

Experimental Study Influence of the Natural Uranium Salts on the Cardiovascular System of the Rabbits.

G. Suranova and R. Tuhvatshin

*Kyrgyz State Medical Academy, Achunbaeva street 92, 720020 Bishkek, Kyrgyzstan
rtuhvatshin@ramler.ru*

Introduction: Kyrgyzstan is one of the ecologically hazardous regions in the world. On its comparatively not large territory of 199,9 thousand km², with 5,12 million people of population, there are 49 tailing dumps and 80 piles, where 70 million m³ of U wastes have been buried. That amount is sufficient for multiple covering of the whole territory of the republic, and 14m³ of radioactive wastes per each inhabitant of the country. Natural uranium is comprised of three radioactive isotopes: (238)U, (235)U, and (234)U. This review focuses on the histological effects of natural uranium on the cardiovascular systems in the rabbits. Purpose: The main purpose of our investigations was to study the influence of the low-doses of uranium salts on the cardiovascular system of the animals (rabbits). Materials and methods: For this purpose we have made two series of the experiments in high altitude conditions on the experimental base Thuya-Ashuu (3200 meters above sea level). As experimental animals were used 28 healthy animals (rabbits), with the average mass of 2500-3000 g. Water pour off uranium it was mixed up with concentrated with fodder in the dose 0.0023 mg/kg it was assigned by experimental animal in the course of 30 days. As the comparison was used the water pours off uranium of 0.0016mg/kg. The concentrated fodder with uranium salts was assigned by experimental animal of 2 times in a 24 hour period (in the morning and in the evening). In the remaining time of day they fed Lucerne hay and green fodder to rabbits. For histomorphological studies the pieces of myocardium with the sizes of 1,5÷2÷1 sm, they fixed in 4% solution of formalin on the phosphate buffer of 7.4 02[M]. After washing in the running water, the objects dehydrated in alcohols of the ascending concentration and filled paraffin- wax. Paraffin shear were prepared with the aid of the sleigh microtome from the paraffin blocks. The macroscopic and histological methods of study adapted. Were used histological paintings hematoxilineosin and Van - Gieson. Conclusions: Experimental study influence of the natural uranium salts on the cardiovascular system of the rabbits showed the significant structural and functional changes describing deep metabolism disturbances and falling of contractile cardiomyocytes potential was founded in the high-mountain experimental group.