

THE LEVEL OF EXPRESSION OF IMMUNE RECEPTOR FLK-1 AND FLT-1 TO THE GROWTH FACTOR VEGF-A IN THE MOTOR NEURONS OF THE LUMBAR AND CERVICAL SPINAL CORD OF RATS LIVING UNDER ANTIORTHOSTATIC HANGING HINDQUARTERS

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Currently substantially increased interest in the study of the pathogenesis of steam assisted gravity motor syndrome (HDS). One adverse symptoms constituting HDS is muscle atrophy and apoptosis of muscle fibers, resulting in a response to a decrease of growth factors - insulin-like growth factor (IGF-1). Analysis of mechanisms to ensure the survival of motor neurons revealed enhanced expression of proteins having neuroprotective properties - heat shock proteins: HSP25 and HSP70. Vascular endothelial growth factor (VEGF) is regarded as one of the potential agents neuroprotective perform functions independent of the vascular component, through activation of Flk-1 and Flt-1. Therefore, this study analyzed the level of immune receptor expression to the growth factor VEGF-A - Flt-1 in the motor neurons of the lumbar and cervical spinal cord of rats living under antiorthostatic hanging hindquarters reproducing the effects of functional unloading of skeletal muscles of the lower extremities, occurring in the body response to microgravity. In the experiments, the localization of the receptor was found to vaskuloendotelialnomu growth factor VEGF / Flt-1 in the nuclei of motor neurons of the lumbar and cervical spinal cord of rats as the control and experimental groups of animals, which is consistent with the findings of other researchers. However, the intensity of immunofluorescent staining was more pronounced lumbar motoneurons in the spinal cord of rats after 35-day "posting" i.e. cells innervating the muscles of the hind limbs, exposed to functional unloading. Thus, modeling hypogravity may lead to a change in the expression level of the factors that provide trophic and sacrificial functions in motor neurons carrying out morphological and functional properties of skeletal muscle control. References: subsidy allocated to Kazan Federal University for the state assignment in the sphere of scientific activities".

Biography

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