

ductase was within normal limits, therefore, we may assume that the catabolism processes related to Krebs cycle remained unchanged.

It is known that during the destruction of mitochondrial membrane, the membrane-bound H⁺ATPase may change its conformational structure and lose its activity. At the same

time, the formation of lipidic hyperoxides, which appear during inflammation of mitochondria and are potential isolators, may lead to isolation of the process of coupling of oxidation and phosphorylation. One of the reasons of functional failure of H⁺ATPase may be oxidation of thiol groups and transformation of lipid microenvironment of enzyme.

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EFFECT OF WHOLE-BODY VIBRATION ON BONE REMODELING

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Key words: vibrations, bone, mineral density, osteoporosis

Chronic mechanical vibrations combined with the physical attributes of the human body can amplify the incoming energy and present the potential for negative health effects. The aim of our study was to determine the effect of vibration oscillations of various frequencies upon the process of bone tissue remodeling.

Experimental research was conducted on 30 pubescent male rats of the weight of 180-220

g. The animals were distributed into 5 groups, 6 rats in each. Experimental animals of four study groups were exposed to heavy vibration oscillations of the frequencies of 15, 25, 50 and 75 Hz correspondingly twice a day for 20 minutes, during 28 days. Then we conducted CT scanning of lumbar spine and blood sampling.

Mineral density of lumbar vertebrae of the control group was from 311,90±5,44 to

334,00±8,08 mg/cm³. Maximum loss of bone mass of vertebral trabecular layer was observed in the III-rd and the IV-th groups of experimental rats, which was decreasing to 12% (p<0,05) and 14% (p<0,05) correspondingly in comparison with the control group. In the first and the second groups the parameter decreased to the values of ≤ 4% (p > 0,05) and 8% (p<0,05) correspondingly comparing to control group. Level of osteocalcin in the control group constituted 39,52 ± 0,78 ng/ml. In the first experimental group the rate amounted to 48,55 ± 1,31 ng/ml, in the II-nd

and III-rd – rates showed 59,60 ± 1,21 ng/ml and 70,80 ± 1,79 ng/ml correspondingly. In the IV-th group the rate increased twice and constituted 85,75 ± 1,92 ng/ml (p<0,05).

Thus, the results obtained by us suggest that with the increase in vibration acceleration >0,51 g (50 Hz, amplitude 2 mm) the velocity of bone tissue metabolism grows. It is accompanied by acceleration of the process of collagen catabolism and loss of bone mineral mass, which further lead to osteoporosis.

FEATURES OF STRESS INDICATORS IN REPRESENTATIVES OF ABNORMAL POLITICAL PARTICIPATION

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Key words: political behavior, stress, mental well-being, young people

The results of preliminary surveys indicated that level of knowledge and understanding of citizens and young people how to engage with authorities and have the opportunity to defend their own interests is insufficient. This leads to using of protest, aggressive forms of political behavior that are not desirable in society.

Heß-Meininger, Barnes, Steinbrecher speak about the existence of types of political participation: electoral; institutionalized activities; non-tradition and abnormal kind of participation, including protests, demonstrations, meetings visiting, which presume a violent nature.

Relying on my research, where I highlighted the emotional, affective component for participants of different types of political activity, the highest rates were found in representatives of abnormal political participation in comparison with other types of political participation.

Decision of participants of abnormal political participation corresponds to high rates of irrationality, instability and affectivity. The dominance of the emotional sphere over all other components of political competence. This indicates that the accepted decision will not necessarily be translated into practical activity. External conditions have a significant impact on it's change.

The dominance of the emotional sphere leads to exhaustion, increases level of stress and vulnerability of the participants psyche.

To avoid unproductive interactions with the authorities and to increase the level of mental well-being of citizens it is necessary to raise the level of cognitive, rational component through civic education and political competence.