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PAPER TITLE

The estimation of clinical consequences of occupational chronical exposure.

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ABSTRACT (See instructions overleaf)

The estimation of consequences of chronical exposure was made in workers of atomic enterprise "Mayak" on the basis of studies for 40-45 years. The doses ranged from the permissible one for professionals to 10.0 Gy. The summary doses of gamma-exposure more than 2 Gy (more 1 Gy per year) caused the development of syndrome complex of the chronic radiation sickness. The early consequences were acute leukemia and bone marrow hypoplasia. At later period, the number of cases had the incomplete recovery in hematopoiesis, immune dysbalance, unstability of somatic cells' genome, and early atherosclerosis. The main cause of death was the malignant tumour, mainly pulmonary cancer in persons with plutonium-239. The multifactorial analysis enabled to reveal the significant influence of smoking on lung cancer outcome, stomach-gastritis outcome with secretory insufficiency. It was estimated the effects of internal exposure due to incorporated plutonium-239 (pneumosclerosis, liver and skeleton tumours, osteodysplasia, ostalgic syndrome, changes in lymphocytopoiesis, cytogenetic effects). It was found the reproduction function in families of person exposed, and the first generation health was evaluated. The consequences of exposure in utero were the high morbidity, immune dysbalance, unstability of genome. The study on 1577 grandchildren (at age 10-15) of exposed persons did not found deviation in physical development, biological maturation, morbidity and etc. in comparison with the control.