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~~PROCESSED~~ RESPONSE TO INQUIRIES --
MARSHALLESE ISLANDS-JOURNAL OF AMA ARTICLE

1. Q. What is new in the article by Dr. Conard in the latest (May 10) JAMA?
 - A. It states that non-malignant nodules were discovered in the thyroid glands of three Marshallese girls, two Marshallese boys, and a woman during the tenth and eleventh annual medical surveys of the Rongelap people. (10th - March, 1964; 11th - March, 1965).

2. Q. Are the nodules in the thyroid radiation-connected?
 - A. We believe so. Since they have been found in these six individuals in the exposed population and not in the unexposed group, we must assume that the nodules are radiation-connected.

3. Q. Are the nodules likely to become malignant?
 - A. No malignancy has been observed, but we cannot rule out the possibility of malignancy. With continued observation, however, one may minimize the effects of malignant change, should it occur.

4. Q. When were these people exposed to radiation and how many were in the group?
 - A. A total of 86 people of Rongelap Atoll were accidentally exposed to fallout radiation from a thermonuclear device tested on March 1, 1954.

5. Q. What were the circumstances surrounding radiation exposure of these people?

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5. A. On March 1, 1954, a thermonuclear weapon of about 15 megatons total yield was detonated on a coral surface at Bikini Atoll in the Marshall Islands. Because of a shift in wind direction, the fallout pattern differed slightly from the one predicted. As a result, radioactive particles fell on Rongelap Atoll about 100 miles east of Bikini. As soon as the Americans learned what had happened, they evacuated the Rongelap population to Kwajalein, 300 miles away. A naval medical team flew to Kwajalein from Washington.
6. Q. What was the estimated whole body dose received?
- A. The average whole body dose was approximately 175 roentgens.
7. Q. What medical assistance has AEC given?
- A. Since the time of the incident the U.S. Atomic Energy Commission and the Trust Territory of the Pacific Islands have sponsored annual medical surveys of the exposed people.
8. Q. Who runs these surveys?
- A. The surveys are headed by Dr. Robert A. Conard of the Medical Research Center at AEC's Brookhaven National Laboratory.
9. Q. What will be done with the three cases discovered this year?
- A. Arrangements are being made to bring the three patients to the Medical Research Hospital at Brookhaven National Laboratory for further examination and treatment. The three earlier cases received surgical aid in 1964.

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10. Q. What is the "unexposed group" -- how many people?
- A. Some 200 unexposed Rongelap people, including 75 children, are examined as part of the annual surveys for comparison purposes.
11. Q. Are there public reports on the medical surveys in addition to the current Journal of the American Medical Association article?
- A. Yes. (See attached list.)
12. Q. How many children were in the exposed group?
- A. Thirty-five were under 18 years of age at the time of the incident.
13. Q. What was the dose to the thyroid in the case of the three girls?
- A. Their thyroids received a dose of about 1,000 rads, largely from radioiodines.
14. Q. What kind of shape are these people in now; and what other delayed effects, besides the nodules, have been observed?
- A. The general health and death rate of the Rongelap exposed population has been about the same as for the comparison group. Other possible residual radiation effects noted in the 86 exposed Rongelapese were: slight retardation of statural growth and bone maturation in boys exposed at less than 5 years of age; somewhat greater incidence of miscarriages in exposed women during the first four years; incomplete recovery of some of the peripheral blood elements; and increased lesions in the areas of previous beta radiation burns of the skin. No definite radiation effects on birth rate, aging, leukemia, or malignancy have been noted.

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15. Q. What was the thyroid dose received by the exposed adults?

A. The dose to the thyroid glands of the adults from the radiiodines absorbed was estimated to be about 150 to 160 rads.

16. Q. What were the effects of the beta radiation burns?

A. There were some losses of skin pigment and occasional scarring of the skin as a result of the beta burns received by some of the Marshallese exposed to fallout. The dust particles adhered to exposed damp skin around the neck, head, arms, and feet during the first day of the fallout. These places received burns from beta radiation. The burns healed but the pigment, in some instances, did not regenerate.

17. Q. What is the extent of the present (JAMA) report?

A. The present report summarizes the medical findings over a ten-year period of the 82 people of Rongelap Island who were exposed. The initial findings are only briefly reviewed, greater emphasis being placed on the findings of more recent follow-up examinations.

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List of Reports of Previous Surveys

1. E. P. Cronkite, V. P. Bond and C. L. Dunham, ed., "Some Effects of Ionizing Radiation on Human Beings," AEC report TID-5358, U.S. Government Printing Office, July 1956. (\$1.50).
2. E. P. Cronkite, et al, "Twelve-Month Post-Exposure Survey on Marshallese Exposed to Fallout Radiation," AEC report BNL-384 (T-71), August 1955. (OTS \$0.15).
3. R. A. Conard, et al, "Medical Survey of Marshallese Two Years After Exposure to Fallout," AEC report BNL-412 (T-80), March 1956. (OTS \$0.20).
4. R. A. Conard, et al, "March 1957 Medical Survey of Rongelap and Utirik People Three Years After Exposure to Radioactive Fallout," AEC report BNL-501 (T-119), June 1958. (OTS \$1.00).
5. R. A. Conard, et al, "Medical Survey of Rongelap People Four Years After Exposure to Fallout," AEC report BNL-534 (T-135), May 1959. (OTS \$1.25).
6. R. A. Conard, et al, "Medical Survey of Rongelap People Five and Six Years After Exposure to Fallout," AEC report BNL-609 (T-179), February 1961. (OTS \$2.00).
7. R. A. Conard, et al, "Medical Survey of Rongelap People Seven Years After Exposure to Fallout," AEC report BNL-727 (T-260), May 1962. (OTS \$2.00).
8. R. A. Conard, et al, "Medical Survey of Rongelap People Eight Years After Exposure to Fallout," AEC report BNL 780 (T-296), Jan. 1963. (OTS \$2.00).