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Improvement of antibiotic therapy efficacy in an experimental clinical trial in acute pancreatitis

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Abstract

This paper presents a brief overview of the methods of treatment of acute pancreatitis and describes an experimentally-clinical research of improvement of antibiotic therapy efficacy. Particular emphasis is placed on the effectiveness of intensive conservative treatment of aseptic pancreatic necroses, particularly, antibiotic therapy. The main causative agents of infection in the infected pancreatic tissue are presented in this paper. The research was conducted at the Department of Surgery of SBEI CPE KSMA and the Department of Pharmacology of SBEI CHE KSMU on 40 male and female rats weighing 150 to 250 grams used to study the concentration of Cefotaxime by high performance chromatography with different methods of its administration. Application of galvanization at administration of antibiotics in experimental pancreatitis is more efficient as compared with conventional antibiotic administration after 24 hours of reproduction of acute pancreatitis. The clinical part of the study involved comparison of a group of patients (n-27) undergoing an interstitial electrophoresis time on the background of antibacterial therapy, and a group of patients (n-26) receiving conventional antibiotic treatment. Complications in the main group were observed in 13% of patients with a predominance of localized infections (3 cases of acute fluid pockets, 1 case of retroperitoneal abscess) as compared with the control group - 34.6% of patients with a predominance of extensive forms of infection (15% had omental and retroperitoneal abscesses, 19% had retroperitoneal phlegmon). Accordingly, the main group underwent predominantly non-invasive procedures, and the control group underwent laparotomy, marsupialization, and lumbotomy. The mortality rate in the study group was 10%, and in the control group - 15%. The use of interstitial electrophoresis in addition to antibiotic therapy contributes to reduction in the frequency of septic complications, to predominance of localized infections, and reduces mortality in patients with acute destructive pancreatitis.

Keywords

Acute pancreatitis, Antibiotic therapy, Chromatography-Electrophoresis, Galvanization