

Cancer Vaccination Tried

Malignancy has been stabilized and retarded in preliminary tests on a cancer vaccination using rabbit gamma globulin—By Faye Marley

► **ENCOURAGING RESULTS** with a cancer vaccination in which rabbit gamma globulin was added to a suspension of cancer cells from a patient's own tumor have been reported.

One of the most recent announcements of preliminary work with humans has come from Detroit hospitals and Wayne State University in Detroit. Previous reports, omitting the rabbit gamma globulin, have come from Roswell Park Memorial Institute, Buffalo, and from the Gersten Oncologic Institute in Moscow.

The Detroit study included 20 patients, two of whom showed complete regression of their cancers. Eight others, with up to two years follow-up, show "stabilization, regression or retardation of cancer growth." All had been considered incurable with spreading malignancy, and the other 10 died, apparently of complications such as liver failure and meningitis resulting from advanced disease when immune therapy was begun.

"We believe this autoimmune approach to therapy may hold more

promise for early stage cancer patients," said Dr. Norbert Czajkowski of Detroit General Hospital. "Perhaps it may be most useful in certain patients when combined with either surgery or irradiation."

Dr. Paul L. Wolf, Wayne State professor of pathology and director of experimental pathology at the Detroit Institute of Cancer Research, who sponsored the research project, now holds a \$38,654 grant for 1966 from the National Cancer Institute, Bethesda, Md.

At Roswell Park Memorial Institute, Dr. Ruth Graham told *SCIENCE SERVICE* that she and her husband, Dr. John B. Graham, are continuing to use some of the patient's cancerous tumor mixed with Freund's adjuvant and inject it to bolster the defenses of the person against the malignancy.

In Moscow Dr. L. A. Zilber and his co-workers prepared breast cancer vaccine from killed cancer cells at the time of surgery, using five spaced injections.

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Goodyear

HEART OF RUBBER—This artificial heart simulating the pumping action and the characteristics of muscle tissue of the human heart was designed by Dr. W. J. Kolff of the Cleveland Clinic, Cleveland. Made of rubber, it was fabricated by the Goodyear Tire and Rubber Company. The heart is shown hooked to a mock circulatory system being adjusted by M. V. Mathis of Goodyear's research division.

All 92 Victims Smoked

► **EACH** of 92 men who developed lung cancer during a long-term study in Philadelphia smoked.

They were among a group of men who reported fairly regularly for chest X-rays and interviews during an eight- to 10-year period. None of the 806 nonsmokers in the group got lung cancer. Cancer was found in 66 participants when they signed up for the study.

The study, known as the Philadelphia Pulmonary Neoplasm Research Project, was begun Dec. 4, 1951, when Philadelphia men over 45 years old began signing up as volunteers. The aim of the project was to find out who gets lung cancer and what can be done to save them.

For 19 out of 20 lung cancer patients, the disease usually brings speedy death. Spread, or metastasis, to some other vital structure outside the lung kills them.

In some cases the course was slow, however. Survival ranged from 50 months, when the cancer was small and grew and spread slowly, to only one month in other cases.

Smokers with a chronic cough

proved to be twice as susceptible to lung cancer as noncoughing smokers.

Detection of lung cancer proved extremely difficult. Reviews of early X-ray films showed that even the highly qualified experts in the project missed some malignancies until there had been a delay of six months or longer. In almost half the cases, the X-ray film readers failed to agree when cancer was diagnosed.

One patient delayed having surgery for 32 months but lived 50 months nevertheless.

Since no one can tell the rate of growth or spread when the cancer is first seen, the researchers feel that it is important to act promptly when a diagnosis is made.

The American Cancer Society, together with the Philadelphia Tuberculosis and Health Association and the Pennsylvania Thoracic Society, supported the research.

Drs. Katharine R. Boucot, David A. Cooper and William Weiss headed the investigation. Computers will sort out the information during the next two years.

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Split-Dosage Radiation Given for Nose Cancer

► **INTERRUPTED RADIATION** dosage has nearly doubled the survival rate of persons treated for cancer of the nasopharynx, or back of the nose.

Half of the intended dosage of radiation was given to 142 patients over 12 to 15 days, followed by an interim of three weeks and then a similar dose over another 12 to 15 days. Dr. Paul W. Scanlon of the Mayo Clinic, Rochester, Minn., told the American Radium Society meeting in Phoenix, Ariz.

There were 100 men and 42 women in the Mayo study group, ranging in age from 50 to 70. When the cancer was diagnosed and treated early, more than half of the patients survived five years with no recurrence, but early diagnosis could be made in only 36. Treatment was given over a 10-year period with cobalt 60.

It is Dr. Scanlon's theory that the two-phase dosage destroys more cancer cells, perhaps all of them, than one continuous treatment with the same dose of radiation.

Cancers of the nasopharynx account for nearly one-fifth of all cancers of the head, and for between one and two percent of all cancers.

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