



THERAPEUTIC STRATEGIES FOR CEREBRAL ATHEROSCLEROSIS UNDER HIGH-ALTITUDE CONDITIONS: ADAPTIVE-METABOLIC CORRECTION

Taalaibekova M. T.

Makhmudova Zh. A.

I.K.Akhunbaev Kyrgyz State Medical Academy, Bishkek city, Kyrgyz Republic

e-mail: meka_0694@mail.ru

<https://doi.org/10.5281/zenodo.17342808>

Relevance. Cerebral atherosclerosis under high-altitude conditions has a more severe course due to chronic hypobaric hypoxia, which enhances mitochondrial dysfunction, lipid peroxidation, and energy deficit in brain cells. This leads to faster progression of cognitive impairments and increases the risk of ischemic stroke. The search for therapeutic strategies focused not only on the vascular component but also on adaptive-metabolic support is a pressing task.

Objective of the study. To evaluate the effectiveness of adaptive-metabolic correction in the complex therapy of cerebral atherosclerosis under high-altitude conditions.

Materials and methods. Clinical data were analyzed in patients with cerebral atherosclerosis living at an altitude of 1600–2800 m above sea level. The therapeutic complex included antihypoxants (meldonium), metabolic agents (cytoflavin, actovegin), antioxidants (vitamin E, coenzyme Q10), and drugs improving cerebral blood flow. Cognitive status (MMSE), biochemical markers of oxidative stress and energy metabolism (lactate/pyruvate ratio, ATP level), as well as changes in lipid profile were evaluated.

Results. Against the background of complex adaptive-metabolic correction, an improvement in cognitive functions was observed (MMSE increased by 12%), a reduction in lipid peroxidation products (MDA – by 18%), normalization of the lactate/pyruvate ratio, and an increase in ATP content in erythrocytes by 15%. Patients showed improved microcirculation and reduced severity of headaches and asthenic syndrome.

Conclusions. Adaptive-metabolic correction is a promising approach in the therapy of cerebral atherosclerosis under high-altitude conditions. The combined use of antihypoxants, metabolic and antioxidant agents contributes to the stabilization of energy metabolism, reduction of oxidative stress, and improvement of cognitive functions, thereby enhancing the effectiveness of treatment and quality of life of patients.