MEDICINE

Sex Hormone for Cancer

New treatment of the disease is going to be tried in cancer clinics throughout the country under A.M.A. sponsorship. Still in experimental stage.

➤ A NEW way of treating cancer is going to be tried on a large scale by cancer clinics all over the country under the auspices of a special committee of the American Medical Association.

The treatment consists in the use of sex hormones. Several hundred patients with advanced cancer of the breast have already been treated with female sex hormones. Several score with cancer that spread to the bones from the breast have been treated with male hormone. And men with cancer of the prostate gland have been helped by castration and by treatment with female sex hormones.

The hormone treatment of breast cancer has not yet shown signs of being a cure. But in some cases it relieves symptoms and may prolong life. Doctors are eager to use this new treatment for their patients whose breast cancers have gone beyond the stage where operation will help.

But indiscriminate use of the hormones is dangerous. In some cases, female hormones speed the rate of growth of the cancer. Patients with cancer that has spread to the bones and who have a lot of calcium in their blood have been made very ill by the male hormone treatment that has helped others.

The treatment is still in the experimental stage. But by the proposed trials of it on large numbers of patients with careful records to be impartially judged, it is hoped that its exact place in the fight against cancer can be learned. Some breast cancer patients will be helped now. Many more, with other kinds of cancers, may be helped in the future because, the committee hopes, the studies will tell more about the part hormones play in cancer. Such information could lead to a basic attack on cancer either through better treatment in early stages or through prevention.

Five firms have offered to supply substantial quantities of male hormone for the studies. Others are considering participation in the project.

The cases under treatment will be reviewed by two groups of consultants. One of these will be a group of X-ray specialists who will study and evaluate X-ray pictures of all patients before and after hormone treatment. The other group will be pathologists who will study specimens of the cancers themselves, before and after treatment, to give their independent verdict on the effects of the treatment.

Chairman of the committee in charge of the trials is Dr. Ira T. Nathanson, of the Massachusetts General Hospital, Boston. Other members are: Dr. Frank E. Adair, Memorial Hospital, New York; Dr. Willard M. Allen, Washington University School of Medicine, St. Louis; and Dr. Earl T. Engle, College of Physicians and Surgeons, Columbia University, New York.

Science News Letter, December 20, 1947

Wood deep under water may last for hundreds of years unless eaten by sea worms.

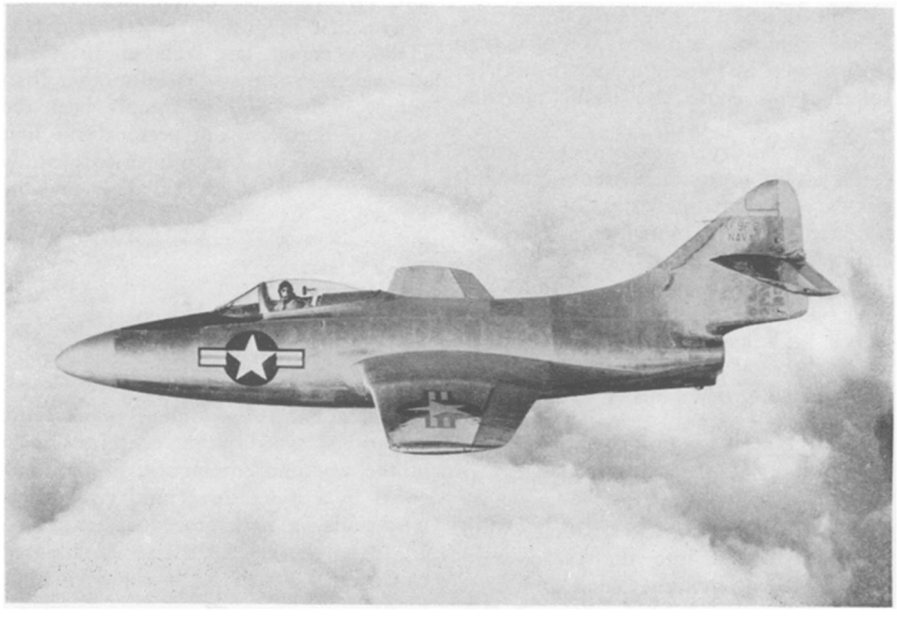
AERONAUTICS

Jet Plane Folds Its Wings

➤ A NEW jet-propelled carrier-based fighter plane for the U. S. Navy has had its first flight test at the Long Island plant of the Grumman Aircraft Engineering Corporation at Bethpage, N. Y. It is a fast plane, with folding wings, and especially designed for take-off and landing on a short runway.

In general appearance the new plane, which will be known as the Grumman XF9F-2 Panther, resembles other familiar jet fighters except for its short square-tipped wings which fold for shipboard storage. The movable leading edge of the wing, which moves in conjunction with the wing flaps in landing and take-off, provides improved stalling characteristics and added lift.

