264 Skeletal Lesions Following Internally Administered Radium. R. H. Marshak, R. A. Newburger, and Joan Eliasoph. J. Am. Med. Assn. 160, 41-44 (Jan. 7, 1956).

A case of late effects on the bones from internally administered radium is described, illustrated and discussed. It is to be expected that increasing numbers of such cases will become clinically evident, and as the roentgen appearance of these lesions becomes widely known, more of them will be accurately diagnosed.

265 Pulmonary Effects from Radioactive Barium Sulfate Dust. H. Gember, T. F. Hatch, J. A. Watson, and T. Grucci. Arch. Ind. Health 12, 628-634 (Dec. 1955).

Rats were exposed by intratracheal insufflation to radioactive barium sulfate particles at three levels of exposure, namely 4.5 millicuries, 45 microcuries, and 4.5 microcuries radiosulfur, and were serially killed over a nine-month period. A very small increase in the intensity of inflammation and cicatrization was observed in the animals that received the highest dose. This increase, however, was not considered significant and was not attributed to radiation. It is therefore suggested that the intense radiation delivered to the small volume of lung tissue in the immediate vicinity of the barium sulfate particles may not be as hazardous as might be expected or that the latent period for production of serious radiation injury is very much longer than the nine-month period over which these animals were observed. -- Authors' summary

266 Effects of Nuclear Weapons Testing. G. M. Dunning. Sci. Monthly 81, 265-270 (Dec. 1955).

The information given in this paper provides answers toward three basic questions: (1) What are the problems and possible risks associated with nuclear weapons testing? (2) What are the data concerning effects from past tests and what they might be if the tests are continued? and (3) What do these data mean—how serious are the possible risks? The subjects considered are: blast and thermal effects; external exposure to radiation; internal exposure (short and long term); genetic effects; weather; and nitric acid formation. Blast effects are mostly confined to the immediate neighborhood of the testing sites. Some structural damage has occurred outside the test site, but no detrimental effects have occurred on human beings and animals. No thermal injury has occurred outside the test site. Temporary blindness may occur at a distance of 30 to 40 miles, but adequate warning has been given, and the simple act of turning the head away can give adequate protection. Skin damage from external radiation has been noted within 20 miles of the explosion, but larger warning areas have now been established. It is shown that the internal exposure effects, genetic effects, and nitric acid formation from past tests and any likely to be given are much below any dangerous level. The effect on weather is insignificant.

267 Chorioretinitis Produced by Atomic Bomb Explosion. J. Landesberg. Arch. Opthalmol. 54, 539-540 (Oct. 1955).

The energy released from an atomic bomb blast has visible infrared and long ultraviolet rays, which are capable of producing thermal burns involving the choroid and retina. The pupillary diameter at the time of detonation is a very important factor. The pupillary and blink reflexes are too slow to prevent burning of the retina because sufficient energy for this arrives after the first 0.1 second. These reflexes take a longer time. The distance at which burns may be produced is much greater than that at which any other harmful effects of the atomic bomb occur, and at a given distance the burns on the retina are severer than those of the skin. This is true because of the optical system of the eye. It seems apparent that in this case the right eye did not receive the rays because of the shielding effect of the bony structures of the nose. It is concluded that the necessity of covering the eyes during an atomic blast is of the utmost importance.

-- Author's summary (Nuclear Sci. Abstr.)

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