

MEDICINE

Cancer Cells Are Tough

Death of normal cells in a given spot, and their replacement by "outlaw" cells, may be a cause of cancer. Cancer cells are malignant, multiplying rapidly.

► **CANCER CELLS** are a survival of the toughest. This view was presented by Dr. C. P. Rhoads, director of the Memorial Hospital, New York, before the closing session of the conference on the chemistry and physiology of growth held as a part of the bicentennial celebration of Princeton University.

One of the ways in which cancer may arise, Dr. Rhoads suggested, may be the death of all normally constituted cells in a given spot under the impact of physiologically impossible conditions such as prolonged irritation or harmful chemicals.

In the same area may be some cells that have departed from normal—become biological outlaws, so to speak. With the respectable citizens of the cellular community all dead, the outlaw cells have their chance and set up their own anarchic state, which then begins a career of aggression along its frontiers.

Dr. Rhoads stressed particularly the definite malignant character of cancer

cells, as well as their more rapid rate of multiplication. The rather generally accepted idea of a cancer being the result of essentially normal cells that for some reason simply reproduce too rapidly, is in his opinion inadequate. Cancer cells differ from normal cells qualitatively as well as quantitatively. They are bad as well as numerous and prolific.

This picture of cancer cells as outlaw survivors of a local biological catastrophe is by no means necessarily the only possible one, Dr. Rhoads made clear. Other factors may be taken into consideration also, especially the possible changes in the hereditary character of cells, either spontaneous or in response to external chemical or physical attack. He emphasized, finally, the need for a great deal more data on the composition of cells, both normal and cancerous. Among the research tools that may be used in these studies are radioactive tracer elements produced by atomic fission.

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Lung Cancer Increases

Majority of victims live in cities, which points to dust and dirt as contributing causes. Stomach cancer is still commonest of cancers.

► **CANCER** of the lungs seems to be increasing, Dr. William F. Rienhoff, Jr., of John Hopkins University, announced at the centennial celebration of the University of Buffalo.

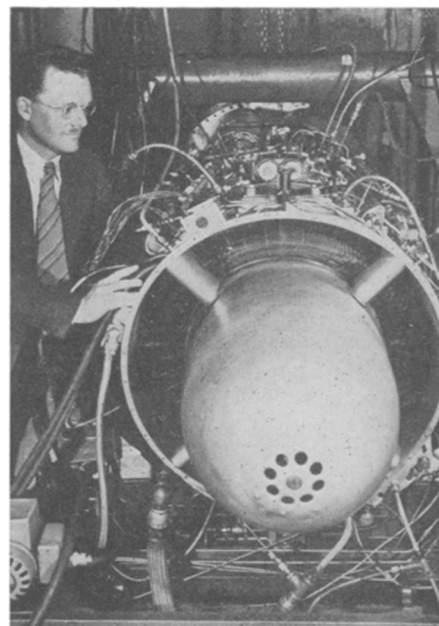
The great majority of patients with this cancer live in cities, which points to dust, dirt, fumes, gases and other atmospheric pollutions as the irritating factors that cause lung cancer.

Cancer of the lung can be satisfactorily treated by surgical removal of the entire lung but the disease is fatal unless so treated, Dr. Rienhoff declared. He reported one patient still alive and well who had this operation 13 years ago. Twelve patients have lived five or more years, one for 11 years, two for nine years

and two for six years.

"As they are still living there is a possibility that they may live for many years," Dr. Rienhoff stated. "All these patients except one who was a professional boxer have been restored to their normal activities. They have been able to return to their former vocations and even recreations, such as golf, swimming, fishing and hunting. No deformity is visible. The remaining lung expands to fill the dead space in the chest."

Of 107 patients operated on between 1933 and 1946, there were 25 hospital deaths. The death rate for the operation was 27% up to 1940. Since then it has dropped to 22% and Dr. Rienhoff foresees still further improvement as meth-



JET POWER—New axial-flow turbojet engine, the TG-180, developed by General Electric, powers the Army XP-84 Thunderbolt, speed-breaker at 611 miles per hour.

ods of anesthesia and chemo-therapy to fight infection are improved.

Doctors and lay public, Dr. Rienhoff stressed, must learn the early symptoms of lung cancer so that patients can get the benefit of the operation that is their only hope of survival.

Cough was the chief symptom in almost three-fourths of the patients. In a nation of heavy cigaret smokers, cough is almost universal, Dr. Rienhoff pointed out. The thing to watch out for is a change in the type of cough.

Lung cancer may be increasing, but stomach cancer is now the commonest of all cancers, Dr. Owen H. Wangansteen of the University of Minnesota declared.

Stomach cancer is curable, but the problem is to recognize the disease in time so that the patient will not be denied the real hope that timely and well-performed surgery holds out, he said.

At present, only one-fourth of patients who are diagnosed as having stomach cancer are suitable candidates for operation and 92 to 98 out of every 100 will die of the disease within five years.

"Go to your doctor and be examined three or four times a year. Women over 40 and men past 50 should report regularly," is Dr. Wangansteen's advice to the public anxious to escape stomach cancer death.

To physicians he advised a less conservative attitude toward stomach ulcers