

RADIOLOGY

Neutrons Hit Brain Cancer

Treatment of fatal type of brain cancer with neutrons brings temporary relief. The beneficial effects and lack of harmful results warrant "further exploration" of this method.

► **TEMPORARY RELIEF** of symptoms in an always fatal type of brain cancer has been achieved by treatment with neutron radiation from the reactor at Brookhaven National Laboratory, Upton, Long Island, N. Y.

This much in the way of good effects in the first ten patients was announced by Dr. Lee E. Farr, director of the medical department at Brookhaven, at the meeting of the American Radium Society in St. Louis.

Dr. Farr's is the first report of the Brookhaven brain tumor research made to a scientific group.

The treatment cannot be called a cure. All ten patients are now dead. But the good effects so far and the lack of harmful effects warrant "further extensive exploration" of this treatment as a means of controlling the disease, Dr. Farr said. He and his group are encouraged but it will be some months before they are ready to treat the eleventh patient. They are trying now to improve the instruments in the hope of getting better results.

One of the first ten patients lived nine months after the first neutron treatment. He had three treatments. One patient, who got only one short treatment, lived only 43 days after. The others lived varying periods between. One recovered sufficiently to go to Florida for a visit before he died. Others have recovered enough to get up and about.

The patients had previously been operated on at Massachusetts General Hospital in Boston and then were transferred to Brookhaven for the neutron treatment. Just before this treatment a borax solution, made from boron 10, was injected into one of the patient's veins. The patient's head was then positioned over the radiation port of the reactor and fixed with cotton web straps weighted by lead bricks.

The reactor was then brought to full power as rapidly as could be done with safety. This takes about eight to ten minutes. About 40 minutes of neutron radiation was then given, except in the case of the first patient who got only 17 minutes.

The boron, which has reached its maximum concentration in the brain tumor tissue within 15 minutes, "captures" the neutrons from the reactor and then gives off alpha particles with some gamma rays and neutrons.

This radiation, if intense enough, could annihilate the tumor while leaving normal surrounding tissue intact. Actually, in the patients so far treated, the radiation has had a very destructive effect on the tumor with

little or no damage to healthy tissue, examination after death showed.

Working with Dr. Farr in treatment of the patients at Brookhaven were Drs. James S. Robertson, Charles G. Foster, Herbert B. Locksley, D. Lawrence Sutherland, Mortimer L. Mendelsohn and E. E. Stickley, and Dr. William H. Sweet at Massachusetts General Hospital in Boston.

Science News Letter, May 2, 1953

ORNITHOLOGY

Baby Robins Making Springtime Debut

See Front Cover

► **FAMILY RESPONSIBILITIES** are overtaking erstwhile carefree birds, as the cover on this week's SCIENCE NEWS LETTER illustrates. These little fellows will keep both mama and papa robins on the wing hunting worms and grubs until they are big enough to tumble out and try their own wings.

In a few weeks, you may see a very ugly bird with a great big mouth and a brown

speckled breast on the lower branches of a tree. This will be no undescribed species, but Junior robin on his own. The typical red breast of the robin will come later in life. This speckled breast, however, serves as a reminder that robins are close kin of the handsome speckle-breasted thrushes.

Incidentally, poor Cock Robin, who was shot by the Sparrow's bow and arrow, is not the same as our American robin. The European robin is a smaller bird, about the size of our bluebird.

Science News Letter, May 2, 1953

MEDICINE

Sex Hormones Studied As Cause of Cancer

► **SEX HORMONES**, particularly in cancers of the breast, play some role in the amount of susceptibility to cancer. They also are used in the treatment of some cancers with varying degrees of success. But no one knows just how much or how many different kinds of female sex hormones are produced by women of 20 to 40 years of age.

Refinements in measuring these vital substances are being worked out by Drs. E. Stewart Taylor and Rudolph Anker of the University of Colorado.

They already know about three types of female estrogen, but they have discovered evidence that there might be more. They plan to measure the excretion of hormones in urine by both chemical and paper chromatographic methods.

Science News Letter, May 2, 1953



GIANT FUSELAGES—Shown being loaded for shipment from the Ryan Aeronautical Company yards at San Diego, Calif., these five giant aft fuselage sections are for the Boeing C-97 Stratocruiser, which can be used as a cargo carrier, a flying ambulance or an aerial tanker.