

- An epidemiological survey to compare children of childhood cancer survivors in the United States and Canada (average gonadal dose is 1.26 Gy for females and 0.46 Gy for males) and children of those survivors' siblings does not show any increases in chromosome aberrations and Mendelian disorders expected from the average gonadal doses.*

Source: Green DM et al: J Clin Oncol Vol.27, 2009: 2374-2381

- * Based on a study on hereditary influences using mice, the ICRP evaluated the doubling dose** for genetic diseases due to radiation as 1 Gy.

** The doubling dose here means the gonadal dose that increases the incidence rate of genetic diseases twofold.

This is the results of the survey of children of childhood cancer survivors in the United States and Canada. As in the case of the surveys targeting children of atomic bomb survivors, excess incidence of chromosome aberrations, Mendelian disorders and malformation was not observed. Based on the study on heritable effects among laboratory mice, the International Commission on Radiological Protection (ICRP) estimates the doubling dose for hereditary disorders to be 1 Gy. However, these survey results do not show any increases in chromosome aberrations and Mendelian disorders expected from the average gonadal doses.

Source

- D.M. Green et al.: J. Clin. Oncol. 27: 2374-2381, 2009.

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