

MEDICINE

Potent Synthetic Hormone

New chemical for Addison's disease patients is up to 50 times more powerful than natural hormone. It can also help in diagnosing cancer of adrenal glands.

► A SYNTHETIC hormone 10 to 50 times more active than the natural one produced by the body is giving a new lease on life to sufferers from Addison's disease.

One patient in the last stages of the disease and brought into the hospital in shock began to improve within a few hours after the first dose of the new hormone. Within 60 days he was able to work full time as a skilled laborer.

The new hormone is fluorohydrocortisone. It was synthesized by Drs. Josef Fried and Emily F. Sabo of the Squibb Institute, New Brunswick, N. J. Its success in treating Addison's disease was announced in Boston by Drs. George W. Thorn, Alan Goldfien, John C. Laidlow, Najib Abu Haydar and Albert E. Renold of Harvard Medical School and Peter Bent Brigham Hospital.

The synthetic hormone is also proving useful in diagnosing the degree of adrenal gland function. It can help determine whether, in symptoms of adrenal disease, the trouble is a cancer of the adrenal glands or overfunctioning of the pituitary gland in the head with resulting trouble in the adrenals.

Addison's disease is due to disease of the adrenal glands. These two small glands on top of the kidneys are best known today to the lay person as producers of anti-arthritis cortisone. Cortisone has been used for treatment of Addison's disease patients since it became available.

The Addison's disease patients, however, had the same side effects from cortisone as arthritis patients. These include high blood pressure, excessive hair growth, skin eruptions, confused mental state and tendency to diabetes.

Fluorohydrocortisone produces the same side effects. But this new synthetic hormone is so much more powerful than cortisone that patients are helped by very much smaller amounts. This means they can go on taking it longer than they can cortisone before the side effects become too troublesome.

The Harvard researchers were "frankly amazed" at the small amount of fluorohydrocortisone that kept the Addison's disease patients in correct adrenal gland balance.

Before cortisone and an earlier adrenal gland cortex extract were available, Addison's disease patients usually died within a few days or weeks or at most within three years. Restoring the hormone their failing glands no longer produce keeps them alive, though they must continue to take it as diabetics take insulin.

Bronzed skin, low blood pressure, prostration, anemia, diarrhea and digestive dis-

turbances are characteristic symptoms of Addison's disease.

Reports of the patients treated by the Harvard doctors with fluorohydrocortisone appear in the *New England Journal of Medicine* (March 17).

Science News Letter, March 26, 1955

METEOROLOGY

Tiny Rocket to Drop Ball From 75 Miles Up

► AN EIGHT-FOOT-TALL, needle-nosed rocket, designed to carry an aluminum ball 75 miles into the air, then drop it, has been developed.

Crammed with rugged instruments, the ball can collect upper atmospheric data and radio the information to the ground as it falls.

Two of the newly built 220-pound rockets will be tested at the National Advisory Committee for Aeronautics' proving ground at Wallops Island, Va. Afterwards, similar rockets will carry the balls high over the Arctic as part of the 1957-58 International Geophysical Year research program.

The rockets, minus their propulsion units, were delivered to the Defense Department by University of Michigan engineers. The new design is expected to cut the cost of such studies from \$100,000 to \$15,000 a launching.

Booster units, such as are used in anti-aircraft missiles, will carry the small, sleek rockets to high altitudes. The rocket will travel the rest of the way on its own power. When it reaches the high point in its flight, the rocket's eight-inch hull will burst open to release the ball.

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AGRICULTURE

More Grasshoppers And Fewer Crickets

► FARMERS CAN look forward to more grasshoppers, but fewer Mormon crickets this year.

The results of surveys made during the summer and fall of last year by state and federal entomologists indicate that the United States grasshopper population will be increased. Biggest threat to crops and rangelands during 1955 can be expected in Missouri, southern Wisconsin, the Texas Panhandle and eastern Kansas.

Indiana, Iowa, Nebraska, Minnesota, Oklahoma, Montana, North and South Dakota and Utah can also expect an increase in the number of grasshoppers to be

fought. The U. S. Department of Agriculture states that some 6,000,000 acres of range in 15 Midwestern and western states alone may require control measures.

Mormon crickets, on the other hand, will be less populous this year. Agriculturists credited two years of aerial warfare with insecticides as being responsible for the reduced cricket threat.

Drought has increased grasshopper problems in much of the affected area, although in some parts of New Mexico and Texas it has been so dry that not even the grasshopper survived.

Winter and spring weather can alter the present picture, the scientists report.

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