

Dose evaluation and epidemiology (241-244)

- 241 The body burden of ^{137}Cs of the residents surrounding the Chernobyl Reactor.

Tatsuya SHIMASAKI, Yutaka OKUMURA; Department of Radiation Biophysics Atomic Disease Institute Nagasaki Univ. School of Med. ; Nagasaki 852.

Radioactive fission products were released to atmosphere from the reactor accident at Chernobyl occurred on 26 April 1986. We measured body burden of ^{137}Cs of 57 residents from Belarus, Ukraine and Russia, between March 1992 and August 1995. Residents of ages between 8 and 54 y were allowed for the measurement of body burden of ^{137}Cs with a whole-body counter at Nagasaki university school of medicine. The body burden of ^{137}Cs varied from 59 ± 12 Bq to 8579 ± 187 Bq. Body concentration of ^{137}Cs were related to levels of ^{137}Cs fallout contamination by the Chernobyl accident. It was suggested that contaminated food was contributing ^{137}Cs to the body burden.

- 242 Assessment of ^{137}Cs Internal Exposure Dose of Japanese Infants due to the Chernobyl Accident (I)

Hidenori, YONEHARA, Toshihiko, MITSUHASHI*, Masafumi, UCHIYAMA Div. of Human Radiat. Environ. Nat. Inst. Radiol. Sci. Chiba 263 *Nat. Agri. Expl. Station, Tohoku.

From the aspect of risk assessment due to use of nuclear power energy, doses to Japanese infants from the Chernobyl accident were estimated to compare with those from the atmospheric nuclear weapon tests. Infants delivered in Chiba city were divided into 2 groups, breast feeding and bottle feeding groups for 6 months after birth. A standard growth rate in body weight and milk consumption were used to estimate the ^{137}Cs internal exposure of infants. Using a metabolic model, body burdens measured for male adults, ^{137}Cs intake from milk and market shares of artificial milk, the body burden of infants were estimated. The dose increased by 40 % in the period of 5 years after the accident comparing with the immediately previous 5 years. Doses in 2 five year-periods beginning with 1968 and 1973 were estimated to be 5 and 3 times larger than the dose from the accident, respectively. In the period effected by the accident, no difference was found in the dose between breast-feeding infants and bottle-feeding infants.