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# METABOLIC ADAPTATION TO MOTOR ACTIVITY OF VARYING INTENSITY AND PHYSICAL INACTIVITY

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Muscular activity is such a universal form of activity, without which human existence is impossible. Prolonged restriction of motor activity — inactivity - is a factor that significantly complicates the course of the main pathological process, accompanied by a stress reaction and corresponding shifts in metabolism. This often leads to the breakdown of compensatory and adaptive mechanisms and the development of a complex of pathological manifestations.Currently, research is being conducted quite actively in the field of studying hypodynamic states and immobilization stress, mainly these works relate to repeated effects of short-term immobilization stress. It was found that under these conditions, the processes of lipoperoxidation (LPO) are significantly activated against the background of a decrease in the indicators characterizing the antioxidant defense system (AOS). There are few works concerning metabolic changes under the constant influence of a hypodynamic state, which simulate the real clinical situation in the management of, first of all, traumatological patients. No biochemical criteria have been established to objectively assess the contribution of restriction of motor activity to the course of the main pathological process. A number of works have shown the optimizing effect of moderate muscular activity on the functioning of organs and systems . This phenomenon is not only the basis of fitness; it has also found wide application in physical therapy for the prevention of obesity, coronary heart disease and in the rehabilitation of traumatological patients. Metabolic parameters characterizing the level of fitness and response to physical activity at the cellular,

organ, systemic and organismic levels have become the object of close attention not only of domestic and foreign scientists and doctors, but also specialists working in various sports

The purpose of this work was to conduct comprehensive biochemical studies and identify the features of the course of metabolic processes during adaptation to different levels of motor activity. To establish the role of lipoperoxidation processes and the antioxidant defense system in the formation of metabolic shifts associated with changes and the nature of motor activity. Research objectives

1. To identify individual typological features of metabolism for metered physical activity in individuals with different levels of daily motor activity.

2. To identify metabolic shifts accompanying the process of adaptation to muscle activity, fitness and physical inactivity.

3. In an animal experiment, conduct a comprehensive biochemical study of the state of inactivity and acute physical overstrain.

4. To establish the metabolic changes accompanying the development of the distress syndrome in hypodynamia and acute physical overstrain.

For the first time in an animal experiment, a comprehensive study of the biochemical mechanisms accompanying the process of adaptation to muscular activity was carried out. The role of protein, carbohydrate, lipid, purine metabolism in adaptation to the action of moderate

regular muscle loads is shown. Biochemical shifts were revealed directly in the skeletal muscle and the organs participating in the functional system that provides the motor act.

For the first time in an animal experiment, a comprehensive biochemical study of the state of acute physical overstrain was carried out. The corresponding shifts of protein, carbohydrate, lipid, purine metabolism, the state of the processes of lipoperoxidation and antioxidant protection, not only in blood plasma and erythrocytes, but also in skeletal muscle and internal organs - participants of the functional system that provides motor act - have been established and explained. The revealed shifts significantly enrich the teaching about the mechanisms of development of acute physical fatigue.

Implementation of research results into practice

In carrying out this work, the following research methods were developed or modified: chemiluminescent method for determining lipid peroxidation in blood serum and lipoprotein fractions; method for studying the lipid composition of high and low density lipoproteins; method for determining low molecular weight peptides, urea and ascorbic acid in one sample; method for determining antiradical activity, method for determining the end products of lipoperoxidation(bases-Schiff).

**References:**

1. Alexander E,, Ball M., Laster D. Subtemporal decompression: Radiological International working party on the management of the vegetative state: summary report // Brain Injury. observations and current surgical experience // Br. J. Neurosurg. 1987. Vol. 1. P. 427- 433.
2. Andrews B.T., Chiles B.W., Olsen W.L., Pitts L.H. The effect of intracerebral hematoma location on the risk of brainstem compression and on clinical outcome // J. Neurosurg. 1988. Vol. 69. P. 518-522.
3. Nozimjon O'g'li, S. S., & Maksimovna, M. M. (2022). THE ORIGIN OF MIASTHENIA DISEASE AND METHODS USED IN TREATMENT. *Conferencea*, 31-33.
4. Nozimjon O'g'li, S. S., & Kasimjanovna, D. O. (2022, November). ORIGIN, PREVENTION OF MENINGITIS DISEASE, WAYS OF TRANSMISSION AND THE USE OF DIFFERENT ROUTES IN TREATMENT. In *E Conference Zone* (pp. 37-40).
5. Nozimjon O'g'li, S. S. (2022). CAUSES OF THE ORIGIN OF OSTEOCHONDROSIS, SYMPTOMS, DIAGNOSIS AND TREATMENT METHODS. *Conferencea*, 76-77.
6. Nozimjon o'g'li, S. S. (2022). INFORMATION ABOUT THE STRUCTURE OF THE MEMBRANE OF EPITHELIAL TISSUE AND GLANDS. *British Journal of Global Ecology and Sustainable Development*, *10*, 65-69.
7. Nozimjon o'g'li, S. S. (2022). First Aid Medication and Remedies for Heart Failure. *Academia Open*, *7*, 10-21070.
8. Nozimjon o'g'li, S. S., & Xasanboy o'g'li, A. A. (2021). Quantitative Indicators of Villi Cells in the Intraepithelial Part of the Small Intestine. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, *1*(2), 19-21.
9. Mavlonovna RD. Factors That Increase the Activity of Women and Girls in Socio-political Processes at a New Stage of Development of Uzbekistan. JournalNX.;7(07):61-6.
10. Mavlonovna, R. D. Participation of Uzbek Women in Socio-economical and Spiritual Life of the Country (on the Examples of Bukhara and Navoi Regions). *International Journal on Integrated Education*, *4*(6), 16-21.
11. Mavlonovna, R. D. (2021, May). PARTICIPATION OF WOMEN IN EDUCATION AND SCIENCE. In *E-Conference Globe* (pp. 158-163).

12. Mavlonovna, R. D., & Akbarovna, M. V. (2021, July). PROVISION OF FAMILY STABILITY AS A PRIORITY OF STATE POLICY. In *Archive of Conferences* (pp. 34-39).