MEDICINE

Bone Marrow Transfusions New Attack on Leukemia

Fatal Ill in Which Blood Has Too Many White Cells And Other Rare Blood Disorders May Now Yield

A NEW kind of transfusion, using bone marrow instead of blood, is reported by Dr. Maurice Morrison and Dr. A. A. Samwick, of the Jewish Hospital of Brooklyn, N. Y. (*Journal, American Medical Association,* Nov. 16.)

Leukemia, fatal disease in which there are too many white cells in the blood, and other rare and unconquered blood disorders may yield to this new type of transfusion, the Brooklyn doctors believe.

Bone marrow transfusions have already been used by them, apparently successfully, in treating a 42-year-old salesman suffering from aplastic anemia. In this rare condition, unlike more familiar anemias, the blood contains too few white cells. The bone marrow stops producing white cells in sufficient numbers to make up for those destroyed.

Healthy bone marrow, the Brooklyn doctors reasoned, might stimulate the maturing of blood-forming constituents already present in the diseased bone marrow. So they drew a little less than a teaspoonful of bone marrow from the breastbone of the patient's brother and injected it into the patient's breast bone. Slightly larger doses were given in two subsequent transfusions. The patient recovered from symptoms of his illness and his blood condition also improved. The doctors say it is not justifiable to credit the results solely to the bone marrow transfusions until they have had time for further studies.

Two other patients with rare blood disorders are now being treated with bone marrow transfusions.

Transfusions of healthy bone marrow, they believe, will help many patients suffering from various blood disorders, in the way that liver or liver extract helps patients with pernicious anemia. The latter patients lack a factor essential to the formation of red blood. This factor is supplied by liver. Leukemia patients and others with blood disorders may lack some other blood-forming factor which might be supplied by healthy bone marrow.

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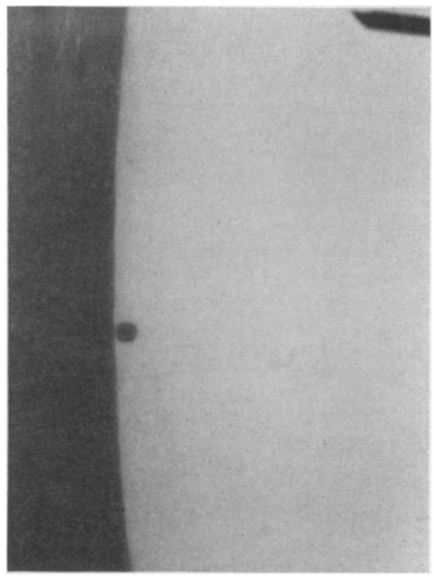

SIC TRANSIT MERCURY

Though cloudy and rainy weather on Armistice Day interfered with ground observations of the transit of Mercury over a large part of the country, a successful motion picture record of the rare phenomenon, last until 1953, was made by Edison R. Hoge at Mt. Wilson Observatory. This picture, reproduced from a frame of the film, shows the tiny planet just after it had entered the solar disk. Pointer seen in the upper right is a timing device. Accurate determination of the time of the transit, by measuring this film, will lead to a more precise figure for the earth's rotation, as well as for the movement of Mercury itself.

PHYSIOLOGY

Vitamin B_1 Protects Against Depressing Effects of Tropics

ARMY medical officials worrying over problems of keeping American troops healthy if hemisphere defense requires them to fight in Central or South American tropics may find a useful tip in a discovery announced by Dr. C. A. Mills and Dr. J. W. Colvin, of the University of Cincinnati, at the meeting of the American Society of Tropical Medicine in Louisville.

The depressing effects of tropical heat can be overcome by doubling the daily intake of vitamin B_1, or thiamin, the Cincinnati doctors discovered in studies with rats. The laboratory findings will be tested on natives of Panama early next year, it is planned.

"Thiamin protection against the evil effects of excessive heat has further important bearings for temperate zone inhabitants during severe heat waves of summer," the Cincinnati doctors state, "and for industrial workers who are exposed to the severe heat of boiler and furnace rooms or other conditions that render body heat loss very difficult. A thiamin intake double that ordinarily considered ample seems likely to offer a large measure of protection against such heat effects and also to offer a most effective therapeutic adjunct in the treatment of heat exhaustion states.

"Energetic people going from stimulating climates into tropical warmth would probably suffer less of a physical slump if they fortified their ordinary dietary thiamin intake with 2-5 milligrams of additional thiamin each day. A large part of dietary thiamin is found in the protein foods that are unconsciously avoided in warm climates because of their specific dynamic action in increasing body heat production."

The reason why thiamin could be expected to put pep into people living in tropical climates or soldiers fighting there is because of its role in the burning of sugar and starch in the body. Without this vitamin the oxidation or burning of glucose stops midway, Dr. Mills explained.

Combustion in the body, however, is necessarily lowered when tropical warmth makes it more difficult to keep cool by dissipating heat from the body. With this lowering of tissue combustion, Dr. Mills has found, goes a fall in "all measurable indices of individual vitality —slower growth, retarded development, lessened fertility, lowered resistance to infection and ability to produce protective antibodies against pathogenic in-