

MEDICINE

Hasten Stroke Recovery

Injection with procaine hydrochloride has brought improvement within 10 minutes after a seizure of apoplexy. May lessen permanent brain damage.

➤ AN "emergency treatment" can now speed recovery from apoplexy, or stroke as it is popularly called. It is reported by Drs. N. C. Gilbert and Geza de Takats of St. Luke's Hospital, Chicago, in the *Journal of the American Medical Association*, (March 6). The new method may lessen permanent brain damage.

The treatment consists in the injection of a local anesthetic, procaine hydrochloride, into a mass of nerve cells near the vertebrae at the base of the neck. Improvement should come within 10 minutes. The patient should recover consciousness, be able to speak or to speak more clearly, move arms and legs and flaccid, or limp, paralysis should be abolished.

While some patients improve anyway during the first few hours after a stroke of apoplexy, they do not do this within the first few minutes, the physicians point out.

A good response to this treatment was obtained in 19 of 25 patients. The results, the physicians say, "suggest that a less passive attitude should be taken in regard to the treatment of apoplexy."

The earlier the treatment is begun, the better the chances for speeding recovery. If improvement does not follow or the patient relapses, a second injection should be given. At present they give the treatment daily until no further

improvement is seen in the patient.

Results will be better in some kinds of apoplexy than in others. If the apoplexy is due to hemorrhage in the brain, the treatment is least effective, and is not recommended. If the apoplexy is due to a thrombus, that is, a clot in a blood vessel of the brain, the injection treatment may help and should be given.

The treatment is most effective in a third kind of apoplexy, that due to a clot which formed in a blood vessel elsewhere in the body and which was carried by the circulation to a smaller blood vessel in the brain. While all 10 patients with this condition, called cerebral embolism, improved immediately, the treatment did not necessarily change the course of the disease and one of them died on the fifth day. Patients who get apoplexy of this type are usually younger and have previously had rheumatic or other heart trouble or embolism elsewhere in the body.

With the injection treatment, other measures are also advised by the Chicago physicians. Important among these is an oxygen tent with the patient placed in a position to help the drainage of mucus so that he will not get pneumonia which is the biggest cause of death in patients who survive the first 48 hours after an apoplectic stroke.

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BIOCHEMISTRY

Explain Fat in Diabetes

➤ AN explanation for the idea that overweight has something to do with the onset of diabetes is given by studies of Drs. M. C. Nath and H. D. Brahmachari, of the University at Nagpur, India, and reported in the British scientific journal, *Nature* (Jan. 3).

Chemicals found in the body during the breakdown of fat, known as acetone or ketone bodies, "can be held responsible for the onset in the long run of diabetes mellitus," they state.

These chemicals are present in abnormal amounts in both blood and urine in diabetes. Normally they are oxidized further in the body and are

capable of furnishing a large amount of energy. In diabetes, either the body cannot oxidize them further for energy production or they are produced in excessive amounts.

Their accumulation, the Indian scientists state, is responsible for either lowering the production of insulin or decreasing its potency in bringing about utilization of sugars and starches.

First clue to the fact that the acetone bodies can lower the potency of insulin came when the scientists injected the acetone bodies into normal rabbits. The rabbits lost their ability to tolerate starches and sugars and got too much

sugar in their blood, as diabetics do.

Next the scientists tested the chemicals in animals that had their pancreases removed at different times. The pancreas is the gland that produces insulin. After the acetone bodies were injected, these animals at first produced insulin that was 50% more potent than the insulin from pancreases of normal animals. But this was followed by a gradual reduction in potency of the insulin, so that 70 days after injection of the chemicals, the insulin from the pancreases removed at that time was 50% below normal potency.

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AERONAUTICS

Instruments Carried into Upper Air by New Missile

➤ AMERICAN scientists have a new, high-speed research vehicle for upper air exploration. Called the "aerobee," the new missile is smaller than the famous German V-2, most-used missile for carrying of scientific instruments into the little-known upper atmosphere.

In its first publicized firing at White Sands, N. Mex., the aerobee climbed to 78 miles altitude and reached a speed of 4,400 feet per second, or approximately 3,000 miles per hour. Unlike the V-2, the new liquid-fueled missile is designed primarily for carrying instruments into the upper atmosphere.

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NEW LIQUID-FUELED MISSILE
—Shown here leaving the launching rack, the aerobee will be used to carry scientific instruments for upper air exploration.