THYROID DOSES TO UKRAINIAN CHILDREN FROM THE CHORNOBYL ACCIDENT: RESULTS OF AN AMERICAN-UKRAINIAN COLLABORATION

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ABSTRACT

The U S National Cancer Institute (NCI), in cooperation with the Ministry of Health of Ukraine, is involved in epidemiological studies of thyroid diseases in children presumably related to the Chornobyl accident Within the framework of this study, individual thyroid absorbed doses, as well as uncertainties, have been estimated for all members of the cohort (13,215), who were selected from the large group of children aged 0 to 18 whose thyroids were monitored for gamma radiation within a few weeks after the accident Information on the residence history and dietary habits of each cohort member was obtained during personal interviews The methodology used to estimate the thyroid absorbed doses resulting from intakes of ^{131}I by the Ukrainian cohort subjects is described The model of thyroid dose estimation is run in two modes deterministic and stochastic In the stochastic mode, the model is run 1,000 times for each subject using a Monte-Carlo procedure The geometric means of the individual thyroid absorbed doses obtained in the stochastic mode range from 0 0006 to 42 Gy The arithmetic and geometric means of these individual thyroid absorbed doses over the entire cohort are found to be 0 68 and 0 23 Gy, respectively. On average, the individual thyroid dose estimates obtained in the deterministic mode are about the same as the geometric mean doses obtained in the stochastic mode, while the arithmetic mean thyroid absorbed doses obtained in the stochastic mode are about 20% higher than those obtained in the deterministic mode The distributions of the 1000 values of the individual thyroid absorbed dose estimates are found to be approximately lognormal, with geometric standard deviations ranging from 1 6 to 5 0 for most cohort subjects For the time being, only the thyroid doses resulting from intakes of ^{131}I have been estimated for all subjects Future work will include the estimation of the contributions to the thyroid doses resulting from external irradiation and from intakes of short-lived (^{133}I and ^{132}Te) and long lived (^{134}Cs and ^{137}Cs) radionuclides, as well as efforts to reduce the uncertainties

THE US-UKRAINE THYROID CANCER AND LEUKEMIA STUDIES AFTER THE CHORNOBYL ACCIDENT - OPERATIONS, MANAGEMENT, LESSONS LEARNED

I Masnyk

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Abstract

As a result of Chornobyl accident a significant increase in the incidence of thyroid cancer were reported in Belarus and Ukraine among subject aged 0-18 years at the time of the accident Starting in 998 in the framework of the Ukraine-USA Thyroid Projects, three cycles of screening examinations were conducted on a cohort of approximately

13,227 participants who underwent the examination once every two years The study population resided mostly in three Oblasts in Ukraine Kyiv, Chernihiv and Zhytomyr as well as in Kyiv City

A second Project in Ukraine was devoted to studying leukemia among the liquidators who were employed on and around the reactor in cleaning the effects of the accident After completion of the first phase of the study, the project has now been extended for additional case accrual

The thyroid cancer study is based at the Institute of Endocrinology and Metabolism in Kyiv, Dr Mykola Tronko - Director The leukemia study is based at the Research Center for Radiation Medicine, Dr Anatol Romanenko - Director The American collaborators include members of the staff of National Cancer Institute and Columbia University

Experience gained in organizational, managerial, operational and financial aspects of these complicated studies will be reported

A REVIEW ON THE AIDS FROM JAPAN TO UKRAINE ON THE RECOVERY AND DEVELOPMENT OF THE CHERNOBYL ACCIDENT: PAST, PRESENT, AND FUTURE

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Abstract

Purpose and scope

The purpose of this review is to assess the activities made by Japan for the last two decades on supporting the recovery and development in Ukraine of the people affected by the accident happened in Chernobyl in 1986 The paper is also aimed at showing the types, the trend and a direction of those supports made during this period In this review, a state of the art approach for the social and economic development of the communities among the affected people is compared with the public welfare systems provided by the former Soviet Union An emphasis is also made on the role of foreign aids towards those people and the institutions that have been operated in Ukraine

step 1 Listing up the aids made by japan

As the first step of the review, the types and the sizes of the aids made by Japan are listed up The list includes supplies of medical equipments to the hospitals, financial contributions to the Chernobyl Shelter Fund and the Nuclear Safety Account, human resource contributions by sending Japanese specialists to Ukraine and inviting Ukrainian specialists to Japan, financial assistances to Japanese NGOs' activities in Ukraine, the financial contribution to the WHO's International Program on Chernobyl, the cooperation with the research activities made by the International Chernobyl Center of Ukraine, implementations of the seminars on Nuclear Safety for Ukrainian engineers, the financial contribution to the UNDP Chernobyl Recovery and Development Programme, and the Grassroots Grant Programme operated by the Embassy of Japan in Ukraine Then, those listed projects are divided into several categories such as the sizes of the funds and the types of supports (human resource, money, equipment, etc) to focus the existing problems among the affected people, which are to be screened and prioritized later

On this step, one more category is also shown, which distinguishes two different types of those aids One is the aid that is made towards the conventional frameworks to support