

PHYSIOLOGY

Measure Cell Pick-Up

A method of measuring the action of cells of the reticulo-endothelial system in removing negatively charged colloids may give clue to their basic action.

➤ A WAY to measure the action of certain specific cells occurring in many parts of the body in removing negatively charged colloids may give a clue to the basic action of these cells and their possible part in the response of cancer to radiation treatment.

The special cells are known as the reticulo-endothelial system, RES for short. They have the power to pick up colloidal particles which have a negative electric charge.

Research with a new technique for measuring the rate at which these particles are picked up was reported to the American Chemical Society by Dr. John H. Heller of the Yale University School of Medicine.

Dr. Heller and his co-workers, Drs. Aina Auskaps and Dicran Goulian, inject chromium phosphate in which the phosphorus is radioactive. They are able to measure the rate at which this radioactive phosphorus disappears from the blood stream. They know that it is taken up by the RE system, cells of which are found in particular abundance in the liver and spleen.

By studying the RE system in detail, Dr. E. R. Gabrieli of the section of medical physics at Yale has learned that the structure of its cells is highly sensitive to radiation, and that their function is changed by even a light dose of X-rays or electron beams, in contrast to what was previously thought.

Since the average tumor can be considered 20% more sensitive to radiation than normal cells, Dr. Heller believes that his measurements will show whether there is hope that the relationship in the body between the RE cells and tumor cells might be shifted, by radiation or other means, in favor of normal function and opposed to tumor growth.

By following this research program during the coming year, Dr. Heller and Dr. Gabrieli hope their data will point the way to more exact knowledge of the relation between RE cells and the cells that are abnormal in their functioning, including those of cancer.

Science News Letter, October 3, 1953

MEDICINE

Cure Warts on Feet

➤ A SIMPLE cure for painful warts on the soles of the feet has been discovered accidentally because a soldier wanted to march in a special parade.

The cure for these warts consists of injecting them with novocaine, the local anesthetic familiar to many as the pain-killer used by dentists. The discovery of this cure is reported by Drs. E. C. Branson and R. L. Rea Jr., from the Surgical Service, Fifth General Hospital, U. S. Army, to the *New England Journal of Medicine* (Apr. 9).

The soldier asked a surgical technician what to do about the wart that might keep him from marching. The technician, thinking to relieve the pain temporarily, injected novocaine. The soldier marched successfully in the parade and in a few days the wart disappeared.

As a result the method was tried and found successful in 48 patients. Of 30 who could be followed for six months, 22 were cured. Seven still had their warts but with no pain. Only one showed no improvement after six months. One had about 30 warts involving the whole sole of his left foot. It would have been very hard to treat these by any of the standard methods.

Patients given the novocaine treatment usually are free of pain or other symptoms

within 24 hours. In five to seven days the wart becomes softer and darker. After a week it usually can be lifted out with a thumb forceps.

In the treatment, the doctors point out, it is important to stick the needle through the normal skin at the side of the wart to the stratum germinativum, and to make only one needle puncture so that the novocaine can be injected under pressure.

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PLANT PATHOLOGY

"Flower Clinic" Treats Sick Plants

➤ A UNIQUE "flower clinic" has been established at the University of California at Los Angeles to help protect California's multi-million dollar flower crop.

Here "sick" plants are diagnosed and treated by "plant physicians" in a continuous battle against diseases that cost southern California florists thousands of dollars annually.

Many of the same pathological techniques used in diagnosing human ills are applied to ailing plants. Diseased plant tissue is examined under microscopes to determine

the nature of infection. Disease organisms from infected plants are cultured in the laboratory and injected into "guinea pig plants" in the attempt to develop cures or preventive techniques to combat the disease.

Biggest killer of ornamental plants are fungus diseases. Next come virus diseases, followed by those caused by bacteria.

The flower clinic staff consists of Dr. Kenneth F. Baker, chairman of the plant pathology department and specialist on diseases of seed flowers; Dr. J. G. Bald, bulb plant authority; P. A. Miller in charge of trees, shrubs and turf; and Dr. D. E. Munnecke, nursery plant specialist.

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