
МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

**THE ADAPTIVE EFFECT OF AIR HYPOTHERMIA ON THE STATE
OF THE HEMOSTATIC SYSTEM, MICROVASCULATURE
AND THE ELASTICALLY EXTENSIBLE PROPERTIES OF BLOOD VESSELS**

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Hypothermia has a generalized effect on the body as a natural environmental factor. The possibility of developing adaptation to the action of cold is determined by the combined effect of a number of factors and leads to the formation of chronic stress in non-indigenous inhabitants of the North. Air hypothermia was modeled by daily placing animals for 6 hours in individual cages in a chamber at an air temperature of -25°C for 30 days. The state of the hemostasis system (by integrated methods and routine methods), the micro- and macrocirculatory bed (recording of LDF and Dopplerograms) before and after cooling were evaluated on days 2, 5, 10, 14, 21 and 30, and rectal temperature was recorded. Control animals in individual cages were daily placed for the same period of time in a chamber at an air temperature of $+25^{\circ}\text{C}$. The study was performed on 77 male Wistar rats. Starting from day 17, the development of adaptive processes was recorded in terms of rectal temperature, characterized by a decrease in the intensity of developing hypothermia during daily cooling. The con-

dition of the hemostatic system, characterized by favorable shifts, was recorded from 14 days. We recorded normalization of platelet count and their aggregation activity, normocoagulation against the background of a decrease in the amount of fibrinogen and activation of the fibrinolytic system of blood plasma. When assessing central hemodynamics from 21 days, high speeds were recorded against the background of unchanged vascular tone in response to cooling. At the same time, depletion of blood flow was recorded from the microvasculature, characterized by a decrease in blood perfusion of tissues, against the background of an increase in wave amplitudes of all frequency ranges. During histological analysis of tissues, distinct pathological changes are described, characterized by the development of stasis, stasis and sludge phenomenon in the capillaries, increased vascular permeability, deletion of the walls of arteries and venules, mast cell degranulation.

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