



## **CORRELATION BETWEEN THE RESISTANCE OF ORGANISM TO ACUTE HYPOXIA AND HYPERBARIC NITROGEN NARCOSIS**

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It is known that resistance of organism to hypoxia depends on different factors. So, we can assume that differences in functional tests of animals are stable and unstable to the narcotic effect of nitrogen connected with features of its ensuring of oxygen and the ratio between resistance to hypoxia and hyperbaric nitrogen narcosis.

Identification of correlation between the body's resistance to the narcotic effect of nitrogen and its ability to resist acute evolving state of hypoxia was studied on 15 white male rats weighing 250-300 grams. Animals were exposed to 1% oxygen-nitrogen mixture introduced into a special transparent plastic chamber.

To assess the condition of the animals were used behavioral reactions (anxiety, «fading» on the same place, the development of «collapse», the appearance of convulsions), and visually registered the respiratory rate, time of onset «half-lateral» (recurrent falling on its side and then returning to the starting position of the body) and «lateral» position.

The data obtained indicated the presence of significant intraspecies differences, which will help to divide rats into two groups: «low resistant» and «highly resistant» animals by degree of individual resistance to acute hypoxia. After 7 days since the hypoxia tested animals subjected to the exposure to hyperbaric nitrogen. On the basis of accounting «depth» appearance in the high-pressure chamber «half-lateral» and full «lateral» position experimental animals were divided into appropriate groups of sustainability. Animals which did not show any thing unusual in their behavior under the influence of the maximum pressure (4.0 MPa) for 30 minutes were defined as «stable». If the animal took the lateral position between the isobars at the depth of 400 m, it was named «moderately resistant». Finally, a group of «low resistance» were white rats whose lateral position begun in the process of compression to the maximum pressure. The offensive of half-lateral status of the «low» animals middle «depth» was  $322,0 \pm 12,8$  m of water column; but this condition was not generally observed on the «stable» animals.

When comparing the results of both experiments in specific animal groups formed by the level of resistance to hypoxia and nitrogen narcosis, it was revealed that four white rats of the «stable» to narcosis group proved «resilient» also to acute hypoxia. Five individuals from the group of «weak» to the effects of hyperbaric anesthesia were included in the group of «weak» in their resistance to acute hypoxia.

After ranking of the experimental results as to the degree of animal resistance to acute hypoxia and narcotic effects of hyperbaric nitrogen between these indexes was calculated correlation coefficient of ranks (Spearman) constituted 0.71 (P