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## **THE FEATURES OF NITROBENZENE TOXIC EFFECT ON THE LABORATORY ANIMALS ORGANISM'S IN THE COLD STRESS CONDITION**

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**Relevance of a problem:** Nitrobenzene is a toxic organic substance from group of aromatic compounds. It is applied in chemical industry, oil industry, the cosmetic industry in perfumery, varnishes and paints production. In medicine it was applied at treatment of itch. It is the highly toxic substance and possesses property to get through the skin. The wide circulation of nitrobenzene does necessary studying of its influence on a human body.

**Work purpose:** to define the influence of nitrobenzene toxic effect on an laboratory animals's organism in the conditions of a cold stress.

**Materials and methods:** Researches were conducted on laboratory animals (the puberal rats males of the WAG line) in the conditions of subsharp toxicological experiment with 30-fold introduction of nitrobenzene to a stomach in a dose 1/10 LD50 (70 mg/kg) and an exposition of animals in two various thermal modes for 4 hours a day 5 times a week.

**Results and discussion:** Results of studying of toxic effect features of nitrobenzene in a combination to the reduced temperature testify to development in an experimental animals's organism the patognomonic for nitrobenzene effect shifts provided that at the combined effect of nitrobenzene and the reduced temperature strengthening of toxic effect takes place.

Indicators of strengthening of toxic effect at the combined effect of nitrobenzene and the reduced temperature were: more considerable decrease of the general hemoglobin and the oxygemoglobin; decrease of erythrocytes number; metgemoglobinemya; sulfgemoglobinemya; increase of quantity Geynts bodies; reticulocytosis; change of mass coefficients of internals and somatic-threshold indicator.

Morphological changes in seed plants structure at the combined effect of nitrobenzene and the reduced temperature were more expressed in comparison with nitrobenzene effect in the conditions of a temperature optimum, and were characterized by sharp thinning of a spermatogenical epithelium and degenerate changes of the sharing cells, a full devastation of seed tubules, growth of quantity of dead and pathological forms, reduction of time of mobility of spermatozoa.

At the combined effect of nitrobenzene and the reduced temperature the morphological picture of internals of laboratory animals was characterized by more expressed dystrophic and necrotic changes in the liver and kidneys; exhaustion of a lymphoid component of a spleen; in adrenal glands – decrease of hormones of cortical substance production.

In the period of an after-effect there was no restoration of morphological structure internals of animals which were affected by nitrobenzene in the conditions of a cold stress that confirms strengthening of its toxic action in the conditions of the combined action with cold factor.

**Conclusions:** Establishment of toxic influence of nitrobenzene on an organism in the conditions of the combined action with the reduced temperature criteria can give the chance to prove need, to develop and to recommend for introduction of action for prevention of a possible adverse effect of chemical factors (on the example of nitrobenzene) at their action for an organism in the conditions of a cold stress.