

## MEDICINE

# Lung Cancer Hope

► NEWLY-DISCOVERED shadows on old chest X-ray pictures of lung cancer patients give hope that now this killer can be detected at a very early stage when there is a much better chance to remove the cancer by surgery.

The newly-discovered shadows and their significance were reported by Dr. Leo G. Rigler of the University of Minnesota School of Medicine at the meeting of the U.S.-Canada section of the International College of Surgeons in Chicago.

The tell-tale shadows have been seen on X-ray pictures taken five, six and even nine years before the patient had any symptoms whatever of lung cancer. Whenever old films can be found, Dr. Rigler said, signs of disease have almost always been seen in the area of the lung later proved to be cancerous.

These signs of lung cancer that can be seen on X-rays years before symptoms are often of a minor character and easily overlooked.

Dr. Rigler's study not only shows the possibility of detecting lung cancer much earlier, but also shows that the cancer arises on the outer part of the lung more often than was thought. It tends to grow toward the center so that by the time it is removed by the surgeon it seems to have been present near the center of the lung.

The sudden and large increase in lung cancer in recent years in both the United States and other countries is "conduct unbecoming in a so-called chronic disease" and "most uncancerlike," Dr. Halbert L. Dunn, chief of the U. S. National Office of Vital Statistics, Washington, said.

He said that this behavior cries out for explanation. Improved diagnosis and aging of the population do not, in Dr. Dunn's opinion, give this explanation.

In the United States the disease had no sex preference 40 years ago.

Then a gradually more rapid rise developed among men. By 1950, the rate in men was four and one-half times the rate in women.

In 36 years, the rate among women increased eight times, the rate for men 27 and one-half times. In the 10-year period ended with 1950, the rate for women advanced from 3.5 to 4.9 per 100,000 population; for men the rate rose from 10.1 to 22.0.

Dr. Dunn pointed out that in England and Wales, the death rate for lung cancer in men in 1952 was two and one-third times that in the U. S., and for women nearly twice as high. In Copenhagen, the 1950 death rate for men was 36.9; for women 5.3.

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**FIRST MECHANICAL HEART**—Now presented to the Smithsonian Institution as a permanent science exhibit is the Dodrill-GMR mechanical heart, shown in action at the left, the first device of its kind to be used successfully in human heart surgery. It was developed by Dr. D. M. Dodrill of Harper Hospital, Detroit, and engineers from General Motors Research Laboratories.

## BIOCHEMISTRY

# Fight Disease, Radiation With Body Chemicals

► GERM DISEASE and damage from X-rays and, perhaps, also from A- and H-bomb radiation may in the future be overcome or prevented by use of chemicals that are natural constituents of the human body.

Experiments pointing toward this are reported by Dr. Hanes Meyer-Doring of Hamburg, Germany, in *Nature* (Sept. 4).

His experiments were made with a chemical he created by combining ascorbic acid, or vitamin C, and cysteine, an amino acid. He calls this compound cysteylascorbic acid.

Mice were protected by this compound against germs of mouse pneumonia and some staphylococcus and streptococcus germs, Dr. Meyer-Doring reports. Toxicity of the compound for mice is negligible.

The possibility that the compound will lessen the toxicity of nitrogen mustard and prevent X-ray damage is now being investigated. If it can do these things, it should aid in leukemia treatment by making possible larger doses of cancer-destroying X-rays and of nitrogen mustard.

If the compound can prevent X-ray damage, it is reasonable to assume it can also prevent damage from other radiation such as that from A- and H-bombs.

The experiment, Dr. Meyer-Doring states, reveals a new principle, namely the use as chemical remedies of natural constituents of the body. For that reason, he is reporting his results so far, although the chemical constitution of the cysteine-ascorbic acid compound has not yet been certainly established.

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## HEMATOLOGY

# Blood Tells Story Of Polio Outbreaks

► BLOOD TELLS the story of polio, Dr. J. H. S. Gear, director of research at the South African Institute for Medical Research, Johannesburg, said at the Third International Poliomyelitis Conference in Rome.

"An individual's past experience of infections is clearly imprinted on his blood and by appropriate tests it can be revealed," he said. "By surveys of the antibodies in sera from representative samples of a community, it is possible to determine the nature of the infections which have affected the population, when they last occurred, and in what sections of the population they were most prevalent.

"It has also been possible by serum surveys to compare the incidence and distribution in the various regions of the world."

Dr. Gear reviewed reports of studies made in various parts of the world, each of which involved blood tests for the presence of antibodies against the three major strains of polio virus.

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