MEDICINE

New Hemophilic Disease

Rare affliction, similar to hemophilia, discovered in 16-year-old boy, leads to finding of new plasma factor, responsible for clotting of normal blood.

➤ A RARE new disease, similar to hemophilia, has been discovered by a group of scientists at the University of California School of Medicine, San Francisco.

Discovery of the disease also uncovered a new clotting factor in the blood of all normal individuals. The new factor is called plasma thromboplastin component (PTC). A deficiency of the factor causes the rare disease, which at present is called simply "PTC deficiency disease."

The disease was discovered in a boy now 16 years old, Kent Kincaid of Walnut Creek, Calif. Young Kincaid has been under treatment by the University physicians since 1936 when he was eight months old. He has suffered from internal bleeding almost from birth, and received his first blood transfusion in his first week of life.

Because his bleeding could be controlled by blood transfusions, the boy was believed to be a hemophiliac. But this diagnosis became suspect about four years ago. Whereas a hemophiliac often goes for years without bleeding, young Kincaid's episodes recurred with alarming regularity. Further, antihemophilic globulin, a fraction of normal plasma, which usually is effective in hemophilia, was useless against Kent's bleeding.

An intensive study of the youth's disease during the past four years has demonstrated that he suffers from deficiency of a previously unrecognized factor present in the blood of all normal people.

In two scientific papers, one published in the *Proceedings of the Society for Experimental Biology and Medicine* and another scheduled to appear in *Blood,* the scientists report that they have partially purified the new PTC factor.

They are seeking a purer fraction, which would make treatment of young Kincaid simpler. At present he is given two pints of plasma each two weeks. With pure PTC it would be possible to prevent bleeding by giving him an injection of less than a teaspoonful of fluid at weekly intervals.

Dr. Paul Aggeler, leader of the team of physicians, said the discovery has several important implications.

First, while the disease undoubtedly is rare, it is likely that other cases will be found, especially among those now thought to suffer from hemophilia.

Second, it is important to full understanding of the blood clotting mechanism, and may lead to better treatment of other hemorrhagic disorders.

Third, overexposure to radiation can produce severe bleeding. A thorough understanding of the blood-clotting mechanism is of utmost importance in preparing against the hazards of atomic radiation.

The team of scientists includes, in addition to Dr. Aggeler, Drs. Sidney G. White, Mary Beth Glendening, Ernest W. Page, Tillie B. Leake and George Bates.

Support for the work has come from the Atomic Energy Commission, the American National Red Cross, the U. S. Public Health Service, the Adalynn Herndon Memorial Fund and the Henry Schussler Memorial Fund.

Science News Letter, August 30, 1952

RADIOLOGY

X-Rays Spot Emotional Digestive Upsets Also

➤ X-RAYS CAN detect emotional and allergic causes of digestive troubles as well as organic causes, Dr. Lowell S. Goin, Los Angeles radiologist, has found.

He gave as an example a woman of Jewish ancestry who had disregarded the dietary laws of her religion regarding pork. She had a 22-year history of vomiting, abdominal pain and diarrhea. An X-ray showed no organic lesion, such as cancer or some anatomical defect of the intestinal tract, and no unusual behavior of the intestinal tract. A second test was made with finely ground pork mixed with the opaque medium used to make the X-ray picture. The patient did not know what was in this second mixture. Again the X-rays showed no sign of any abnormal reaction. This eliminated allergy to pork as a cause of her trouble.

Then a third test was made. This time the normal opaque medium used in the first test was used. And the patient ate a piece of fat-free well done roast pork.

Within 30 minutes after eating the pork she had violent pain in the abdomen and an X-ray of the abdomen showed a striking change in the small intestine.

The patient recovered completely, Dr. Goin reported, when she understood the nature of her conflict and stopped trying to ignore consciously laws from which she could not escape unconsciously.

X-rays detected allergy to ice cream, milk and whisky as the cause of digestive trouble in another patient.

Details of the studies appear in the technical journal of the Radiological Society of North America, *Radiology* (Aug.).

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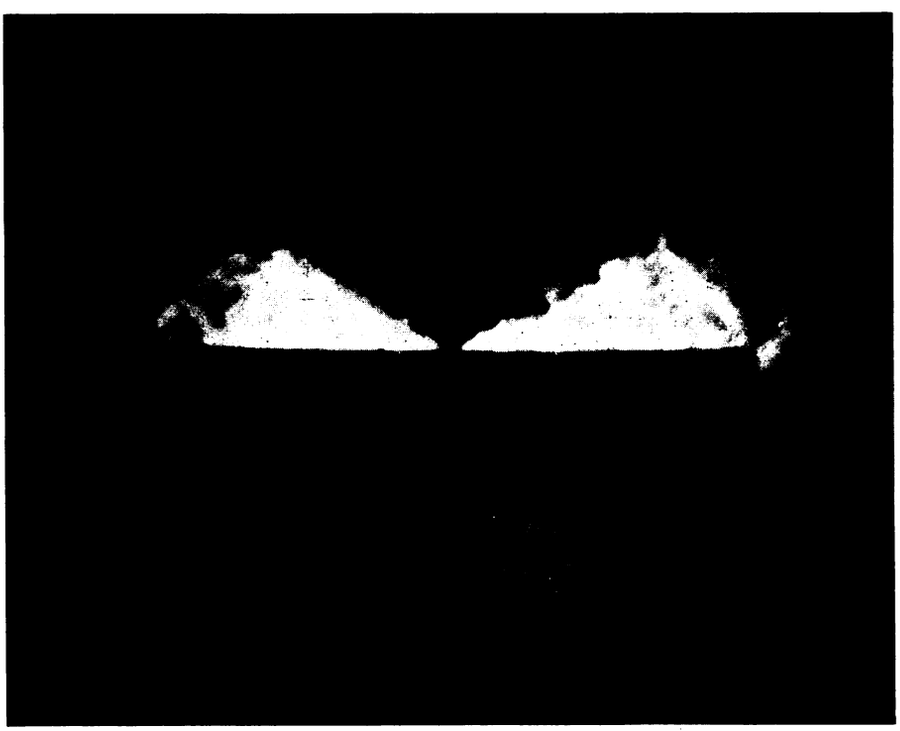

***CRACKING GLASS**—Detonation of the high explosive, Pentolite, laid along the center of two glass plates, shows shock waves set up in fracturing glass. The original shock wave is seen to be partially transmitted from the first to the second plate and partially reflected back into the first plate, Dr. E. M. Pugh of Carnegie Institute of Technology, Pittsburgh, supervisor of the glass cracking studies, reports.*