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The effect of the complex of antioxidants (vitamins A, E, C and microelements of copper, zinc and selenium) on alive organisms

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Many pro-oxidant effects on the organism lead to a significant increase in formation of active oxygen metabolites, which in turn results in intensification of formation of free-radicals [3,4]. The free-radical mechanisms involved in the pathogenesis of different pathology and diseases [3]. The development of the peroxide oxidation might be terminated by inhibitors, which restore radicals in a stable molecular form. In the clinic practice the most widely used are natural non-enzymatic antioxidants (vitamins A, C, E) due to their adequate efficiency and lack of the side-effects [1,2].

Therefore, **the aim of this study** was investigation of adaptogenic properties of the antioxidant mixtures 1 and 2.

Materials and methods: Adaptogenic properties of the mixtures 1 and 2 were studied on 54 mice. The mixture 1 is a complex of vitamins C, E, A in doses of 100,2 mg/kg, 20,4mg/kg, 10,2mg/kg approximately, and glucose of 100,2 mg/kg. The mixture 2 is a complex of vitamins at the same doses with addition of microelements of copper, zinc, selenium. The mixtures were introduced into the stomach through the esophageal probe every day for two weeks. Then the animals were exposed to stress. As the models of extreme situations we used normobaric and hemic hypoxia and tests for endless swimming. In all cases we recorded the lifespan of animals.

According to the results, when is used the mixture 1 the lifespan in the normobaric hypoxia was statistically significant higher than the appropriate index of the control group in 1.5 times, and when is used the mixture 2 – in 1.6 times, approximately. In the second series of experiments, where is used hemic hypoxia as the stress the tendency to increase of the lifespan of mice treated with the mixtures 1 and 2 is also noticed. The results of the third series of experiments show statistically significant increase of the lifespan of mice treated with the mixture 1 in 1,3 times, and especially with the mixture 2 – in 1,5 times.

Conclusions: The antioxidant complex is an adaptogen for organisms exposed to a stressful situation. The efficiency of the mixture 2 is higher than 1, due to the fact that it consists of vitamins and microelements. Thus, more appropriate to recommend taking the complex of vitamins and microelements rather than vitamins separately.

Литература

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