

## MEDICINE

# Cancer Patients Show Failure In Body Use of Vitamins

## White Blood Cells of Leukemia Patients Also Contain More Vitamin B<sub>1</sub> Than Cells of Normal Persons

**P**ATIENTS with cancer and with the fatal, cancer-like blood disorder, leukemia, fail to utilize certain vitamins normally, it appears from studies reported by Dr. Jules C. Abels, of New York City, at the meeting of the American Röntgen Ray Society in Cincinnati.

White blood cells of leukemia patients contained more vitamin B<sub>1</sub>, or thiamin, than the largest amount of this vitamin found in white blood cells of normal persons. The reason, Dr. Abels' studies seem to show, is that the conversion of the vitamin into another chemical, pyrimidine, which normally occurs during the physiological activity of the vitamin is abnormal in the white blood cells in leukemia. Injection of thiamin into the blood of normal persons, Dr. Abels reported, is followed by an increased concentration of pyrimidine in the white blood cells, but in the leukemia patients, the pyrimidine content of the white cells decreases after giving thiamin.

The amount of vitamin A in the blood plasma of patients with cancer of the stomach or intestines is below normal in 86% of the cases, Dr. Abels found.

"Dietary deficiency or malabsorption of vitamin could not explain the low plasma levels of the vitamin in more than half the patients," he said. "On the other hand, individuals who have such lesions as atrophic gastritis or oral leukoplakia have much lower vitamin A levels. It is probable that the livers of

these patients no longer have the ability to properly form, store, or distribute the vitamin."

*Science News Letter, October 4, 1941*

## X-rays Detect New Disease

**U**SE of X-rays to help diagnose a recently discovered and sometimes fatal ailment called toxoplasmosis was reported by Dr. L. M. Sante, of St. Louis, and Dr. Cornelius G. Duke, Dr. Abner Wolf and Dr. John Caffey, of New York, to the American Röntgen Ray Society.

Inflammation of the brain and paralysis, with no sign of lung involvement, are the chief features of the disease in babies and small children, Dr. Sante pointed out. In adults, however, the disease may resemble Rocky Mountain spotted fever and symptoms of acute pneumonia are prominent. Dr. Sante described several types of toxoplasmosis cases and the signs of lung involvement which may be found in X-ray pictures.

In infants, the New York doctors explained, the X-ray will show signs of internal hydrocephalus (water on the brain) and calcification of the brain.

Diagnosis may also be made, these doctors pointed out, by blood tests showing the presence of antibodies for the large one-celled parasite, *Toxoplasma*, which causes the disease.

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## TB Causes Heart Failure

**A**LARGE number of deaths from heart failure through enlargement of the right side of the heart are caused by pulmonary tuberculosis, Dr. Leo Rigler, of the University of Minnesota, declared.

Röntgenologists who make X-ray examinations of the chests of patients with tuberculosis and also those with long-standing bronchial asthma should, Dr. Rigler urged, be on the look-out for right heart enlargement.

Dr. Rigler and Dr. Phillip Hallock, reviewing autopsy records of 30,265

cases at the University of Minnesota department of pathology, found 5,265 cases in which death resulted from heart failure. Of these, 102 were considered cases of pure right heart failure, he said.

In this group the leading original cause of the heart disease was pulmonary tuberculosis, with 29 cases. Second highest was bronchial asthma, 19 cases; third, bronchiectasis, 15; pulmonary arteriosclerosis, 10; silicosis, 5; and the remaining of varying origin.

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## GENERAL SCIENCE

## Americans Join British In London Conference

**A**MERICAN scientists, among them Dr. Albert Einstein, President James Bryant Conant of Harvard, Nobelists Ernest O. Lawrence and Harold C. Urey, President Frank B. Jewett of the National Academy of Sciences, have sent messages to the conference on "science and the world order" held by the British Association for the Advancement of Science in London.

The prevailing theme of these pronouncements is that once the war against Nazism is won with the help of science, there must be use of scientific knowledge and method in making a new world worth living in.

Since the London conference, unlike most scientific meetings of the past, has participation by the American Ambassador Winant, it takes on a quasi-official character. It is considered an indication that American official circles are looking seriously at the shape of things after the military struggle is won.

Two social scientists from Washington have flown to London to join in the conference: Prof. Luther H. Gulick of Columbia University, who is consultant of the National Resources Planning Board, and Prof. Alvin H. Hansen of Harvard, who is consultant of the Federal Reserve System.

H. G. Wells was chairman of a session on "Science and the World Mind."

*Science News Letter, October 4, 1941*

*Salt water fish* contain much more iodine than fresh water fish.

The Russian port of *Archangel*, which has about 281,000 people, is pronounced the largest city in the world so far north.

"*Shelter feet*" and "parachutist's heel" are the new foot afflictions of the present war instead of the trench foot of World War I.

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