MEDICINE

Hormone Aids Muscle Ill

Injections of adrenocorticotrophic hormone, which is produced by the pituitary gland in the head, were found to help patients with a muscle weakness disease.

➤ ONE of the hormones just reported as helpful in arthritis now turns out to be also involved in a muscle weakness disease, myasthenia gravis.

The hormone is one produced by the pituitary gland in the head and is known as ACTH, short for adrenocorticotrophic hormone. The long name shows that it is a hormone which stimulates the outer part, or cortex, of the adrenal glands. Compound E, now known as cortisone, primarily hailed for its effect in arthritis, is a synthetic adrenal cortex hormone.

Improvement in three myasthenia gravis patients after injections of ACTH was reported by Drs. Clara Torda and Harold G. Wolff of New York at the meeting of the American Neurological Association in Atlantic City.

The "incomplete remission," as they label the improvement, has persisted, though the doctors do not know how long it will last.

"Marked improvement of muscle function" is one of the signs of the remissions. This improvement occurred while the patients were taking much less than their usual dose of neostigmine, synthetic chemical now used in treatment of the disease.

The amount of work performed in muscle tests became similar to that of healthy persons, although before the ACTH these patients' work on the tests averaged only 30% of normal.

Chemical tests and blood counts also showed signs of improvement.

The New York doctors do not call ACTH a cure for the disorder, but said that the results in the three patients support the view that it is involved in the mechanism of the disease.

The immediate cause of the symptoms of this muscle weakness disease, they explained, is a decrease of synthesis in the body of a chemical, acetylcholine, which is believed to play a part in the transmission of nerve impulses to muscle cells. Increasing the ACTH in the body causes more acetylcholine to be produced. This and other findings showing a possible connection between the hormone and the muscle weakness disease led to trial of the hormone in the three patients.

When babies are born with muscle weakness or defects, it may be due to congenital myasthenia gravis, Dr. Paul M. Levin of Dallas suggested. He reported two cases in a brother and sister. These babies did not kick and move as much before birth as most babies do, and both showed symptoms of muscle weakness after they were born.

The weakness was quite severe and widespread in the boy. The sister had it almost exclusively in the muscles around the eyes. In both cases doses of neostigmine by mouth and by hypodermic injection caused striking changes in facial expression and ability to use the muscles. Two of the mother's first cousins had been born with drooping eyelids, suggesting a congenital, or hereditary basis. The mother, however, did not develop muscle weakness when given a full dose of quinine sulfate as a test for potential myasthenia gravis.

Some patients with myasthenia gravis have recovered after having the thymus gland in the chest removed. To appraise the value of this operation, since patients sometimes have periods of freedom from symptoms without treatment, Dr. L. M. Eaton of Rochester, Minn., compared 73 patients operated on before Jan. 1, 1948, with 186 who did not have the operation but were given other treatment during the same period.

A higher percentage of remissions, that is, freedom from symptoms, occurred in the group that had the operation. But, Dr. Eaton pointed out, the better results may have been due to the selection of the patients, rather than to the operation itself.

Science News Letter, June 25, 1949

WILDLIFE

Monkeys Half as Big as Rats Shown in American Zoo

➤ A PAIR of miniature monkeys, half as big as rats and ten times as active, are on exhibition at the National Zoological Park in Washington, thanks to a Panagra pilot, Capt. John H. Miller, who got them in Ecuador and sent them to Dr. William Mann, director.

These pigmy marmosets are widely distributed in South America, particularly along the Amazon. They have sparkling eyes that make them appear to have an intelligence that they don't possess.

They can't be let out of their glass cage for fear they will escape. They have to be fed through a small door that is closed by the keeper's hand while the food is put in the cage.

A pair of big-eared foxes from Cape Colony, Africa, and three kangaroos from Australia are also new exhibits.

Science News Letter, June 25, 1949

The British Royal Air Force is making an aerial photographic survey of some 150,000 square miles of *Africa,* much of it unexplored, to secure information for African development.

MINIATURE MONKEYS—These pigmy marmosets are half the size of a rat. They inhabit the region along the Amazon in South America.