

MEDICINE

Find a Lung Cancer With High Cure Rate

► AN "AMAZINGLY HIGH RATE of cure" for one kind of lung cancer was reported by Drs. Richard H. Overholt, Dryden Morse and James A. Bougas of Boston at the National Tuberculosis Association meeting in New York.

The kind of lung cancer, unfortunately, is not the usual type and is fairly rare.

Of 1,560 patients with lung tumors seen at the Overholt Thoracic Clinic, there were 57, or 3.5%, with this special kind diagnosed as bronchial adenoma.

Of the 57, there were only two deaths due to lung tumor in the average follow-up period of five years. Treatment by surgery has been effective in curing over 90% of "these relatively fortunate people," the doctors reported.

A second remarkable thing about these patients is that there seems no relation between the length of time they had symptoms and the curability of the condition. In some cases, in fact, the results of surgery seemed better the longer the symptoms had been present. Also remarkable was the finding that patients with large tumors were likely to do as well as those with small ones.

The violence of the symptoms caused by these special lung cancers was out of proportion to the threat to the patient's life. Alarming hemorrhage, for example, was frequently seen.

There are enough patients with these kinds of tumors mixed in with all lung patients, the doctors declared, to "demand" that doctors always be on guard to take advantage of the high cure potential of the bronchial adenomas.

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BIOPHYSICS

Beer-Making By-Product May Have Atomic Use

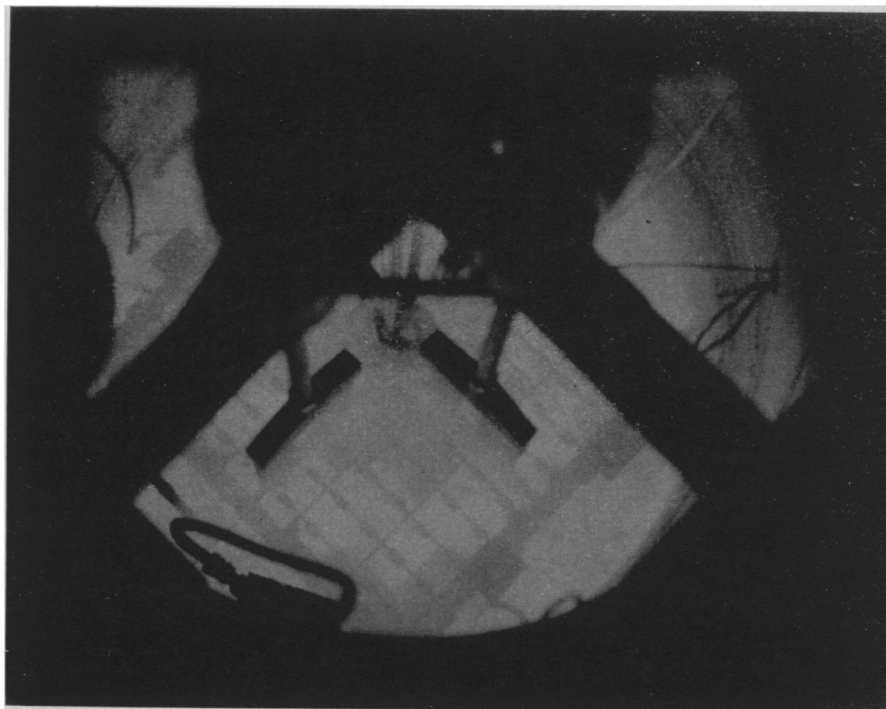
► A BY-PRODUCT of Swedish beer-making may prove valuable to atomic energy makers.

Percolation through barley as a new method for separating heavy water from the ordinary kind is reported by three Swedish scientists in *Nature* (May 26).

In malting barley for Swedish beer, large amounts of water are taken up by the grain. The scientists, L. Carlbom, R. Skjoldebrand and N. Nielsen of Stockholm report that, after testing water percolated through barley, they found it richer in heavy water than the Stockholm tap water.

Whether barley takes up light water by preference or exchanges for light water some heavy water in its tissues during the percolation process, the Swedish physicists point out that enrichment of heavy water is expensive. A biological method of producing heavy water as a by-product of malting barley seems promising to the Swedish scientists.

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SELF-LIGHTED REACTOR—This view, taken looking down into the water-filled tank of the SPERT I reactor, was made in the light of the blue glow resulting from the intense radiation. Silhouetted above the tank are control mechanisms and their supports. The photograph was taken during a "transient" in which power rose from an initial two watts to 510,000,000 watts in less than one second. The reactor is operated by Phillips Petroleum Company under contract to the Atomic Energy Commission at the National Reactor Testing Station, Arco, Idaho, to test the safety aspects of reactors.

METEOROLOGY

Facts on Rain Making

► EXPERT WEATHERMEN believe many misconceptions exist about claims of success in changing the weather by seeding clouds.

These are the facts:

Hail suppression has not been accomplished by cloud seeding. Very few scientific studies have been made of this possibility, and results so far are inconclusive.

Present prospects for making rain by seeding clouds are encouraging only in the winter season for certain areas on the Pacific Coast where winds sweep up the mountain slopes. Even for these limited regions, statisticians disagree concerning whether increases in rainfall that can be attributed to cloud seeding actually occurred, and also whether the mathematical methods used to show the increases are valid.

Except for these particular Pacific Coast areas, there is as yet no sound evidence of success in increasing rainfall through cloud seeding in warm seasons, in clouds where wind flow is horizontal or in shower-type cumulus clouds.

Meteorologists deplore published articles greatly exaggerating the facts pertaining to making rain or snow or suppressing hail.

The real fact is that much more basic research concerning how clouds make rain and the effects of throwing chemicals into them to build them up or break them down will have to be done before valid conclusions can be drawn for areas other than a few on the Pacific Coast.

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METEOROLOGY

Weather Measurements Made From Tower

See Front Cover

► ELECTRONIC INSTRUMENTS mounted in the 200-foot tower shown in the photograph on the cover of this week's SCIENCE NEWS LETTER measure changing atmospheric conditions during weather observation tests at Gila Bend, Ariz., made by an Army Electronic Proving Ground meteorological team. The Signal Corps is studying the conditions that cause "ducting," a phenomenon enabling ultra high frequency microwaves to bend, and return to the earth beyond the line of sight.

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