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Title:Electromagnetic waves at a frequency of atmospheric oxygen in the correction of intraorganic blood flow disturbances in a state of acute stress
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Abstract:Purpose of this study was to investigate the influence of electromagnetic radiation at terahertz frequencies, the spectrum of molecular emission and absorption of oxygen at 129 GHz, impaired blood flow in various organs of white rats in a state of acute stress. Animals in a state of acute immobilisation stress, there is a significant violation of intraorganic blood flow, accompanied by changes in blood supply to organs. It should be noted that in many organs (liver, kidney, stomach, lungs) observed the phenomenon of ischemia, manifested anemia arteries, which in the whole organism reflects the phenomenon of centralisation of blood flow. At the same time there is an increase in vascular permeability, leads to swelling (primarily in the brain), serious violations of the integrity of blood vessels, which are manifested hemorrhages. Violations intraorganic blood flow in animals in a state of acute immobilisation stress also accompanied by a violation of the aggregate state of blood vessels, which are morphologically defined as the separation of blood into plasma and corpuscles. To a greater degree separation of the blood is expressed in the venous line, to a lesser - in the blood. A study of histological samples of the brain, heart, lungs, liver, kidney, stomach, and mesentery of the small intestine significant disorders of intraorganic hemodynamics in male rats in a state of acute immobilisation stress are found. Intraorganic hemodynamic changes in these animals manifest impaired blood flow, permeability of vessel walls and their integrity, as well as the state of aggregation of blood within the vessels. It was shown that the terahertz waves at a frequency of atmospheric oxygen spectrum 129 GHz exposure male rats in a state of acute stress causes partial restoration of these violations, promoting the normalisation of blood flow in organs. Thus, under the influence of radiation terahertz waves at frequencies MSIP atmospheric oxygen 129 GHz observed partial normalisation of intraorganic hemodynamics in male rats in a state of acute immobilisation stress. Under the influence of THF waves in male rats in a state of acute stress is partially reduced perfusion of visceral organs, particularly in the liver, kidneys and lungs were observed effects of ischemia, in contrast to the comparison group. However, it retained the phenomenon of ischemia in the wall of the stomach and small bowel mesentery. In this group of animals less severe disturbances of vascular permeability than that of animals in a state of acute stress, is not exposed to terahertz

waves, resulting in reduction of edema, especially in the brain. Terahertz waves of specified frequency have a significant impact on the aggregate state of blood vessels in various organs. In male rats in acute stress, exposed to THF irradiation, there was no separation phenomena in the plasma and blood corpuscles in the arteries of the studied organs, and in the veins is a significant decrease in the frequency of occurrence of sludge, compared to male rats, not exposed to THF waves during acute stress.
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Inspec controlled terms:biological effects of fields - blood vessels - brain - haemodynamics - haemorheology - kidney - liver - lung - medical disorders - permeability - swelling
Uncontrolled terms:electromagnetic wave - intraorganic blood flow disturbance - acute stress state - electromagnetic radiation - terahertz frequency - molecular emission - molecular absorption - organ - white rat - acute stress - acute immobilisation stress - blood supply - liver - kidney - stomach - lung - ischemia - anemia artery - blood flow centralisation - vascular permeability - swelling - brain - blood vessel - hemorrhage - immobilisation stress - corpuscle - venous line - heart - small intestine - intraorganic hemodynamics - male rat - impaired blood flow - vessel wall - atmospheric oxygen spectrum - radiation terahertz wave - MSIP atmospheric oxygen - THF wave - visceral organ - stomach wall - bowel mesentery - edema - terahertz wave - blood corpuscle - vein - frequency 129 GHz
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Treatment:Practical (PRA); Experimental (EXP)
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