

ANTIOXIDANT STATUS IN PATIENTS WITH COMORBIDITY OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND CHRONIC PANCREATITIS

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Chronic obstructive pulmonary disease (COPD) is a global medical problem characterized by steady progression under the influence of environmental factors, including free radicals of cigarette smoke. Superoxide dismutase (SOD) is an antioxidant protein that neutralizes free radicals and, thus, has a protective effect on lung tissue.

The aim of the current study is to determine the activity of SOD in patients with comorbidity of COPD and chronic pancreatitis (CP).

Materials and methods. 79 COPD patients have been examined: 47 COPD patients in combination with chronic pancreatitis have been regarded as a main group, 32 patients with an isolated course of COPD made up a compared group. Standard values were obtained while examining 20 almost healthy patients of the same age and gender. The latter made up a control group. The activity of superoxide dismutase has been determined by the method of Chevari S. et al. Statistical data has been performed on workstation by means of software “Microsoft Excel” and “STATISTICA 6.0”.

Results. The study showed that COPD exacerbation was accompanied with inhibition of the antioxidant defence system, which is manifested by a significant decrease of SOD activity to 1.87 ± 0.12 units in patients with isolated COPD and to 1.61 ± 0.09 units in patients with comorbidity of COPD and CP, in comparison with control group – 2.25 ± 0.11 units ($p < 0.05$). The comparative analysis of the examined groups has proved the significant difference ($p < 0.05$) in activity of SOD.

Conclusions. Thus, as a result of studies, it has been found out that there is an exacerbation of COPD, in the isolated course of disease as well as in disease combined with chronic pancreatitis, there is an observed severe deficiency of antioxidant protection. At the same time, changes in patients with comorbidities of COPD and chronic pancreatitis were significantly deeper and had significant differences from those in patients with isolated COPD, reflecting deep deviations in antioxidant defense system in patients with comorbidity.