

BIOCHEMISTRY

Blood Link to Abortion

➤ A VERY rare blood substance may be responsible for habitual abortions, or miscarriages, in certain women, Dr. Philip Levine and Elizabeth A. Koch of the Rh Blood Testing Laboratory, Ortho Research Foundation, Raritan, N. J., report in *Science* (Aug. 13).

The blood substance is an antibody called anti-Tja. It was discovered by Dr. Levine and associates in 1951 in the blood of a 66-year-old woman with cancer of the stomach. The antibody from this patient's blood serum clumped or broke down red cells in more than 5,000 random bloods of all groups and Rh types except that of the patient's physically normal 45-year-old sister.

The anti-Tja substance has now been found in the blood of 12 other persons living in South Africa, Australia, Poland, the United States, Canada and Japan.

Only the first of these 13, the patient in whom it was originally discovered, had cancer.

Anti-Tja was found in three men. Among

five married women having it, there are a total of 18 pregnancies, each of which ended in a miscarriage at two to five months. Only the original patient and her sister, who subsequently showed anti-Tja in her blood, had normal pregnancies with babies born at term and still living and well.

A remarkable feature of the situation is that the miscarriages all occurred early in pregnancy. Drs. Levine and Koch point out that antibodies for Rh and other blood destroying disease do not cause death until the unborn baby is almost ready for birth or has already been born.

This very rare blood antibody, specific for a factor present in almost all bloods, may be responsible for habitual miscarriages in certain persons. The scientists point out, however, that such a mechanism cannot explain the "vast majority" of early abortions unless future studies show up antibodies that cannot be detected by present methods.

Science News Letter, August 28, 1954

GEOPHYSICS

Nautical Mile Shorter

➤ THE MILE used in navigation on sea and in the air is now a little more than four feet shorter than it used to be.

The National Bureau of Standards has announced that, by international agreement, the international nautical mile will be used instead of the U. S. nautical mile. The international length is 6,076.10333 feet, or 1,852 meters, and replaces the U. S. nautical mile which has been 6,080.20 feet, or 1,853.248 meters.

The nautical mile is considerably longer than the ordinary mile, which is 5,280 feet. The nautical mile is used on nautical charts, navigation instruments and in navigation.

The new figure for the nautical mile will not affect charts and calibration of navigation instruments, however. The change is too small.

The use of a mile derived from the length of a degree of the earth's meridian is very old. It is believed that the Chaldean astronomers determined the length of such a unit. Miles of this sort have been variously called meridian miles, geographical miles, sea miles and nautical miles, and they have differed greatly in magnitude, some of the values providing 10, 12, 15 and 60 miles to a degree.

The British and the U. S. nautical miles were each derived by taking 60 nautical miles per degree, but the values adopted were not the same. The nautical mile adopted by the British Admiralty equals 6,080 British feet, while the U. S. nautical mile has had the adopted value of 1,853.248 meters, from which the equivalent 6,080.20 U. S. feet has been derived.

The British foot is shorter than the U. S. foot by 1 part in 400,000, an amount which is of no importance in the ordinary transactions of every day life, but which is very important in precise measurements.

Science News Letter, August 28, 1954

INVENTION

Home-Made Ice Cream Freezer Tray Patented

➤ LOWELL M. Kurtz of Erie, Pa., has received patent 2,686,404 for his plate for making ice cream in a refrigerator or home freezer. It consists of a flat tray with a space beneath and on the sides that is filled with a chemical solution having a low melting point.

The tray is chilled thoroughly overnight in the evaporator of the refrigerator or in the home freezer. Prepared ice cream mix is poured on the tray a little at a time in a quarter-inch layer, then stirred with a spatula as it freezes.

Potassium chloride is used for the freezing solution in the chamber beneath the tray.

Following his method, "approximately one and a half quarts of frozen mixture of a satisfactory consistency may be obtained manually and quickly," the inventor states. The patent was assigned to the General Electric Company, a corporation of New York. The device can also be used for cooling food and drinks.

Science News Letter, August 28, 1954

• RADIO

Saturday, Sept. 4, 1954, 3:15-3:30 p.m. EDT

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Alexander Hersh, associate attending orthopedic surgeon, Hospital for Special Surgery, New York, will discuss "The Lame and the Halt Walk."

MEDICINE

Anti-TB Drug Helps Chronic Colitis

➤ ISONIAZID, ALREADY famous as a remedy for tuberculosis, may turn out to be a cure for a disease termed "one of the great enigmas of medicine," chronic ulcerative colitis.

Uniformly good results with this treatment in five colitis patients are announced by Dr. David A. Susnow of Mount Zion Hospital, San Francisco, in *California Medicine* (Aug.).

The patients did not have tuberculosis, but had suffered from ulcerative colitis for from one to 40 years. When started on the isoniazid, they were having relapses that had lasted from two to six months.

Within 11 days of isoniazid treatment, the first patient felt better and had gained five pounds. Diarrhea had stopped and the rectal mucous membrane was practically normal. The patient took the drug for five months. At the end of six months, he was again examined and found well and had no relapse of the colitis.

The other cases showed similar benefits.

Dr. Susnow does not try to explain why this anti-TB drug helped the colitis patients. Since it has little or no serious toxicity, he thinks it should be tried in a larger series of patients for proper evaluation of its effects. His patients took it three times a day in doses about the same as used for treating tuberculosis.

Science News Letter, August 28, 1954

PUBLIC HEALTH

Seek Personality Tie To High Blood Pressure

➤ THE POPULAR notion is that the hard-driving, high-pressure business man is more likely to have high blood pressure than his easy going friend. Scientists want to know more about whether such personality factors are related to high blood pressure and what can be done about it.

A study of this subject is one of many scientific investigations in heart and blood vessel diseases to be made with financial aid from the National Heart Institute.

It is one of the 1,442 grants, totaling \$14,685,671, for medical research projects that have been approved for the fiscal year 1955, the Surgeon General of the Public Health Service, U. S. Department of Health, Education and Welfare has announced.

Science News Letter, August 28, 1954