W-V-3 Non-malignant blood disease among A-bomb survivors

Tatsuki MATSUO ; Blood Transfusion Service, Nagasaki University Hospital

To clarify the effect of A-bomb irradiation on blood diseases except hematological malignancy, 217 survivors who were considered to have died of blood disease before 1991 by death certificate (DC) were reviewed. The review was based on RERF data such as bone marrow smears and discription of leukemia registry, autopsy protocol, tumor registry and personal communication. Certainty of final diagnosis was defined as definite when morphological evidence such as smears or histology were available, probable when clinical data available, and possible when no data other than DC available. The case was rejected if the hematologic disorders of DC were obviously derived from other non-hematologic diseases. 23 cases without radiation dose were excluded from the statistical analysis. Then, 49 cases were definite or probable and 95 cases were possible. 50 cases were rejected. In addtion, 8 cases with hematological malignancies were also excluded. Finally, 136 cases with blood disease were analyzed statistically. Excess of relative risk was 2.7 in total ($p<0.001$), while it was 0.25 ($p>0.5$) among aplastic anemia (AA) cases. On the other hand, it was 15 ($p<0.001$) in myelodysplastic syndromes (MDS) cases. Similar results were obtained when restricted to definite or probable cases. These results suggest that A-bomb irradiation had a significant effect on occurrence of non-malignant blood diseases, especially of MDS, but not of AA.

W-V-4 Mortality of non-cancers of the inhabitants in high background radiation area (HBRA), Yangjiang, China

Qanfu SUN, et al.; Dept. of Public Health, Faculty Medicine, Kagoshima University

High background radiation area (HBRA) in Yangjiang, Guangdong, China was found in 1970's. Japanese researchers joined the study and collaborative works began in 1990. We studied the residents in 526 hamlets: 227 hamlets of Yangdong and 157 hamlets of Yangxi as the exposure group, and 142 hamlets (in Enping county) as the control group. Almost of all people in both areas are farmers and have lived in the study areas for many generations. In HBRA, 160 cancer deaths and 1441 non-cancer deaths were observed among 78614 subjects during the period 1987-90. In the control area, 71 cancer deaths and 549 non-cancer deaths were observed among 27903 subjects. Cancer mortality adjusted for sex and age in both areas are not different from each other. We report the results of further analysis of non-cancer mortality in this work shop.

W-V-5 Radiation-Induced Noncancerous Diseases in Laboratory Animals

Shunsaku SASAKI; Low-Dose Radiation and Carcinogenesis Research Group, Nalt. Inst. Radiol. Sci.]

Experimental studies were reviewed to summarize information on the following subjects. (A) Progressive intercapillary glomerulosclerosis after irradiation at the neonatal or fetal period of mice, rats and dogs. (B) Lethal degenerative diseases after exposure to radiation at the young adult period of mice. (C) Pathogenesis of late degenerative changes. (D) Degenerative changes in mice irradiated during intrauterine period. Results of the experimental studies showed that some of the degenerative changes are lethal and are attributable to life-shortening eject of radiation when animals are irradiated with intermediate or high dose. If the degenerative changes are not lethal, these are significant health effects.