

Thymus Helps in Cure

► **PATIENTS** who have the fatal malignant lymph node malady called Hodgkin's disease could be treated by thymus gland transplants, a Moscow virologist suggested.

The thymus is a gland found beneath the breastbone in newborns and which degenerates during the first two years of life. Its role in the development of Hodgkin's disease has been argued in recent medical news, based on X-ray and autopsy evidence. Dr. George J. Svet-Moldavsky of the Institute of Experimental and Clinical Oncology suggests in *Nature*, 209:932, 1966, that the cause of Hodgkin's disease is based on a definite syndrome related to depletion of thymus function.

Transplantation of thymus tissue should be undertaken as treatment of the disease, the Soviet scientist believes.

"Even if such grafting will not completely cure the disease," he said, "it should result in a marked improvement of all phenomena associated with hypothyroidism."

Success and durability of the thymus homograft would be insured by the "absence of immunological responses of the delayed type in patients with Hodgkin's disease," he pointed out.

Even in the early stages of the disease there is marked suppression of

immunological responses of the delayed type to antigens such as tuberculin, mumps virus, *Candida albicans* and diphtheria toxoid. The response to skin and bone homografts is similarly affected. But at the same time antibody formation to a large number of antigens remains unimpaired.

It was demonstrated in Dr. Svet-Moldavsky's laboratory of virology that when the thymus gland was removed from newborn mice, the animals could produce antibody to the red blood cells of sheep after the primary immunization. In this case, antibody production begins later but persists longer than in normal animals.

This evidence indicates that in these thymus-removed animals there occurs not a general loss of immune response, but its clear dissociation, which is identical in detail with the immunological defect in Hodgkin's disease.

• *Science News*, 89:227 April 2, 1966

MEDICINE

Circulation in Elderly Can Be Improved

► **ENCOURAGING** results were reported in Montreal, Canada, on unplugging major leg arteries in a number of elderly persons who otherwise would have had to have their feet amputated because of poor circulation.

Dr. James H. Greig, a radiologist from Vancouver, followed a procedure first proposed two years ago by Dr. Charles Dotter, chief of radiology at the University of Oregon in Portland. It involves the insertion of a wire and catheter into the blocked artery above the site of the blockage. First the wire, then the catheter are pushed through the mass of fatty material so that the remaining channel is widened or a new one is created. The channel will remain open after the catheter is removed.

• *Science News*, 89:227 April 2, 1966

BIOCHEMISTRY

Animal Research Proves Brain Expands if Used

► **THE BRAIN** literally expands when it is used.

Scientists at the University of California reported that in a study rats from the same litter were divided into "deprived" and "enriched" groups, with resulting differences in head size.

The deprived rats were raised alone in small metal-walled cages with little noise or handling. The enriched rats had the advantage of being raised together in larger cages with diversions such as exercise wheels, toys, ladders and tunnels. They were taken out every

day and allowed to explore new surroundings.

Results showed that the richer the environment, the larger the rat brains become. The changes are not large but they are extremely consistent from experiment to experiment. The difference in size is mostly in the cerebral cortex which controls voluntary action and thought.

Changes also were found in certain types of brain cells as well as in some biochemical substances important to the transmission of nerve impulses.

Conducting the research, which has been carried out for 12 years, are Drs. David Krech and Mark R. Rosenzweig, psychologists; Dr. Edward L. Bennett, a biochemist; and Dr. Marian C. Diamond, a neuro-anatomist.

• *Science News*, 89:227 April 2, 1966

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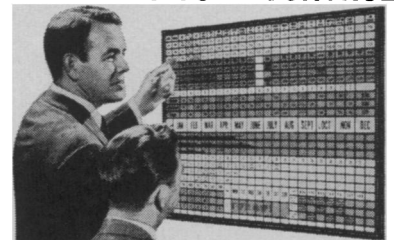
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