



METAL PURIFIER—An operator checks the temperature of a molten alloy in the new, 1,000-pound vacuum melting furnace now in operation at the Carboly Department of General Electric Company in Detroit. The furnace is used to make the purest possible metals and alloys for use in such devices as gas turbine autos, now bottlenecked because of costly materials.

MEDICINE

Anti-Cancer Vaccine

► **SUCCESS** IN vaccinating mice against cancer, an achievement by Dr. Mary Alexander Fink of the University of Colorado School of Medicine, Denver, has been announced by the American Cancer Society.

At this stage, the cancer society announcement said, the successful mouse vaccination has only theoretical bearing on prevention or treatment of cancers in humans.

"The fundamental finding that the system can produce antibodies against a cancer which otherwise would be fatal, however, does encourage further investigation into the basic nature of anti-cancer antibodies," the society's announcement states. "When enough is learned about that, there is a possibility of producing antibodies against specific tumors as a means of treatment."

The society describes Dr. Fink's work as follows:

1. "She has injected the animals with frozen and dried bits of the tumor tissue. When live cancer was transplanted to them a month or six weeks later, the tumors did not take and the animals remained well. Other mice, not vaccinated with the frozen and dried tumor, died of the transplanted cancer.

2. "She transplanted live tumor to the tails of mice and after a few days—long enough for antibodies to form against the cancer but not long enough for the cancer to spread—she chopped off the mice's tails.

When these mice later were given the same cancers, the tumors would not grow. They probably were destroyed by antibodies produced against the tail tumors.

3. "She showed that animals, earlier vaccinated with frozen and dried bits of tumor, produced the violent and sometimes lethal antibody reaction known as anaphylactic shock when injected with a tumor extract."

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MEDICINE

Open Breathing Tubes, Cut Wheezing

► **TWO DRUGS** which help open the breathing tubes and cut down wheezing were reported by Drs. Hollis G. Boren, Demetri J. George and Carroll A. Handley of Houston, Texas, to the National Tuberculosis Association meeting in Milwaukee.

The drugs are epinephrine type compounds, known technically as N-substituted arterenol derivatives and have the laboratory names JB 245, Lakeside and JB 251, Lakeside. They can be taken by mouth.

Wheezing decreased markedly in 11 of 13 patients and there was improvement in vital capacity. Toxic effects were limited to occasional slight decrease of blood pressure and rapid heart beat accompanied by palpitation or dizziness.

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MEDICINE

Call Inflammation Less Important Cancer Cause

► **CHRONIC INFLAMMATION** is one of the less important causes of cervical cancer in women, Drs. Elliott Blumenthal and E. L. Hecht of New York University-Bellevue Medical Center said at a conference on cancer cells held at the New York Academy of Sciences.

They reported on a study of 5,000 cases of chronic inflammation of the neck of the womb. This condition is one of the most common seen by gynecologists. It brings about changes in the normal pattern of cells so that the specialist examining cells from the inflamed region under the microscope has a difficult problem in making a diagnosis.

Much anxiety over the possibility of cancer and many misinterpretations result.

Some cells may show characteristics something like those of cancer cells. Several scientists have suggested that chronic inflammation may therefore pave the way for the start of cancer.

The New York-Bellevue doctors reported that, in the cases of chronic inflammation studied, infection stimulated cell activity. Abnormal increase in cells and abnormal arrangement of cells may be seen, but this is a reversible condition that disappears when the infection has been cleared up.

Infection of the neck of the womb, or cervix, is extremely common, the doctors pointed out. Cancer, on the other hand, is relatively rare. They concluded, therefore, that while many factors are involved in producing cancer of the cervix, chronic inflammation "may well be one of the less important."

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MEDICINE

Drugs Check TB But Fail to Kill Germs

► **THE COMMONLY** used anti-tuberculosis drugs, streptomycin, isoniazid and PAS, or para-aminosalicylic acid, all fail to kill the TB germs, Dr. Wendell H. Hall and Robert Bechtle of the Veterans Administration Hospital, Minneapolis, reported at the National Tuberculosis Association meeting in Milwaukee.

Besides not being killed by these drugs, the TB germs develop resistance to each of them in time.

With streptomycin, the growth of the germs is slowed in proportion to the amount of streptomycin added to the germs, the scientists found in laboratory experiments. Large amounts prevented the growth of the germs even as they were developing resistance to it.

On the other hand, the effect of isoniazid and PAS was not related to the amount of the drug. In fact, large amounts of isoniazid often stimulated growth of the germs for a few generations.

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