

## MEDICINE

# Leukemia Deaths Rise

Death rate of persons with leukemia is six times that of 100 years ago. Search for cause of this blood cancer is turning to consideration of factors within the body.

► LEUKEMIA is killing people in the United States at six times the rate of a century ago, Dr. Michael B. Shimkin of the National Cancer Institute reported at the Third National Cancer Conference, held in Detroit, under the sponsorship of the National Cancer Institute and the American Cancer Society.

Death rates for leukemia, which sometimes is called blood cancer, and the lymphomas, which include Hodgkin's disease, increased approximately 20% in the five years 1949-1953, Dr. Shimkin reported.

Minnesota, New York and California had death rates significantly above the average, the Cancer Institute figures show.

Higher income groups seem to have a relatively higher death rate from leukemia.

Search for the cause of leukemia, with the hope of finding measures to prevent it, now is turning to consideration of factors within the body, or host. Seven suspected of influencing leukemia development were reported by Dr. A. C. Upton of Oak Ridge National Laboratory, Oak Ridge, Tenn., and Dr. Jacob Furth of Children's Cancer Research Foundation, Boston. They are genetic factors, immune factors, age, diet, gland or hormone factors, the thymus gland and the bone marrow.

In man, the scientists said, the importance of genetic factors is debatable. The relatively frequent development of leukemia in identical twins points to genetic factors, but the development of leukemia by only one twin in some cases points to the importance of factors other than genetic.

Immune factors may influence the transplantability of experimental leukemias and their pattern and rate of growth. These resistance factors may be modified by cortisone or irradiation.

The relative frequency of the various types of spontaneous leukemias in both man and animals as well as susceptibility to their induction differ with age. The age of the mother or of the foster mother also influences the development of lymphoma in mice; the leukemia incidence of the offspring decreases with increasing maternal age. Thus, a humoral resistance factor, still to be better characterized, is acquired with age.

Caloric restriction curtails the development of lymphomas as of cancers in general.

In humans, leukemia is more common in males; in most strains of mice, in females. The spontaneous development and induction of the disease in mice may be either inhibited or enhanced by sex hormones, depending on genetic factors and on the hematologic type of leukemia.

In man, irradiation of the thymus in infancy has been reported to increase leukemia in childhood; however, localized irradiation of the thymic region in adult mice has been observed not to increase the incidence of leukemia.

Science News Letter, June 16, 1956

## MEDICINE

## Predicts 40% Cures of Throat Cancer Soon

► CANCERS of the part of the throat between the mouth and the food tube to the stomach will be cured in 40% of the cases in the next few years, Dr. John V. Blady of Temple University Medical Center, Philadelphia, predicted at the Third National Cancer Conference in Detroit.

By cure is meant five-year survival of the patient after treatment. Until recently, only 10% to 15% of these patients could be saved to live five years.

The better results Dr. Blady predicted will come because these cancers can now be treated surgically, whereas until five years ago X-rays were the primary method of treatment; and because more patients are coming to the doctor for treatment while their cancers are still in the early stage.

Five-year survival rates for cancer of the voice box, or larynx, have already reached 70% in the nearly 1,000 cases seen at the Chevalier Jackson Clinic and the Tumor Clinic at the Medical Center between 1930 and 1955.

This rate includes patients treated by surgery or radiation or both.

Science News Letter, June 16, 1956

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## Sees Progress in Control Of Bone Marrow Cancer

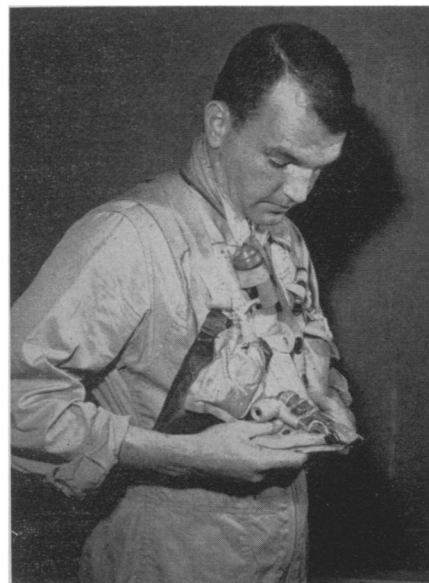
► A HOPEFUL REPORT on bone marrow cancer that is related to leukemia was given by Dr. R. Wayne Rundles of Duke University, Durham, N. C., at the Third National Cancer Conference in Detroit.

"Reasonably rapid progress is being made toward the eventual control" of the disease, he said.

Multiple myeloma is its name. Patients are being helped to live longer and treatment gives "excellent" results in one-third of them, he reported.

Among four new drugs under study, one known only as CB-1248, Dr. Rundles said, "shows definite promise of becoming useful in future treatment of leukemia."

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**AUTOMATIC INFLATOR** — Expected to become a standard safety feature for life jackets is this device that automatically inflates a pilot's "Mae West" within 15 seconds after immersion in water. George Smith, test pilot at North American Aviation, Inc., demonstrates position of the lifesaving device.

## MEDICINE

## See Lead to Arthritis Cause in Blood Reaction

► A POSSIBLE LEAD to discovery of the cause of rheumatoid arthritis may exist in a newly discovered reaction between two substances in human blood.

The reaction was announced at the American Rheumatism Association meeting in Chicago by Dr. Wallace Epstein, speaking for a team of scientists at Columbia University Presbyterian Medical Center, New York.

"This advance," Dr. Epstein said, "may now make it possible for us to identify the rheumatoid factor present in the blood of persons with crippling arthritis. It may help us understand a bit better why the person with rheumatoid arthritis is different."

The reaction is between two unknown substances in blood. One of the unknowns is found in persons with arthritis, the other in persons without the disease.

Their existence was discovered when the Columbia scientists combined pooled human gamma globulin with the blood serum of patients with rheumatoid arthritis. The result was formation of an insoluble precipitate.

Next step will be to identify the two substances. The one in pooled human gamma globulin seems to act like an antigen and the one in arthritis blood like an antibody.

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