

## The Investigation of Endogenous Intoxication and Lipid Peroxidation in Patients with Giardiasis Before and After Treatment

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**Abstract :** Background: The level of middle molecules of peptides (MMP) allows to evaluate the severity and prognosis of the disease and is a criterion for the effectiveness of the treatment. The detection the products of lipidperoxidation cascade, such as conjugated dienes, malondialdehyde in biological material, has an important role in the development of pathogenesis, the diagnosis and prognosis in different parasitic diseases. Purpose of the study was to evaluate the state of endogenous intoxication and indicators of lipid peroxidation in patients with giardiasis before and after treatment. Materials and methods: Endogenous intoxication was evaluated in patients with giardiasis in the level of middle molecules of peptides (MMP) in the blood. The amount of MMP and products of lipid peroxidation were determined in the blood of 198 patients with giardiasis, 129 of them were women (65%), 69 were men (35%). The MMP level was detected for comparison in the blood of 84 healthy volunteers. The lipid peroxidation were determined in 40 healthy men and women without giardiasis and history of chronic diseases. Data were processed by conventional methods of variation statistics, we calculated the arithmetic mean (M) and standard dispersion (m). t-test (t) was used to assess differences. Results: The level of MMP in the blood was significantly higher in patients with giardiasis in comparison with group of healthy men and women. MMP concentration in the blood of women with Giardia was 2.5 times greater than that of the comparison groups of women. The level of MMP exceeds more than 6 times in men with giardiasis. The decrease in the intensity of endogenous intoxication was two weeks after anti-giardia therapy, both men and women. According to the study, a statistically significant increase in the level of all the studied parameters lipid peroxidation cascade was observed in the blood of men with giardiasis, with the exception of the total primary production (NGN). The treatment of giardiasis helped to stabilize the level of almost all metabolites of lipid peroxidation cascade. The exception was level of malondialdehyde, it was significantly elevated to compare with the control group and after treatment. Conclusion: Thus, the MMP level was significantly higher in blood of patients with giardiasis than in comparison group. This is evidence of severe endogenous intoxication caused by giardia infection. The accumulation of primary and secondary products of lipid peroxidation was observed in the blood of men and women. These processes tend to be more active in men than in women. Anti-giardiasis therapy contributed to the normalization of almost all the studied indicators of lipid peroxidation in the blood of participants, except the level malondialdehyde in the blood of men.

**Keywords :** enzymes of antioxidant protection, giardiasis, blood, treatment

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