

RADIOACTIVITY AND X-RADIATION

- 1008 Hepatoma Induced by Thorium Dioxide (Thorotrast). J.S. MacKay and R.C. Ross.
Can. Med. Assn. J. 94, 1298-1303 (June 18, 1966).

A case of hepatoma induced by thorium dioxide (Thorotrast) is reported. The literature concerning neoplasia associated with this agent is reviewed, with emphasis on the long latent period before the development of these tumors and the equally long latent period which preceded the recognition of their iatrogenic nature. In particular, this report is intended to illustrate the diagnosis of such tumors on radiological and histological findings, provided that one is aware of their existence and familiar with the distribution and appearance of thorium dioxide deposits in the tissues. Such a diagnosis can be made without a history of thorium dioxide administration, which often may not be available. -- Authors' abst.

- 1009 Histology of Human Ocular Laser Coagulation. H.C. Zweng, M. Flocks, and R. Peabody.
Arch. Ophthalmol. 76, 11-15 (July, 1966).

Histological evidence is presented, showing that within 92 hours after laser photocoagulation of the human retina a firm chorioretinal adhesion is produced, sufficient to hold the retinal neuroepithelium, the retinal pigment epithelium, and the choroid together in a union firm enough to resist the retinal separation which very commonly occurs in the preparation of eyes for histological examination. Even at 44 hours, a definite adhesion formed between the pigment epithelium and the neuroepithelium which was strong enough to resist artifactitious separation involved in processing the eye. It should be noted that clinical retinal separation occurs between the pigment epithelium and the neuroepithelium. Reaction seen histologically with energy levels usually used in isolating retinal tears is limited to the layers of the retina from the external nuclear layer externally through the pigment epithelium and the superficial choroid. No changes were noted in the areas of the retina internal to the external nuclear layers, and no changes were observed in the vitreous in the area of photocoagulation. -- J. Am. Med. Assn. References & Reviews

- 1010 Ocular Effects of Radiation and Photocoagulation. G.M. Howard.
Arch. Ophthalmol. 76, 7-10 (July, 1966).

The majority of eyes treated with 8,000 roentgens or more developed clinical complications, such as sheathing and occlusion of the retinal vessels, speckled retinal pigmentation, formation of new vessels, vitreous hemorrhage, atrophy and neovascularization of the iris, and synechial closure of the angle with secondary glaucoma, three to six months later. Pathological changes such as synechial closure of the angle, thickening of the retinal vessels, and retinal atrophy were more frequent than in the control eyes. Massive invasion of the choroid by retinoblastoma was present in each of five eyes in which the tumor recurred in spite of several attempts at control with light coagulation. In addition to the growth of a tumor in the choroid, aggressive invasion of the inner sclera was present in the photocoagulated eyes. In one specimen, the tumor had extended through the sclera to the orbit in the absence of invasion of the optic nerve. This sequence of progression did not occur in the control eyes. Photocoagulation when used repeatedly and heavily may break down some of the natural barriers to tumor extension.

-- J. Am. Med. Assn. References & Reviews

- 1011 The Radiation Control Program. H. Blatz, et al. Public Health Repts. 81, 57-63 (Jan. 1966).

The legal authority for the radiation control program of the New York City Department of Health is the health code. Since 1958 it has required registration of radiation installations and compliance with requirements of the National Committee on Radiation Protection and Measurements. Since 1962 the code and an agreement between New York State and the Atomic Energy Commission have provided for the regulation of radioisotopes. -- Public Health Eng. Absts.

- 1012 Radionuclides in Foods From the Central Pacific, 1962. R.F. Palumbo, A.H. Seymour, and A.D. Welander. Nature 209, 1190-1192 (March 19, 1966).

Analyses of foods from the terrestrial and intertidal areas of Christmas Island and other islands, some as far as 3,200 km. from a nuclear test site; tuna fish from the high seas within 960 km. of the test site; and tuna fish caught by Japanese fishermen in an area that extended from 40°N. to 25°S. and from 140°W. to 124°E. demonstrated that radioactive fallout was barely detectable. There are eight references. -- Public Health Eng. Absts.