

EFFECTS OF GAMMA RADIATION ON MORTALITY OF PRUSSIAN CARP (*CARASSIUS GIBELIO*)

Uliana Karnaukhova^{1,2}, Maxim Hutsaliuk¹

¹Educational and Scientific Center «Institute of Biology and Medicine», Taras Shevchenko National University of Kyiv, Ukraine

²Kyiv Regional Cancer Center, Ukraine
uliana033@gmail.com

All living creatures are exposed to ionizing radiation. Even though they are adapted to low doses, high doses of gamma radiation may predispose organisms to high risks of certain diseases' developing and lethality [1].

The growing dependence on nuclear power obliges us to predict possible harmful results caused by radiation. The adverse effects of acute radiation doses on mammals are fairly understood, however there is still lack of information about their impact on aquatic organisms.

Effects of low (5 Gy) and high (20 and 35 Gy) doses of gamma radiation were examined on the behavioral changes (including mortality, loss of balance etc.) of *Carassius gibelio* (n=112). Negative effects of gamma radiation on survival were observed as radiation level increased (Fig.1).

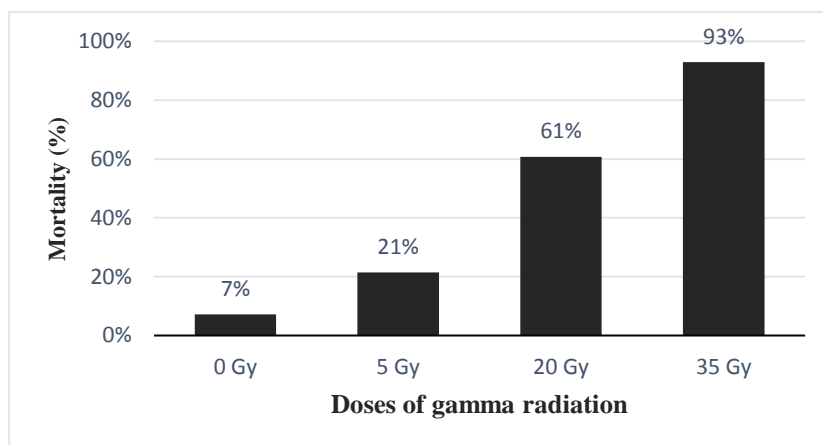


Fig. 1. Mortality of prussian carp irradiated at different levels.

Such symptoms as orientation loss, uncoordinated movements and hemorrhages were registered several hours after irradiation session. Control group demonstrated the lowest mortality rate ($P < 0,05$) at the end of the experiment. Thus, consideration must be given to the level of gamma radiation and its influence on aquatic ecosystems.

[1] Effects of ionizing radiation on plants and animals at levels implied by current radiation protection standards. — Vienna : International Atomic Energy Agency, 1992.