MEDICINE

Leukemia Death Sign

Research shows there is a relationship between the amount of histamine in the blood and the white blood cell count. Death follows when the histamine is low.

➤ A SIGN in the blood of leukemia patients which shows up when death is near and may have important implications in the treatment and understanding of the disease has been reported by University of California Medical School scientists.

This sign is bound up in a mysterious relationship between the white blood cell count and the amount of histamine in the blood of leukemia patients. Leukemia is a disease marked by overabundance of white blood cells.

The scientists noted that in patients who are doing well there is present in the blood much more than the normal amount of histamine, a chemical present in all living cells. The overabundance of histamine was just about proportional to the overabundance of white blood cells.

They found that patients with high white cell counts who had only normal or subnormal amounts of histamine died within a month.

After this was noted, efforts were made to stimulate formation of histamine in the blood, in hopes that this would strike the curious balance found in the more fortunate patients. Epinephrine, a histamine-promoting chemical, was used. The effort failed, but research along these lines is still continuing.

The research was reported in the NATIONAL CANCER INSTITUTE JOURNAL by Drs. Michael B. Shimkin, director of the University's Laboratory of Experimental Oncology, and Drs. Leo Sapirstein, Franz R. Goetzl, Priscilla M. Wheeler, and Nathaniel I. Berlin.

Two cases, additional to those reported in the scientific paper, illustrated how the mechanism operates.

Patient No. 1 had a white cell count of 200,000—the normal is 5,000 to 10,000. His histamine level was 400 to 700 micrograms per 100 cubic centimeters, the normal being under 10 micrograms. Radioactive phosphorus treatment lowered the white cell count to 15,000 and the histamine level to 15, and this was accompanied by a regression of symptoms.

Patient No. 2 had a white cell count of 60,000, with histamine levels of 30 to 50 micrograms. When the white blood cell count went up to 120,000, the histamine level dropped to 3.5 micrograms, and the patient died within eight days.

The scientists suggest that there is at work a homeostatic mechanism, a system of natural checks and balances by means of which the body tries to counteract its difficulties. Thus when the white blood cell count goes up dangerously, the body tries to combat it. When successful, the histamine level goes up correspondingly. Failure results in a drop of histamine and death.

The findings have suggested several new lines of research, which may yield important results in both treatment and understanding.

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RARE MONSTER—In classical antiquity, the chimera was a fabulous monster. In modern ichthyology, chimeras still look rather that way. They are a kind of missing-link fish, midway between skates and sturgeons, with cartilaginous skeletons and (often) long, pointed snouts. This specimen, one of four dredged up at depths of from 2,700 to 3,000 feet off the New England coast by the Woods Hole Oceanographic Institution's laboratory ship, Caryn, belongs to the extremely rare species Harriotta raleighana.

GENERAL SCIENCE

Soviet Science Translated By Atomic Laboratory

➤ IF YOU want to know what Soviet scientists are writing about and you can't read Russian, you can get the information from the Atomic Energy Commission's Brookhaven National Laboratory, at Upton, N. Y., on Long Island.

This government-supported scientific agency is the largest distributor of Soviet scientific information in the nation. Instead of being chased by the FBI, it is winning the praise of scientists, military men and industrialists who want to know what is happening behind the iron curtain.

About September, 1947, as part of the conflict between the East and West, all Russian scientific journals stopped publishing titles and abstracts in languages other than Russian. Many of the 30 journals issued by the USSR Academy of Sciences used to have English titles and abstracts. Even the all-Russian issues are readily available outside the Soviet Union within several months of their publication, the Brookhaven authorities found. So they now issue translations of the titles of all articles in Russian scientific journals, ranging from astronomy to zoology. All physics articles, including nuclear science, are given in English abstracts. Complete translations are made of articles they consider significant, either to the atomic energy program or to science in general.

Seven issues of "Guide to Russian Scientific Periodical Literature," prepared under the direction of Prof. John Turkevich, of Princeton's chemistry department, and Dr. Ludmila Turkevich of Princeton's modern language department, have been issued.

In the science field, non-cooperation of the Soviet government through barring of English translations is being countered by this U. S. A. government effort.

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