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Interval Normobaric Hypoxia and Antioxidant Status in Female Patients with Various Diseases

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Aim. To study the activity of antioxidant enzymes and lipid peroxidation in red blood cells of patients with depressed antioxidant system after a course of an interval normobaric hypoxia (INH).

Methods. Venous blood samples from fourteen women suffering from different diseases were drawn before, in the middle, and after an INH course. Activities of antioxidant enzymes superoxide dismutase (SOD), catalase (CAT), glucose-6-phosphate dehydrogenase (G6PD), glutathione reductase (GSSG-R), glutathione peroxidase (GSH-Px), hemoglobin concentration, and the concentration of malondialdehyde (MDA) in red blood cells were measured. Blood pressure and heart rate were also determined.

Results. SOD, G6PD and GSSG-R activities remained unchanged during the course of INH. CAT activity decreased, but GSH-Px activity significantly increased ($p<0.05$) by 25% of the baseline value. INH did not affect the concentration of MDA, but it normalized the blood pressure and the heart rate.

Conclusion. INH therapy partly improved the enzymatic antioxidant system, but did not affect lipid peroxidation in red blood cells. The general condition of the patients improved.

Key words: *antioxidants; blood cells; enzymes; hypoxia; lipid; peroxides*

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