

MEDICINE

Radiation of Deep Cancers

A new way of using radioactive cobalt will make pin-point radiation of deep cancer possible. The beam will be more penetrating than that of X-rays.

➤ PIN-POINTED radiation of deep-seated cancers will be possible with a new way of using radioactive cobalt being worked out in a joint project between the Oak Ridge Institute of Nuclear Studies and the University of Texas' M. D. Anderson Hospital at Houston.

The cobalt, after being made radioactive in the uranium chain-reacting pile or reactor, will be incorporated in a unit comparable to an X-ray machine operating in the one- to two-million volt range.

The radiocobalt irradiator, as the new cancer treatment instrument is called, will consist of a spherical shield of some heavy metal such as lead with the radioactive cobalt enclosed in the middle. The shield will be about a foot in diameter and will have a slit in it through which the radiation from the radiocobalt will pass. With this a small but very intense beam of gamma rays can be directed to the cancer.

The new irradiator is expected to have the advantage over X-rays of a more localized and more penetrating beam permitting pin-point irradiation of the cancer. Radio-

cobalt has the advantage over radium of being cheaper and easier to handle and, a further advantage, it can be made to have any desired amount of radioactivity.

Radiocobalt has already been used in treatment of cancer patients, but in these earlier trials it was used in the form of needles, much like the radium needles used for cancer treatment.

The radiocobalt irradiator will be thoroughly tested on animals before being used on human cancer patients. When the scientists are satisfied from the animal work about the results obtainable, the Oak Ridge Institute and the M. D. Anderson Hospital will request permission from the Atomic Energy Commission to use it on cancer patients. These will be selected initially by the 22 Southern medical schools participating in the Institute's medical research program. The facilities will not be open to the general public.

The M. D. Anderson Hospital will design and fabricate the irradiator, while the Oak Ridge Institute will supply the facilities of its new Cancer Research Hospital.

And the AEC plans to build a Telecobalt Therapy Building, to be about 650 square feet in size, to house the unit. Invitations have been issued to contractors to bid on this until May 22, after which they will be publicly opened.

The new irradiator will be built to contain over 1,000 curies of radiocobalt. Because of the special requirement that the unit have the 1,000 curies in a small volume of cobalt metal, it may be necessary to obtain the final material from the higher flux reactor at Chalk River, Canada.

Science News Letter, May 20, 1950

MEDICINE

New Chemical Slows Down Cancer Growth

➤ SLOW-DOWN of the growth of certain types of cancer in laboratory mice through the use of a new chemical compound has been "striking," a Columbia University team reported to the American Cancer Society.

The compound, guanazolo, effectively retarded the growth of breast cancers in mice without causing any toxic side reactions. Although it slows down the growth of the cancer, the chemical never caused the cancer to grow smaller, the doctors report.

Guanazolo is able to distinguish a biochemical difference between normal tissues and certain cancers. Thus this and allied compounds may be very useful in exploring the biology of cancer and may "indicate chemical weapons which will specifically inhibit cancer in man," the researchers conclude.

Members of the research team at Columbia are Drs. Alfred Gellhorn, Morris Engleman, Daniel Shapiro, Samuel Graff and Horace Gillespie.

Dr. G. W. Kidder of Amherst College, Amherst, Mass., and other researchers had previously noted that guanazolo had a slowing effect on certain mouse tumors.

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METEOROLOGY

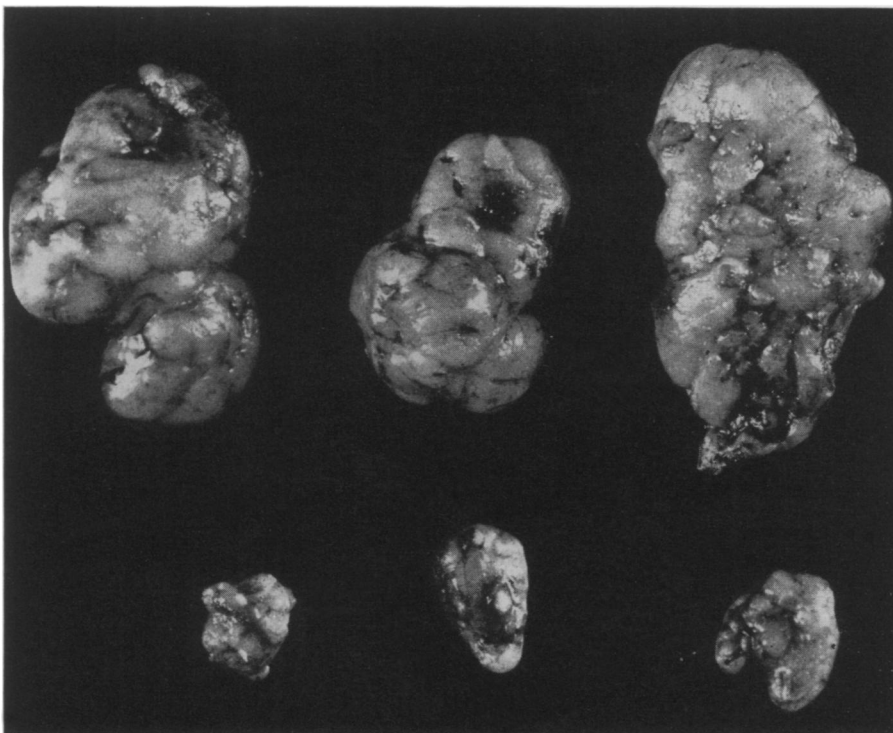
Less Rain and Snow Is Only Temporary

➤ WE are having less rain and snow, but this is only a temporary situation.

A detailed study of rainfall records for this country over the last 100 years led to this conclusion. From these records it is clear that there are no continuous upward or downward trends in rainfall, Drs. Joseph V. B. Wells and Conrad D. Bue of the U.S. Geological Survey told a joint session of the American Geophysical Union and the American Meteorological Society in Washington.

Our streams are reliable sources of surface water. Even if the rainfall has been declining, they would furnish adequate water if we used them properly, they stated.

Science News Letter, May 20, 1950



WHICH ONE HAD THE GUANAZOLO?—The above pictures illustrate the effectiveness of guanazolo in slowing down the growth of certain types of cancers in mice. The tumors above were not treated with the new chemical; those below received treatment with guanazolo.