INFLUENCE OF ELECTROMAGNETIC RADIATION ON VENOM OF VIPERA LEBETINA OBTUSE

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Research of biological effects under the influence of non-ionizing electromagnetic radiation

are actual and represent fundamental value from the aspect of finding out mechanisms of action, and working out of preventive measures from possible harmful influence.

Primary stage of influence of the external physical factor, as a rule, is some conformative transformations of fibers-receptors which start the intensifying cascade of biochemical reactions. Thus energy of external influence can be on usages of less response of a cage. After an initial stage of absorption of the electromagnetic radiation, one of mechanisms of realization of action of electromagnetic radiation of a microwave range on live organisms considers updating freely radical reactions proceeding in cages and fabrics under the influence of electromagnetic energy.

Researches of the influence of electromagnetic radiation on biosystems are spent in 2 frequency ranges: ultralow (1Hz -20Hz) and ultrahigh (0.3GHz-300GHz). Radiation with frequencies 30GHz -300GHz which possessing penetration action, influences both an organism as a whole, and on its touch and effector systems represent, fabrics and various receptor structures are the greatest potential danger for biological objects.

In vivo and in vitro experiments with an irradiation were spent on the snakes kept under standard conditions. Snakes (Vipera lebetina obtusa) were subdivided into two groups, each of 5 snakes. The skilled group of snakes was exposed to an irradiation. Radiation source was the UHF generator (with frequency of 30-3000 GHz). Frequency of radiation has been chosen on the maximum value of the absorption coefficient of poison. The irradiation of animals was spent in the special chamber and depending on the purpose of experiments for realization of modes high (U-14000V) and low (U-7000V) intensity of an irradiation target capacities of a radiator - P – 70Vt were applied. In a day, 2, 3, 4 and 5 days after an irradiation of snakes we took venom, dried up poison in cups Petri placed in exicator over steams of chloride calcium. After venom drying the total quantity of fiber was defined on Bredfords method. Simultaneously definition of toxicity of venom was spent on white three-monthly rats. It is necessary to notice that at an irradiation of snakes by electromagnetic radiation of low intensity change of quantity of the general fiber in poison of snakes was not observed. Toxicity of venom also was not exposed to changes. At high intensity of radiation insignificant fluctuations in the maintenance of the general fiber and toxicity change of venom of snakes were observed.

Thus, the researches were carried out on revealing influence of electromagnetic radiation on quantity of the general fiber and toxicity of venom leads to result that insignificant influence of electromagnetic radiation on the maintenance of the general venom fiber of snakes and on the toxicity in low intensity. At high intensity of radiation change in fiber structure of venom, and also change of toxicity up to neutralization toxic peptides is marked.