudate. In the presence of severe concomitant diseases, especially in the elderly and senile age, which limit the widespread use of extracorporeal detoxification methods, gastrointestinal sorption or enterosorption is successfully used.

To assess the severity of intoxication of the body, along with other indicators, you can use the endogenous intoxication index (IEI), which objectively reflects the severity of intoxication in patients with various inflammatory diseases, including acute pancreatic pathology.

PURPOSE OF THE STUDY

To reliably assess the severity of endogenous intoxication in patients with acute pancreatitis and to study the effectiveness of the detoxification effect of enterosorption with the use сорбента of AU-K sorbent..

MATERIAL AND METHODS OF RESEARCH

The aim of our study was to study the significance of IEI along with other hematological data, clinical signs and changes in diastasis in blood and urine in assessing the severity of patients with acute pancreatitis, which would allow a more objective assessment of various treatment methods, the effectiveness of detoxification therapy and the postoperative period.

The index of endogenous intoxication was calculated according to the formula proposed by N. A. Belyakov [1].

$$IEI = \frac{\text{ABOUT}}{M + AlAT + MSM},$$

gde,де, IEI - endogenous intoxication index, OB - total protein, M-urea, AlAT-alanine aminotransferase, MSM-medium-weight molecules.

As a control, IEI was studied in 14 healthy people. Normally, the IEI value corresponded to 11.2 ± 0.2 cu. With an increase

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in intoxication, its value decreases, reaching 3-2 cu in terminal states.

IEI was determined in 87 patients with various forms of acute pancreatitis at admission to the hospital, on the 3rd, 5th, and 7th days, and before discharge. A direct relationship was found between the severity of the disease and the value of IEI.

RESEARCH RESULTS

Among patients with edematous acute pancreatitis who did not require surgery, the IEI at admission was lowered in 59 out of 65 patients with fluctuations from 8.31 cu to 6.74 cu, with an average of 7.65 cu. The absence of a decrease in IEI in 6 patients with edematous form of the disease is probably due to the fact that only a general blood test, leukocytosis, diastasis in the blood and urine were determined upon admission for emergency indications. A detailed study was conducted the next day, when the pain was already reduced, vomiting stopped, and detoxification therapy was performed. In addition, in 2 of these patients, the clinical picture was less pronounced, they were hospitalized mainly for the purpose of examination. They had pain in the epigastric region or shingles, no nausea, vomiting, and pain in the epigastrium without straining the anterior abdominal wall, although there was a slight increase in diastasis in the urine.

Diastasis at admission in patients with edematous acute pancreatitis was increased in 43 patients with low EI and only 1 with normal or slightly reduced EI. A lower EI was often associated with high levels of diastasis in the blood and, especially, in the urine. However, there was no direct relationship between the indicators of IEI and diastasis. A lower EI corresponded to a more pronounced clinical picture of acute pancreatitis. IEI more objectively than diastasis reflected the severity of endogenous intoxication, which is associated with the entry into the blood of not only amylase, but also trypsin, lipase, kallikrein and other enzymes, products of lipolytic necrosis and purulent inflammation.

In all 20 patients with hemorrhagic acute pancreatitis, the IEI was significantly reduced, which indicates the severity of endogenous intoxication. In the hemorrhagic form of pancreatitis, the IEI ranged from 3.18 cu to 4.92 ycu, with an average of 3.86 cu.

Along with severe symptoms of pancreatitis, cyanosis of the face and abdominal wall, symptoms of peritonitis, tachycardia, shortness of breath, as well as pronounced biochemical changes in the blood (high residual nitrogen, urea, creatinine, increased bilirubin levels, decreased protein fractions) were observed.

The lowest IEI values were observed in 3 patients with pancreatic necrosis complicated by peritonitis and hepatic-renal insufficiency. One of them had a limited necrotic process, a small abscess. His IEI was 4.88 cu, and in two patients it averaged 3.26 cu. They had an extensive purulent-necrotic process that spread to the para-pancreatic and retroperitoneal tissue with hemorrhages and peritonitis, which ended in death. Changes in the number of white blood cells in the blood did not always coincide with changes in the IEI. In such cases, we attached more importance to the IEI, which more objectively reflected the severity of endogenous intoxication and allowed us to identify problems in the body.

The value of IEI is associated with the degree of severity of morphological changes in the pancreas, the prevalence of the process, the presence of restrictions that prevent the absorption of toxic products into the blood, the presence of complications and other factors associated with the development of endogenous intoxication.

Modern scientific progress in biology and medicine has led to the creation of a promising and minimally invasive direction in the treatment of endogenous intoxication in acute pancreatitis – sorption therapy. Enterosorption in comparison with other detoxification methods has a number of advantages, first of all, technical simplicity, high clearance of toxic metabolites.

In the complex of treatment measures in 51 patients with acute pancreatitis, we included enterosorption using сорбента the AU-K sorbentdeveloped by the Uzbek Chemical and Pharmaceutical Research Institute. Enterosorptionwas performed for 5-7 days at a dosage of 1 g/kg of body weight per day and the sorbent was taken 3 times a day. In most patients, after such treatment, the IEI increased and normalized on the 5th – 6th day. In 3 patients, despite the treatment, the IEI continued to decrease during the first 2-3 days. This indicated insufficient detoxification therapy or progression of the process. In these patients, the daily dosage of enterosorbent was increased to 1.5-2 g / kg of body weight per day.

During conservative therapy in patients with a destructive form of acute pancreatitis, the IEI increased in 8 patients, which was associated with the formation of an infiltrate or delineation of an abscess, as a result of which the absorption of oxidative products decreased, as well as in connection with the effectiveness of detoxification therapy. These patients were operated on a few days after admission. The remaining patients with a destructive form of acute pancreatitis were operated on on the day of admission.

A decrease in IEI or no increase in it from 2-3 d after surgery was a prognostically unfavorable sign. It was associated with the progression of pancreatitis, the development of peritonitis, and hepatic-renal failure.

Enterosorption as a pathogenetically justified method of sorption detoxification has found wide application, especially in elderly and senile individuals with concomitant pathology of the natural detoxification organs, when there were contraindications to the use of other extracorporeal methods of combating pancreatogenic intoxication. Enterosorption does not require special conditions and equipment, and can be used in all surgical hospitals, which will improve the results of treatment of patients with acute pancreatitis. The value of this method increases significantly due to its technical simplicity, accessibility, and lack of side effects.

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CONCLUSION

Thus, low EI values indicate the onset of complications, the progression of the process in the pancreas, or the inadequacy of detoxification therapy. It allows us to objectively assess the severity of endogenous intoxication of the body in various forms of acute pancreatitis and suggest morphological changes in the pancreas. Enterosorption with AU-K turned out to be an effective and pathogenetically justified means of detoxification in combination with conservative and operative methods of treating acute pancreatitis. By reducing endotoxemia, it makes it possible to predict the course of acute pancreatitis with greater justification, has a favorable effect on the course of the disease and significantly improves the results of treatment. Apparently, enterosorption as a pathogenetically justified method of sorption therapy can be widely used in the complex treatment of patients with acute pancreatitis, both in conservative treatment and in combination with surgical intervention.

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