The first experimental model of this plane is powered by a Rolls-Royce Nene engine, developed in England but built in this country by Pratt and Whitney. Some later planes will have Allison turbo-jet engines. This is a re-designed model of the General Electric I-40 which Allison has been exclusively developing and building since 1945. It is the engine in the Lockheed P-80 Shooting Star that set an international speed record of nearly 624 miles an hour. This record



CARRIER-BASED JET—To be known as the Grumman XF9F-2 Panther, it resembles other jet fighters except for its square-tipped wings which fold for shipboard accommodation. It will be the first jet-fighter which can use either of two engines—the Rolls-Royce Nene engine or the Allison turbo-jet engine.

has since been beaten by the Navy Douglas Skystreak travelling at 650.6 miles an hour.

The Navy plans to use both of these engines in future Panthers, and although not identical they will be interchangeable. The plane will be the first jet fighter with a dual source of engines. This is to assure an uninterrupted engine supply and will tend to make lower production costs.

Science News Letter, December 20, 1947

METEOROLOGY

Water Can Make Rain Fall

Common cumulus clouds of any temperature will precipitate in a "chain reaction rainfall" when sprinkled with water.

➤ WATER, of all things, can be used to make rain fall. This latest and ironic development in rain-making was reported in a communication to the National Academy of Sciences by Dr. Irving Langmuir, associate director of the General Electric Company's Research Laboratory.

He advanced the theory that a little water dispensed on the right kind of cloud at the right time under the right conditions would start what the scientist termed a "chain reaction rainfall." Water, instead of the dry-ice or silver iodide used in earlier experiments, would trigger rain from common cumulus clouds, a type of heaped up white cloud found over the South and Pacific coast regions throughout the year and over the Northeast commonly in the summer.

"Theoretically," Dr. Langmuir told fellow scientists, "a single drop of water, if dispensed in the right spot, would be sufficient to cause the chain reaction rainfall."

Unlike the dry-ice experiments, water could set off precipitation from cumulus clouds of any temperature. In order to produce rain with water on a cumulus cloud, the cloud must have a vertical, upward current of at least five miles per hour, contain fully-grown water droplets, a high water content and a thickness of several thousand feet.

Under the new theory, the falling water particles would grow as they fell through the cloud until they reached a critical size of about three-sixteenths of an inch. After that, the particles would shed smaller bits of water which would be carried back into the cloud until they grew big enough to fall.

Dr. Langmuir said he believes this type of rain-making has already been achieved. He developed the new theory from reports of unexplained rain in some of the dry-ice experiments. In some cases, he explained, ordinary ice particles on the dry-ice probably melted to set off rain under conditions where dry-ice alone should not have produced any precipitation.

Science News Letter, December 20, 1947

ASTRONOMY

Discover Huge New Comet From Ship in Pacific

➤ A HUGE comet streaking across the southern sky just after sunset, trailing a tail estimated to be 40,000,000 miles long or the length of the whole Big Dipper, was discovered Dec. 8 from a ship at sea in the Pacific.

Exact measurements of the position of the comet were hard to make because when discovered it was low in the sky and no bright stars were nearby.

The first magnitude object, bright as Halley's comet last seen in 1910, has not yet been named officially other than comet 1947n. Comets usually bear the name of the person or persons who first find them. This one was discovered by someone as yet unidentified. It may be known as "Comet Ship."

Science News Letter, December 20, 1947

CHEMISTRY

Ammonium Sulfamate Made More Easily

➤ AMMONIUM sulfamate, one of the sensational weed-killing chemicals born of the wartime emergency, is manufactured in a more direct and economical way under a new procedure on which U. S. patent 2,426,420 has been issued to Ernest J. Tauch of Cleveland Heights, Ohio.

The method is an improvement on an earlier German process which was largely a failure. Theoretically, ammonium sulfamate should result directly when ammonia and sulfur trioxide are mixed. In the German process this was attempted with both compounds in the gaseous state, but the reaction produced unwanted ammonium imidodisulfonate instead. By mixing an excess of liquid anhydrous ammonia with sulfur trioxide in either liquid or solid form, Mr. Tauch has been able to obtain the desired compound. Care must be taken, he states, to make the mixing rapid and thorough, and to get rid of the heat evolved in the reaction. Evaporation of the excess ammonia helps accomplish this.

Patent rights are assigned to E. I. du Pont de Nemours and Company, sole manufacturers of ammonium sulfamate, who market it under the tradename "Ammate".

Science News Letter, December 20, 1947

SCIENCE NEWS LETTER

Vol. 52 **DECEMBER 20, 1947** *No. 25*

The weekly summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., NOrth 2255. Edited by WATSON DAVIS.

Subscriptions—$5.00 a year; two years, $8.00; 15 cents a copy. Back numbers more than six months old, if still available, 25 cents.

Entered as second class matter at the post office at Washington, D. C., under the Act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., PEnnsylvania 6-5566 and 360 N. Michigan Ave., Chicago, STate 4439.

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