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BROOKHAVEN TEAM REPORTS ON 1969 EXAMINATION OF MARSHALLESE ISLANDERS

Upton, N.Y.--Dr. Robert A. Conard (MD), head of the medical team from the AEC's Brookhaven National Laboratory responsible for monitoring the Marshall Islanders who were accidentally exposed to fallout from a 1954 Bikini bomb test, reported five patients with thyroid abnormalities (nodules) were brought back to the United States for thyroid surgery as a result of the 1969 medical survey. They arrived at Brookhaven National Laboratory on August 26 and returned to the Marshall Islands on September 21.

The surgery was performed on September 8, 9, and 10 by Dr. Brown Dobyns at the Cleveland Metropolitan General Hospital. The patients and their diagnoses are as follows:

One 36-year old female from Rongelap was an adult at the time of exposure, who had received 160 rads to the thyroid from radioactive iodines in the food and water plus 175 rads of whole body exposure, and whose thyroid nodules did not develop to the detectable stage until the March, 1969 medical survey. She had a partial thyroidectomy to remove a nodule which proved to be malignant.

Two 22-year old females from Rongelap who were seven years old at the time of the fallout, who received 500-1000 rads to the thyroid from radioiodines in the food and water, plus 175 rads of whole body exposure. One had a partial thyroidectomy to remove a nodule which proved to be benign. The other had a complete thyroidectomy removing a tumor which was malignant.

A 22-year old male from Rongelap, who had received the same dose as the females, had a partial thyroidectomy to remove a nodule which proved to be benign.

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One 34-year old female from Utirik, who received 15 rads to the thyroid from food and water plus 14 rads of whole body exposure, had a hemi-thyroidectomy to remove a tumor which proved to be malignant. This case is not believed to be due to radiation exposure in view of the low dose received and

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years of age at the time of exposure to the fallout in 1954. The selection of age 10 at the time of fallout exposure as a group designation did not occur until a few years ago, and was done primarily as the result of a statistical observation. According to Dr. Conard, the reason these children showed

glands were smaller and received a larger comparative radiation dose.

The estimated dose to the thyroid in the 19 children under 10 years of age on Rongelap was from 500 to 1400 rads. Seventeen have developed thyroid abnormalities, and some show growth retardation, but no other sign of the late effects of being exposed. Two of these children are essentially normal. For the 45 Rongelap people older than 10 years of age at exposure time, the thyroid dose was estimated at 355 rads, with eight percent developing thyroid abnormalities. Six children under 10 years of age on Ailingnae received 275-600 rads and 40 children on Utirik received thyroid doses from 55 to 125 rads, with no development of any abnormalities. The exposed adult population on Utirik and the control population had a low incidence of thyroid abnormalities, probably of normal statistical incidence for the size of the population.

The term rad means radiation absorbed dose. A dose of one rad means the absorption of 100 ergs of radiation energy per gram of absorbing material.

Dr. Conard explained that the reason the thyroid gland received a much larger dose than the whole body is because of a process called selective absorption by the thyroid of radioactive iodine from food and water ingested by the Marshallese following the fallout.

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malignancy noted thus far in the Kōngelāp group. The adult patient from Utirik also had a malignant thyroid tumor removed, which is not believed to be due to radiation exposure.

Of the total of 19 children who were under ten years of age at exposure, 15 have been operated upon for thyroid nodules, and two more have a hypothyroid condition. The remaining two are normal to date.

The five Marshall Islanders arrived at Brookhaven National Laboratory on August 26, where they were carefully and thoroughly examined, including whole body counts which were normal. In addition to Dr. Brown Dobyns, who performed the surgery, other consultants included Dr. Shields Warren and Dr. William A. Meissner, both with the Cancer Research Hospital, New England Deaconess Hospital, Boston; Dr. J. E. Rall and Dr. Jacob Robbins, both with the National Institutes of Health; and Dr. Bentley Colcock, Leahy Clinic, Boston.

Accompanying the five patients to this country was Dr. Ezra Riklon, practitioner from the Marshall Islands which are under the jurisdiction of the Trust Territory of the Pacific Islands. Dr. Riklon participated in the examinations and consultations and was present in the operating room for all operations. Upon return to the Marshall Islands he will supervise the thyroid hormone treatment of all people who were exposed. It is hoped that the thyroid hormone treatment will not only prevent the development of further malignancies, but also in the children help overcome the growth retardation. Dr. Conard noted that some enhancement of growth has taken place since the treatment was started in 1965.

Generally, the exposed population is in good health and good spirits. Over the years a number of deaths have occurred, but none were attributed to the fallout or its effects.

Dr. Conard noted that the 1969 examination was the 15th post-exposure year in which the Atomic Energy Commission's Division of Biology and Medicine

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has examined and cared for the exposed Marshallese people.

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