

## MEDICINE

# Cancer Treated With Gold

► **CANCER** and leukemia patients are now being treated with radioactive gold from the chain-reacting uranium pile that created the atom bomb.

"Results in chronic cases (of leukemia) have been equally good if not better than results obtained with X-rays," Dr. Paul F. Hahn, associate professor of biochemistry at Vanderbilt School of Medicine, declared at the isotope conference in Nashville. The conference was held at Vanderbilt University in cooperation with the Clinton Laboratories and the Oak Ridge Institute of Nuclear Studies. Leading scientists have discussed use of radioactive chemicals as tracers and in treatment of disease.

A total of 33 leukemia patients and 30 miscellaneous tumors have been treated so far. Favorable results have been obtained in leukemia of the chronic variety only.

Two leading advantages of the treatment over X-rays, Dr. Hahn said, are the lack of radiation sickness and the

simplicity with which the radioactive material is given.

In leukemia, the radioactive gold is injected into the patient's vein. In the case of a tumor or cancer it is injected into the tissue so as to infiltrate the tumor with the radioactive material. Time in hospital and expense are saved. The treatment can be given in a few minutes and the patient can then go back home or to work if necessary.

It costs only about \$5 for enough radioactive gold to produce a "satisfactory remission," or temporary improvement such as X-rays give, in certain types of chronic leukemia.

When the radioactive colloidal gold is infiltrated into tumors, it remains fixed at the site where it was deposited. The tumor is then constantly bombarded with rays from the radioactive gold, something as is the case when a radium needle is deposited in or near the tumor for a time. The use of radioactive gold, however, eliminates many of the undesirable features accompanying the use of radium under similar circumstances, Dr. Hahn said.

Dr. Hahn and his assistant, Dr. C. W. Sheppard, have been conducting a cancer and leukemia treatment program for the past 20 months. At first they used radioactive colloidal manganese made in the cyclotron. This had the disadvantage of a relatively high cost. When material from the uranium pile became available, they shifted to use of radioactive colloidal gold. This decreased the cost of treatment to about two per cent of the former cost.

Vanderbilt University's nearness to the uranium pile at Oak Ridge makes it a logical center for work of this kind, Dr. Hahn pointed out. At present Vanderbilt is receiving more radioactive material from Oak Ridge than any other medical school in the United States.

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## AGRICULTURE

## Illinois Introduces New Lincoln Hybrid Soybean

► **ILLINOIS** has had the honor of introducing a new hybrid soybean, appropriately named for her most distinguished citizen, Abraham Lincoln. The Lincoln soybean averages three bushels per acre

better than other soybeans, and the beans themselves contain one-half per cent more oil. It is therefore claiming increasingly greater acreages for itself, though it was introduced only five years ago.

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## AERONAUTICS

## Radar Equipment to Give Safety from Mountains

► **SAFETY** TO airplanes from mountains ahead is promised by new airborne light-weight radar equipment which will be in production by 1948, Comdr. W. C. Hilgedick, U. S. N., told the joint meeting in Washington of the International Scientific Radio Union, American Section, and the Institute of Radio Engineers.

This radar equipment, which weighs 150 pounds, can be used effectively in dodging bad weather ahead, such as thunderstorms and conditions favorable to the formation of ice on the plane. It can be used also in beacon navigation, beacon low-approach for landing, and to avoid collisions in the air with other planes. For the last purpose, however, its usefulness is limited because radar echoes from another plane are weak and easily unnoticed.

The new equipment is built on specifications prepared by the Army, the Navy, and American Airlines, serving as consultants. The object sought was the most desirable type of radar for transport aircraft. The instrument which the Navy expects to have in production early next year will be known as the AN/APS-42 equipment.

For terrain clearance a pencil-beam is used, Comdr. Hilgedick stated. This circles around the aircraft like a searchlight, and in effect presents a safety circle within which no echo should be received without danger. On the radar scope, the pilot has at a glance a picture in overcast weather as quickly and easily understood as if he looked through a windshield on a clear day.

The beacon navigation program of the Army and Navy includes installations up and down both coasts and across the southern overland route. These beacons are coded and can be flown across the face of the radar scope just as clearly as flying a searchlight beacon course in good weather. In the beacon low-approach, two small beacons are used, one at each end of the runway. This allows a pilot to line up with the proper runway before let-down.

*Science News Letter, June 21, 1947*

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