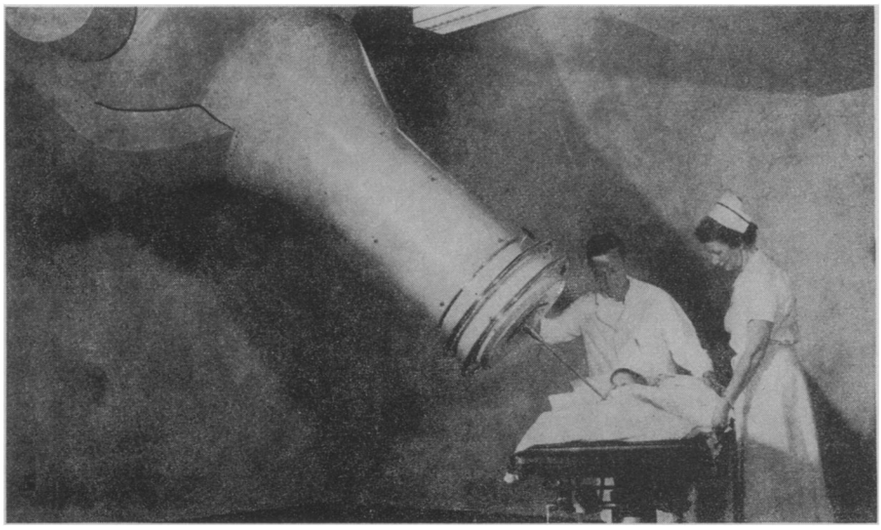

Roswell Park Memorial Institute

RADIATION THERAPY—Dr. Walter Murphy is shown administering a radiation dose to a young child at Roswell Park Memorial Institute, Buffalo, N.Y., using a two million electron-volt X-ray machine. The Institute is ranked as one of the world's largest and best equipped cancer research centers.

SURGERY

Sclera Graft Aids Sight

Preserved sclera can be used in grafting to correct failing sight due to retinal detachment, rupture of the eye and drooping of the eyelid—By Faye Marley

➤ HUMAN GRAFTS of the outermost coat of the eyeball can correct or prevent failing sight due to retinal detachment, rupture of the eye and drooping of the eyelid, an exhibit at the American College of Surgeons meeting in Atlantic City, N. J., showed.

Preserved corneas have been used with good results for many years, and now eye banks can include preserved sclera, the white coating that covers the eyeball.

Dr. John A. Buesseler of the University of Missouri Medical Center, Columbia, said that a dreaded common complication of some cases of retinal detachment is a rupture of the "globe" due to a marked thinning of the walls of the eye.

This is where preserved sclera can be used to patch the ruptured globe, or to reinforce a weak area to prevent a rupture.

Those who want to donate their eyes after death can obtain pledge cards from local hospitals or from local Lions Clubs, which are helping to promote eye banks.

Skin testing of cancer patients to help determine the course of the disease is working successfully, Dr. Alex C. Solowey and Dr. Felix T. Rapaport of New York University Medican Center reported. They injected 95 cancer patients, who were ambulatory and in an apparent state of well-being, with various types of allergens—substances that cause an allergic condition such as a red spot and breaking out on the site of injection—along with 46 controls. The sex and age of the controls were matched with those of the cancer patients.

Surgical exploration of 70 cancer patients who had no reaction to the allergen injections showed that in 58 the cancer had spread beyond the primary location.

Of all these 95 cancer patients, only 13% with undetected spreading, or metastasis, gave any positive response to the injections.

Also on Oct. 18, Dr. J. F. Burke of the department of surgery, Harvard Medical School, and of Massachusetts General Hospital reported experiments with animals that showed blood vessels supplying cancer cells are more "permeable" than those in normal cells. Permeable in this usage means that solutions and fine particles can pass through.

Using L-phenylalanine mustard, an amino acid compound, as a "marker," Dr. Burke and his co-workers introduced malignant cells into a tumor and then injected an antibody that reacted specifically with the marked cells.

Their experiments showed that the system had a marked effect on tumor growth. But there was no detectable effect in leukemia or blood cancer, and the effect on breast cancer was moderate. The greatest effect was on a highly vascular brain tumor called an ependyoma.

Normal cells were not harmed by the injections, Dr. Burke reported. His associates in the experiments, which were performed on inbred mice, were Drs. Peter J. Morris and Vernon H. Mark.

• Science News Letter, 88:275 October 30, 1965

Detect Fragile Bones

➤ A SIMPLE, INEXPENSIVE machine has been developed that will soon be available to help physicians determine the beginning of the bone disease called osteoporosis, which almost always occurs in women past the menopause. The disease is associated with brittle bones that break easily.

Dr. M. Edward Davis of the University of Chicago School of Medicine told SCIENCE SERVICE that the administration of estrogens, or female hormones, at the earliest possible time, before the disease has caused damage, will either retard or prevent osteoporosis.

Menopause and the aging female was the subject of a panel discussion at the 51st Annual Clinical Congress of the American College of Surgeons meeting in Atlantic City. Some difference of opinion was voiced by five surgeons on the panel as to whether a woman should be given progestin, which will keep her menstruating beyond the usual menopause period. This is a newer form of therapy than the older hormones.

Dr. Somers H. Sturgis of the Harvard Medical School pointed out that menopause needs defining. Some women produce estrogens 10 or 15 years after menstruation has ceased while others may stop producing the hormones within two years. In cases of the surgical operation in which the ovaries are removed, called oophorectomy, a woman may stop producing female hormones in a few days.

Of the four million persons in the U.S. in 1963 who had broken bones from osteoporosis, 90% were women who do not generate sex hormones after menopause. Men continue producing androgens until extremely old age and are protected from developing brittle bone conditions.

One thing doctors do not worry about as much as they did is that women will get cancer from taking estrogens.

The panel included Dr. Michael Newton of the University of Mississippi, Jackson; Dr. Gerald Rogers of the University of Oklahoma School of Medicine, Oklahoma City; Dr. John H. Morton of Los Angeles, along with Drs. Davis and Sturgis.

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Post-Surgery Treatment

➤ HOPE FOR BREAST CANCER patients who suffer the after effects of surgery in the form of swelling arms was reported by Dr. Sven J. Kister of Columbia University. He told the American College of Surgeons that his experimental work with dogs had been successful.

Dr. Kister said that in about a year he hopes to be able to start work with human patients. He wants to eliminate all possible problems before trying an experiment with humans.

What Dr. Kister has done with animals is to replace lymphatic matter after surgery that had deprived them of proper drainage. He and his co-workers used lymphatic node transplants from the dog's abdominal cavity. With humans he hopes to use a pencil-sized strip of lymphatic material from the patient's own colon.

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