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RADIOLOGICALLY-INDUCED CHANGES OF OXIDATIVE PROCESSES IN FEMALE RATS BLOOD WITH THE USE OF DIFFERENT DOSES AND IRRADIATION TYPES

Influence of single total body irradiation and local head irradiation of female rats in doses 2,0 and 6,0 Gy on malonic dialdehyde (MDA) concentration, on catalase and on superoxiddismutase (SOD) activities in blood was studied in dynamics (7, 14, 30, 90 days after irradiation). Irradiation was fulfilled on X-ray-installation «РУМ-17» (Russia), the power of exposition dose $2{,}09 \cdot 10^{-4}$ C/(kg · sec). Indices changes, which characterize the state of prooxidantive-antioxidantive equilibrium were noted both in the total and local irradiation of the head. Increase of MDA concentration in the blood serum irradiated rats and decrease of catalase and of SOD activities were found. The degree of changes of these indices depends from the type of irradiation (total, local), from the dose and from the term of observation. Changes of antioxidative system fermentale activities were less expressed after single local irradiation of the head.

Keywords: female rats, ionizing radiation, malon dialdehyde, catalase, superoxiddismutase.