

CHRONIC OBSTRUCTIVE PULMONARY DISEASE EXACERBATION TREATMENT

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Introduction: Nowadays negative impact on human health is increased due to persistent actions of chronic obstructive pulmonary disease (COPD) risk factors associated with an increased frequency of acute respiratory infections events, which are a major cause of COPD exacerbation. In the study of inflammatory processes in patients with COPD exacerbation, special attention is paid to cellular metabolism of an arachidonic fatty acid (FA), which is a substrate for the synthesis of proinflammatory eicosanoids – leukotrienes of the 4th series and prostaglandins of the 2nd series. The key mechanism for the release of this arachidonic FA from phospholipids of the cytoplasmic membrane into a cellular cytoplasm is the activation of the phospholipase A₂ enzyme due to excessive lipoperoxidation and entry into the cellular cytoplasm of Calcium ions.

The aim of the study was to research an efficacy of fenspiride administration in the treatment of COPD exacerbation.

Materials and methods: The study included 81 patients with non-severe exacerbation of COPD. The control group consisted of 40 healthy people. Patients were randomized to two groups. The first group included 40 patients receiving standard anti-inflammatory therapy. The second group included 41 patients whom, in addition to standard anti-inflammatory therapy were prescribed fenspiride at a daily dose of 160 mg orally. Background inhalation therapy was continued without changing the dosage. Examination of patients was performed before and after a two-week course of treatment. In addition to routine COPD screening investigations, patients were performed gas chromatographic analysis of phospholipid spectrum of the erythrocyte membrane phospholipid by a Color-500 series chromatograph, as well as hematocrit and blood viscosity measurements with a rotary viscometer. In both groups, an analysis of changes in the fatty acid spectrum in comparison with the dynamics of clinical symptoms and rheological properties of blood was performed.

Results: In patients with COPD in both groups compared to similar values in healthy individuals there was a decrease of arachidonic FA in the spectrum of phospholipids of erythrocyte membranes, along with a shift in the balance between saturated, unsaturated, and polyunsaturated FA towards the predominance of saturated FA. According to the results of gas chromatographic analysis, patients of the second group were stratified into two subgroups: A (26 patients) with low content (less than 8% of all phospholipids) and B (15 patients) with high content (more than 8% of all phospholipids) of arachidonic FA in spectrum of phospholipids of erythrocyte membranes.

Analysis of chromatographic parameters in patients of the first group showed that after treatment the fatty acid spectrum of phospholipids of erythrocyte membranes did not change significantly as well as the rheological properties of blood. The patients of the second group showed more rapid positive changes in the clinical symptoms of exacerbation than the patients of the first group.

The patients of subgroup A showed an improvement in the ratio between saturated, unsaturated, and polyunsaturated fatty acids in phospholipids of the membranes of erythrocytes in the direction of reducing of relative content of saturated fatty acids in the phospholipid spectrum. These changes were combined with rapid regression of clinical symptoms of COPD exacerbation within the first week of treatment and with improvement of the rheological properties of the blood.

In the patients of subgroup B were not observed improvement in the chromatographic spectrum of phospholipids in erythrocyte membranes. The regression of clinical symptoms of COPD exacerbation was slower than in patients of subgroup A – occurring within the second week.

Conclusion: To more effectively using of a fenspiride in the treatment of exacerbations of COPD, should be used the chromatographic criterion for fenspiride administration – low content of arachidonic fatty acid (less than 8% of all phospholipids) in spectrum of phospholipids of erythrocyte membranes.

KEY WORDS: fenspiride, arachidonic acid, fatty acid chromatographic spectrum, blood viscosity

A NEW DIAGNOSTIC PREDICTOR FOR PROPHYLAXIS OF THE DEVELOPMENT OF SEVERE COMPLICATIONS OF ACUTE PANCREATITIS

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Introduction: Acute pancreatitis is one of the most pressing problems of modern medicine due to the development of severe complications that cause mortality in the range of 40 - 70%. The most common causes of death in patients with acute pancreatitis are purulent-septic complications, which in turn cause the development of sepsis, erosive bleeding, pancreatic and gastrointestinal fistulas, mechanical jaundice, etc. At late diagnosis of these complications mortality reaches more than 85% owing to multiorgan insufficiency. There are many rating scales for the severity of acute pancreatitis, but known screening methods are ineffective. Thus, the issue of timely diagnosis of purulent-septic complications of acute pancreatitis, as a method of preventing the development of multiple organ failure, remains relevant today.

The aim: Study of the role of *Helicobacter pylori* (HP) as an etiological factor of acute pancreatitis and a marker of the development of its purulent-septic complications.

Materials and methods: The study involved 124 patients who were divided into the main group (66 patients with moderate severity and severe course) and the