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MEDICAL DEPARTMENT

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October 13, 1972

Mr. Brian Farley
Staff Member
Special Joint Committee Concerning
Rongelap and Utirik Atolls
Congress of Micronesia
Saipan, Mariana Islands 96950

Dear Mr. Farley:

Thank you for your letter of October 4, 1972. You requested a rough summary of the survey. The following summary must be considered preliminary in nature. The medical records and equipment have not yet arrived from the islands. I understand that the quarantine due to the influenza epidemic held up the Militobi departure for Kwajalein, where our material was to be airshipped from.

You will remember that in the March survey we were able to complete the examinations on the Rongelap and Utirik people at Ebeye. Therefore, the following examinations were performed at Rongelap, Utirik and Majuro atolls:

Group	Rongelap	Utirik	Majuro
Rongelap exposed	23	-	9
Children of exposed	16	-	14
Utirik	-	46	30
Rongelap unexposed	6	2	8
Children of unexposed	4	-	6
Total	49	48	67

In addition, a large number of other people were examined and treated for routine ailments during sick call each morning at Rongelap and Utirik. At Rongelap an epidemic of severe gastrointestinal infection, frequently complicated by upper respiratory infection and, in some cases, by pneumonitis, were treated. At least a dozen children were involved. A total of some 40-50 people were treated at sick call at Rongelap. At Utirik also a large number of children (26 in one morning) and some 20-30 adults were treated for various ailments. At

Majuro also treatment was recommended on some of the people examined to the local medical officers. In the interest of trying to promote a better communication between the examining doctors and the Marshallese examined, an attempt was made at the completion of each examination to explain to the person through an interpreter the general results of the examination and possible treatment recommended.

At each island clinical conferences were held by the physicians, including the medical observers, Dr. Riklon and the health aide, to evaluate all cases examined and to recommend treatment and disposition. In some cases, the health aide was advised as to further treatment. In other cases, Dr. Knudsen was asked to see certain cases on his return visit to the islands. In other cases transfer to the Majuro hospital were recommended for further evaluation and treatment. At Rongelap there were two hospital cases and at Utirik five cases. We took them with us on the Militobi to Majuro. None of these people appeared to have conditions related to radiation exposure. When we left Majuro at the end of the survey, the two Rongelap women were being further examined. Four of the five Utirik cases were found to have conditions that could be treated on their home island and they were to be returned. The other case from Utirik needed further consultation.

There were important findings in three exposed people who lived at Majuro. Two young exposed girls had developed thyroid nodules since last examined in 1971. They were (female, age 19) who had been exposed at one year of age at Ailingnae. The other girl was (female, 29) who had been exposed on Rongelap at age 12. Surgical removal of these nodules is of course necessary. Dr. Brown Dobyns at the Cleveland Metropolitan General Hospital, who operated on many of the other Marshallese thyroid cases, has agreed to operate on these as soon as it is possible to arrange transportation of the patients to Cleveland. Preliminary arrangements have already been started for this.

The third case is more serious. male, age 19, who was exposed at one year of age on Rongelap was found to have a low white blood cell count during the survey. A repeat count later in the survey was even lower. This boy had previously had thyroid surgery for removal of benign nodules of that gland in 1968 and when last examined in March 1971 he was found to be healthy. In view of the alarmingly low blood count and after consultation with his father, we took with us to Tripler Army Hospital in Honolulu. They were unable, however, to get a successful bone marrow examination and we decided to take him back to Brookhaven National Laboratory. I am sorry to report that the diagnosis of acute myelogenous leukemia was

National Cancer Institute Clinical Center in Bethesda, Maryland. This is the leading hospital in the United States for treatment of such cases. On October 3, I took the patient down by hospital plane to Maryland. Cablegrams were sent requesting that the mother and father of be sent to Washington, D.C. as soon as possible at AEC expense. Also, Sebeo Shoniber, a health aide at Majuro was requested as interpreter. The father and Sebeo arrived Friday, October 6 and are with the patient. We have not yet been notified of the arrangements for the mother's travel.

Examination of the Utirik people did not reveal any unexpected conditions that might be related to radiation exposure. The incidence of thyroid abnormalities was quite low and not different from that to be expected in any island group.

At both Rongelap and Utirik, recommendations were made to the Trust Territory's health services personnel concerning requisition of certain additional drugs and equipment and checking of drugs and so on. A better arrangement for local record-keeping on the islands was discussed including data from our medical examinations, thyroid treatment and transfer of such information when individuals move to another island. These matters are still under discussion.

After our records have arrived and the laboratory data have been made we will be in a position to report more comprehensively on findings of the past survey. If I can be of any further help at this time please let me know.

With best regards,

Sincerely,

Robert A. Conard, M.D.

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P.S. I am enclosing an updated tables of thyroid lesions including the latest two cases.

THYROID LESIONS IN MARSHALLESE EXPOSED TO FALLOUT
(AS OF SEPT. 1972)[6]

Marshall Island group (radiation dose-gamma)	Age at exposure	Estimated thyroid dose-rads[1]	Thyroid lesions percent[2]	Thyroid surgery	Malignant lesions percent[2]
Rongelap (175 rads gamma exposure)	< 10	500-1400	89.5 (17/19)	15	5.3 (1/19
	11-20	335-500	12.5 (1/8)	0	-
	> 20	335	16.5 (3/26)	2	7.7 (2/26
	all	-	39.6 (21/53)	17	5.7 (3/53
Rongelap (on Ailingnae Island-69 rads gamma exposure)	< 10	200-500	16.6 (1/6)	0	-
	> 10	132[3]	12.5 (1/8)	1	-
	all	-	14.3 (2/14)	1	-
Utirik[5] (14 rads gamma exposure)	< 10	40-80	0.0 (0/55)	0	-
	> 10	22[4]	5.8 (4/69)	1	1.4 (1/69
	all	-	3.2 (4/124)	1	0.8 (1/12
Rongelap unexposed	< 10	-	0.0 (0/61)	0	-
	> 10	-	3.8 (5/133)	1	-
	all	-	2.6 (5/194)	1	-
Likiep unexposed	< 10	-	0.0 (0/31)	0	-
	> 10	-	4.7 (5/106)	0	-
	all	-	3.6 (5/137)	0	-

[1]Dose from ^{131}, ^{132}, ^{133}, ^{135}I plus gamma dose

[2]Based on number living. In parentheses number of cases/total number in group.

[3]One child 10-17 years of age at exposure received estimated thyroid doses between 132 and 200 rads.

[4]Fifteen children 10-17 years of age at exposure in this group received estimated thyroid doses between 22 and 40 rads.

[5]The more energetic shorter-lived isotopes of iodine contributed less to the total thyroid dose in the Utirik people due to later fallout. One might surmise therefore that the biological effectiveness of the thyroid dose per rad would be less in that group.

[6]In addition to thyroid lesions, one case of acute myelogenous leukemia was discovered in a 19-year-old Rongelap boy who had received 175 rad gamma radiation at 1 year of a