

NEUROREGULATORY PROCESSES IN THE CNS STRUCTURES LONG AFTER CHRONIC EXPOSURE TO LOW DOSES OF IONIZING RADIATION AND LEAD AND CORRECTION OF THE DISORDERS

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In experiments on mature Wistar male rats exposed to different modes of ionizing radiation at relatively low doses and in combination with chronic probe-assisted application of lead acetate (5 mg/kg daily) we found changes in the intensity of neuronal uptake of some neurotransmitters that characterize the functional state of the corresponding synaptic formations of the diencephalic region and other brain structures long after radiation. A decrease in the functional activity of the mediobasal hypothalamus was accompanied by disorders of neurohumoral regulatory mechanisms in the hypothalamus-pituitary-adrenocortical system and hypothalamus-thyroid system. Application of therapeutic doses of neurotrophin (Nipon Zoki, Japan) and thymaline 3 months after cessation of radiation and lead stimulated an increase in specific binding of glucocorticoids by brain structures, activation of the hypothalamus-pituitary-adrenocortical system, and some normalisation of neurotransmitter relations in centres regulating autonomic functions 6 months after.