

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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MEDICINE

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 Johns Hopkins University, announced at the centennial celebration of the University of Buffalo.

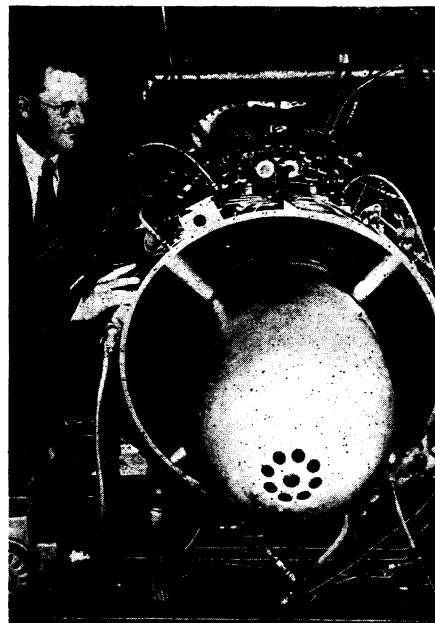
The great majority of patients with this cancer live in cities, which points to dust, dirt, fumes, gases and other atmospheric pollutions as the irritating factors that cause lung cancer.

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



"GUINEA PIG"—Monkeys such as these, photographed at the zoo in Washington, D. C., may help future infantile paralysis victims. The cynomolgus monkey is more like humans in the way it gets polio than any other monkey or other animal, and a hunt across the Pacific to get this species is in progress.

which may turn into cancer. Some ulcers may be cancer when first diagnosed as harmless ulcers, he warned. The operation to remove stomach ulcers can be done with a risk well below five percent, he declared.

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MEDICINE

Penicillin Spraying Helps Fight Coughs, Influenza

➤ MANY a patient will be spraying penicillin into his lungs with a hand atomizer this winter to fight coughs, influenza and pneumonia, if physicians generally follow the method found successful last winter by Dr. Frank W. Morse of Lawrencetown, Nova Scotia.

Writing as a "general practitioner for other general practitioners," Dr. Morse tells in the *Journal of the American Medical Association* (Oct. 5) how he used penicillin in this way with good results in 24 out of 26 cases.

Chief drawback to the use of the life-saving drug in a country practice, he points out, is that to give it by injection into muscles or veins requires putting the patient in a hospital or having two nurses for each patient. Good results in inhalations of penicillin aerosol, the penicillin being converted into a fine spray by a power-operated atomizer, had previously been reported by a number of

other scientists. Dr. Morse decided to try the familiar hand atomizers which he could carry in his bag and leave with his patients for them to use between his visits.

Small cost; pleasant taste of the penicillin; soothing effect on dry, irritated membranes of the throat; and relief of cough as well as remedial effect in fighting disease germs in throat and lungs are among the advantages given for the method by Dr. Morse.

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ZOOLOGY

Female Baby Panda To Live at New York Zoo

➤ ACROSS the inland mountains of China to Shanghai, a female baby panda is on its way to the New York Zoological Park to be a companion for "Pandah," Mme. Chiang Kai-shek's gift to the children of America.

Until she grows a little, the new panda, weighing but 68 pounds, will be no match for six-year old, 315-pound "Pandah." Former playmate, "Pandee," the so-called male, was found to be a female when she died last October.

The baby panda is a gift to the United States from General Chang Chun, governor of the province of Szechwan, where she was captured.

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SAFETY

Inert Gases Found To Be Good Fire Fighters

➤ CARBON-DIOXIDE has been the principal inert gas used in fire extinguishers in the past, and probably will be more extensively used in the future. However, other inert gases have been found to be more effective in certain applications. The U. S. Civil Aeronautics Board recommends the use of methyl bromide and carbon tetrachloride on aircraft. The U. S. Bureau of Mines finds that Freon 11 is effective in gasoline fires, more effective than other gases tested.

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