

Comparative analysis of behavioral reactions and physiological parameters of mice exposed to protons and aging

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The similarity of the effects of ionizing radiation and the effects of aging has been studied by many researchers at different levels of the organization of life, mainly molecular and cellular. Part of the research is aimed at studying radiation-induced changes in the central nervous system, experts in the field of molecular and cellular radiobiology noted the similarity of the identified effects with those observed with aging of the body. Nevertheless, there is practically no data in the available literature on the comparison of functional parameters of small laboratory animals under the influence of AI and aging of the body. The question of the modifying effect of radiation on the processes in the central nervous system associated with age remains open.

In this work, a comparative assessment of behavioral and physiological changes in mice was carried out 10 and 30 days after irradiation of the brain with protons at a dose of 5 Gy, as well as in the aging process. Deviations in the behavior of irradiated mice in the "Open Field" conditions related to the level of anxiety and adaptation, such as acts of grooming and freezing, were found. However, no similar effects were found in older animals.

Primary author: SAKHAROVA, Sofya

Co-authors: MOLOKANOV, Alexander (JINR LNP); PRONSKIKH, Evgeniya (Vitalievna); Ms KOLESNIKOVA, Inna; УТИНА, Дина (Михайловна); СЕВЕРЮХИН, Юрий (JINR LRB)

Presenter: SAKHAROVA, Sofya

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