

ENDOCRINOLOGY

Growth Hormone Isolated

Substance obtained from pituitary appears to be pure, since tests on rats showed it stimulated growth but had no other effects. Is a protein.

► ISOLATION of the growth-stimulating hormone from the pituitary gland, best known to the public through circus giants and dwarfs, is announced by Dr. Choh Hao Li and Dr. Herbert M. Evans, of the University of California. (*Science*, March 3)

Many extracts of a growth-stimulating substance have heretofore been obtained from this gland but apparently none of them has been the hormone itself completely free from other chemicals or hormones produced by this gland.

The California scientists report that the substance they have isolated appears to be a single substance and that it is a

protein. Tests on rats showed that it stimulated growth but had no effect on the mammary, thyroid, adrenal or sex glands which indicates that it is "substantially free of other biologically active pituitary contaminants."

Over-production of this growth hormone by the pituitary gland results in giants or in the gorilla-like transformation of the disease, acromegaly. When the pituitary gland disorder goes in the opposite direction, so that too little growth hormone is produced, the result is dwarfism. Not all dwarfs, however, owe their small size to underactive pituitary glands.

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tissue and wound healing, did not occur in all patients. However, the Soviet scientists seem to feel that phytoncides have a place in treatment of infected wounds along with synthetic preparations such as the sulfa drugs.

They call attention to reports of other scientists that the juices of oranges, tomatoes and coniferous plants have a healing effect on wounds. These reports have attributed the healing effects to the vitamin content of the juices. The Soviet scientists believe it is more likely due to the phytoncides in the juices.

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CHEMISTRY

Glass Fibers Very Strong In Proportion to Weight

► GLASS FIBERS are stronger in proportion to their weight than any known metal or alloy. Their tensile strength exceeds 250,000 pounds per square inch for the finer fibers. A wartime development is the use of these fine fibers as reinforcement for plastics to produce a structural material possessing hitherto unobtainable strength in proportion to weight.



VERSATILE — Another use for glass, in the form of fibers 85/10,000 of an inch in diameter, is in the production of alcohol as packing for distillation columns, replacing critical materials. The picture shows the packing process at the Tom Moore Distillery, Bardstown, Ky. The glass fibers used are manufactured by the Owens-Corning Fiberglas Corporation.

MEDICINE

Onion Paste Helps Wounds

Vapors of bacteria-killing substances in oils of common vegetable, applied as a dressing, speed healing of amputated limbs and clean up infection.

► PROMISING results with onion paste used as a dressing for infected wounds are reported by Dr. I. V. Toroptsev and Dr. A. G. Filatova, of the Tomsk State University and the All-Union Institute of Experimental Medicine, USSR. (*American Review of Soviet Medicine*, February)

The experiments with onion paste as a weapon against infection and an aid to healing of wounds followed reports by Dr. B. Tokin, that the essential oils of onions, garlic and other certain strong-scented vegetables contain substances that kill bacteria, protozoa, and even larger organisms like yeast cells and the eggs of certain lower animals. (*See SNL*, Feb. 12)

The bacteria-killing substances are called phytoncides. They have not yet been identified chemically, but are extremely volatile, so that the paste has to be made immediately before use. The preparation consists simply in grinding the onion or a portion of it after the dry leaves have been removed. The paste is then put into a glass dish with a diameter equal to that of the wound and is

applied so that the paste does not come in contact with the wound, which is exposed only to the onion vapor.

Vaporization, as the treatment is called, is done for 10 minutes, usually in two five-minute intervals with a fresh onion paste each time.

At first the experiments were tried with 25 patients but lack of onions forced the doctors to limit themselves to 11 patients. Of these, seven had amputations of the arm, one of the thigh and three of the foot. Before treatment all the extremities showed distinct purulent inflammation, in some cases with a marked odor, as well as swelling of the soft tissues. Some patients complained of pains in the amputated areas.

After the first phytoncide treatment, the doctors report, all the wounds without exception became rose-colored instead of gray, and the patients no longer complained of pain. After the second treatment the pus condition subsided and the odor disappeared. After five days all the cases showed extensive soft epithelialization.

Positive results, with growth of new