MEDICINE

No Jaundice Transfusions

Storage of blood plasma at room temperature for six months or over assures very little risk of jaundice from transfusions, Chicago doctor finds.

➤ TRANSFUSIONS OF pooled blood plasma can be given "with little or no risk" of the patients getting jaundice if the plasma is stored in the liquid state at room temperature for six months or longer, in the opinion of Dr. J. Garrott Allen of the University of Chicago.

He and his associates report in the *Journal of the American Medical Association* (Jan. 9) that none of 315 patients at the University of Chicago Clinics who got transfusions of pooled plasma stored at room temperature developed jaundice, although 44 patients who got whole blood or blood plus the plasma did develop jaundice.

Dr. Allen attributes this to the blood. A total of 11,970 patients were observed for at least six months following transfusions in the 11-year study.

The danger of getting jaundice from a pooled plasma transfusion comes because the agent causing the jaundice may be in the blood of one or more of the donors to the plasma pool. Blood from donors who are known to have had jaundice is not used in such pools, but some donors may not remember having had jaundice, or they may be carrying the agent in their blood without knowing it because it takes months for the disease to develop.

This jaundice agent is believed by many to be a virus. Dr. Allen pointed out three years ago that the best way to keep such a virus alive would be by the refrigeration, freezing and lyophilization methods used for preserving plasma. (See SNL, Dec. 2, 1950, p. 355.)

Because refrigeration facilities were not available, the University of Chicago Clinics began storing their plasma at room temperature in 1942. The practice was continued since it was found satisfactory.

The studies reported now show that plasma can be stored at room temperature up to 30 months without significant chemical change. It can be used to prevent or treat shock, and to treat patients suffering from severe lack of protein. The clotting factors are lost but this, Dr. Allen points out, is not objectionable since fresh plasma is not used to treat abnormal bleeding disorders other than hemophilia.

Editorially, the Journal points out that much plasma now being discarded by blood banks could be saved if the room temperature storage method were followed. The Journal also suggests using dextran and other synthetic plasma expanders for shock until blood is available. This, it is stated, will conserve plasma for protein lack in patients unable to eat and in whom the condition should be corrected rapidly.

Associated with Dr. Allen in the studies were Drs. Daniel M. Enerson and E. S. G. Barron and Miss Carolyn Sykes, R.N.

Storage Regulations Unchanged

The Public Health Service's National Institutes of Health are not going to change their regulations to permit six months' room temperature storage for preservation of plasma shipped in interstate commerce, SCIENCE SERVICE learned.

Their studies show that the risk of jaundice is not completely eliminated in liquid plasma stored at room temperature for this length of time.

The difficulty of avoiding contamination with other disease germs in liquid plasma so stored is another reason against this method, federal health authorities point out. This contamination could be prevented in some laboratories and blood banks, but such prevention might not be practical or possible in all cases.

Science News Letter, January 30, 1954

MEDICINE

Firms Produce Polio Vaccine at No Profit

See Front Cover

➤ THE FIVE firms that will produce the polio vaccine for mass trials starting in February have been named by Basil O'Connor, president of the National Foundation for Infantile Paralysis.

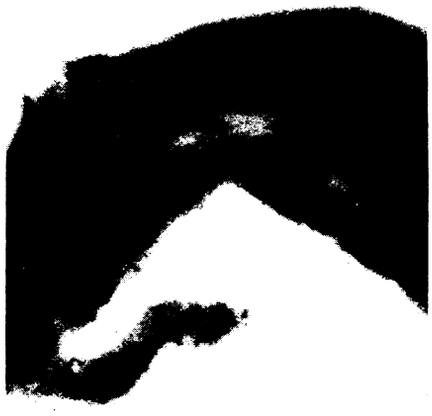
They are: Cutter Laboratories, of Berkeley, Calif.; Eli Lilly and Company, Indianapolis; Parke, Davis & Company, Detroit; Pitman-Moore Company, a division of Allied Laboratories, Inc., Indianapolis, and Wyeth Laboratories, a division of American Home Products Corporation, of Philadelphia.

The firms will produce the vaccine on a non-profit basis. The over-all cost of the testing program, including vaccine production, will come to $7,500,000 in March of Dimes funds, Mr. O'Connor stated.

"We hope," he said, "that sufficient vaccine can now be produced to inoculate at least 500,000 second grade school children, and possibly as many as a million, before the onset of the polio epidemic season later this year."

Prior to processing the polio virus at Parke Davis & Company, a virologist tests the raw fluid to make sure its polio concentration is up to standard, as shown on the cover of this week's SCIENCE NEWS LETTER.

Science News Letter, January 30, 1954



SITE OF PHOTOSYNTHESIS — Side view of the bowl-shaped tobacco leaf chloroplast in a section about two-millionths of an inch thick. It is magnified under the electron microscope 39,000 times.

BOTANY

Electrons Photograph Site of Photosynthesis

➤ UNDER THE electron microscope, details of the chloroplast, site of the mysterious process of photosynthesis, have been photographed for the first time.

The photograph is the work of two University of California at Los Angeles scientists, Dr. Morris Cohen of the botany department and Edwin Bowler of the engineering department.

A side view of the tobacco leaf chloroplast in a section about two-millionths of an inch thick reveals two kinds of stratification. Stacks of finely lamellate grana lie embedded in a general system of thicker lamellae which traverse the chloroplast. Chlorophyll is localized in the grana.

The layering of the chlorophyll in the fine lamellae of the stacked grana may be involved in the absorption of the light energy necessary for photosynthesis.

Science News Letter, January 30, 1954

CHEMISTRY

Boron or Arsenic Form Heat-Resistant Plastics

➤ NEW PLASTICS, made of boron combined with phosphorus or arsenic, which can be heated to 700 degrees Fahrenheit without damage, are predicted by Prof. Anton B. Burg and his associates at the University of Southern California at Los Angeles.

Boron hydride was mixed with a hydrogen compound of phosphorus or arsenic. When hydrogen was driven off, low polymers resulted. These, Prof. Burg is confident, can be converted to high polymers withstanding more severe heating than any present commercial plastics.

Science News Letter, January 30, 1954