

The Genetic Consequens of the Radiation Exposure

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Present of final results studies of genetic consequens of external exposure in doses from 0.01 to 1 Gy. This studies was conduct: (1) in populations living in the contamination regions of Bellorussia and Russia after the Chernobyl disaster, during 1986-94; (2) in populations living on the Tescha river (with M.Kosenko and all); (3) on the nuclear industry workforces - "Majak" (with A.Kurbatow and all); (4) on the offspring of exposure males rats (with L.Krupitskaja).

In the study (1) was demonstration the statistic significant increased of frequency of untoward pregnancy outcomes (UPO), changed of weight and height newborns. As the index of reproductive health discussed: health status of pregnancy, frequency of UPO, health status of newborns, mortality children befor one age. In this study was demonstration the negative tendency in reproductive health status of populations living on the regions contaminated of cesium-137 from 5 to 15 Ku/km². The commulative doses to 1994 was estimated as more 150 mSv, doses on thyroid gland more 750 mSv. The doses on all body was chang from 4 mSv to 150 mSv. The most importante changes in reproductive health status was increased frequency UPO, incedence diseases of pregnancy, frequency of diseases and mortality of newborns.

In the study (3) the statistic significant increased of frequency of UPO was depend on increased of doses on gonads of mathers. In families of the nuclear industry workers was show the statistic significant increased of mortality in the offspring from birth to 45 ages. The mean value of doses on gonads of parents was 1.4 Gy. The mean value of doses during pregnancy was 190 mGy and changed from 1 mGy to 2.3 Gy.

The exposure of males rats (in the study 4) in doses 2.37 Gy and 1.58 Gy (corresponding to 50 and 250 mGy for human) was cause: increased of weight of newborns rats, break geting of locomotor function, changed behaviour and decreased of emotional background during 30 days (corresponding to 16 ages for human) after born.