

rare disease, though somewhat more common in young children than in adults. He regards it as similar in etiology to the other spasmodic disorders, and finds it, in children, quite amenable to treatment.

C. A. ALLEN.

TETANY FOLLOWING SCARLATINA.

Bradford McConnell (Canada Med. Record, Sept., 1896) reports a typical case of tetany following scarlet fever. The inception of the trouble was noticed fourteen days after the beginning of the fever and during desquamation. The specific action of the infectious disease in causing the spasmodic affection is more than doubtful, as the patient, aged 5½ years, had had a similar attack at 18 months. There was a vicious heredity, and the child himself had had numerous convulsions.

PATRICK (Chicago).

EIN FALL VON TETANY MIT EIGENTÜMLICHEM SECTIONSBEFUND. (A Case of Tetany with Peculiar Findings.) Deutsche Zeitschrift für Nervenheilkunde, Band ix., Heft 3 und 4. By H. KÖSTER.

The diagnosis of tetany in this case was founded on tonic, intermitting frequently painful cramps of individual muscles or cramps of muscles, on the presence of Trousseau's and Erb's signs, on intermitting spasm of the ocular muscles, retention of urine, dysphagia, tinnitus aurium, absence of mental symptoms, vertigo and the development of the disease in the first months of the year.

The simultaneous appearance of the cramps in all four extremities, affecting the extensors as well as the flexors, the flexion of the leg, the intensity of the spasm in the neuchal muscles, the ability of the patient by an effort of the will to control the cramps, the position of the hand as a fist, the clonic convulsions, at times, in the muscles of the extremities and eyes, were peculiarities noticed in this case. A slight rigidity of the muscles prevented the knee jerk. The autopsy revealed contracted kidneys, circumscribed hemorrhages on the anterior part of the cauda equina and about the roots of the third to the fifth cervical nerves, as well as hemorrhages and hyperæmia in the sheath of the right sciatic nerve.

Köster is unable to explain the symptoms from the post-mortem findings.

SPILLER.

PATHOLOGICAL ANATOMY.

ASCENDING DEGENERATION IN NERVES AND THE CONSEQUENT CHANGES IN NERVE CELLS.

Fleming has made an unusually extensive and careful study of the changes that occur in the central stump, and in the cells of the spinal cord after division or ligation of the nerve trunk.

In the nerve he found: "First, that in process of time a slow atrophy of 'motor' fibres occurs. Secondly, that certain 'sensory' fibres degenerate centrally, possibly because severed from their peripheral trophic centres. Thirdly, that the minute fibres found in a normal nerve undergo very marked change. Fourthly, that distinctive connective tissue increase occurs."

The changes found in the cells are summarized as follows:

"1. The cells of the ganglia on the posterior nerve roots undergo definite changes as the result of nerve section or ligature, and do so at a much earlier period than the multipolar cells in the cord—beginning probably as early as the fourth day and certainly by the seventh day.

"2. That one of the very first changes observed in the cells of ganglia and anterior cornu is a diminution in the size of the nucleus—in proportion to the size of the cell and that, sometimes, but not in all cases—nucleoli also becomes smaller and very frequently the nuclei take up an eccentric position, sometimes even bulging the cell wall.

"3. That in both sets of cells Nissl's granules, otherwise known as the chromatic granules, are either smaller in size, fewer in number and scattered through the cell body tending to be most numerous round the nucleus, or else they are grouped together in large masses round the nucleus, leaving the periphery of the cell quite clear.

"4. That pericellular lymph spaces may become enlarged, especially in the ganglia cells, and where the enlargement is very marked, the cells become proportionately smaller in size—although an actual atrophy may also occur. In several of my specimens I found large vacuoles—not the vacuoles described by many writers as occurring in the cells of the cord and cerebral cortex, which are probably to some extent artificial—but big vacuoles more resembling distended pericellular lymph spaces. They differ, however, inasmuch as they are surrounded by the remains of cell protoplasm containing chromatic granules.

"5. That in the multipolar cells not merely are there these changes in position and size of nuclei, and arrangements and number of chromatic granules, but there is as a later phenomenon, marked disintegration of cell protoplasm, well seen in some of my specimens. This disintegration has been described by Marinesco as occurring in certain cord lesions in man. It consists of patches—which with toluidin blue and eosin, are whitish in color and surrounded by masses of chromatic granules."

PATRICK.

THE ALTERATIONS OF THE NERVE ELEMENTS IN EXPERIMENTAL UREMIC DYSCRASIA.

Drs. Sacerdotti and D. Ottolenghi, of Torino, have made very interesting experiments on the effect of uremic poisoning upon the various nerve systems, and have published their results in the January, 1897, No. of the *Rivista di Patologia Nervosa e Mentale*.

Their experiments were made on four dogs and three rabbits. In three dogs the kidneys were extirpated at one time; in the fourth 75 days intervened before extirpation. In one rabbit the kidneys were removed, and in the other two the ureters were ligated near their entrance into the bladder. Of the dogs, one lived four days, 2 hours; the second, 5 days, 9 hours; the third, 7 days, 10 hours; the fourth, 4 days, 10 hours. The rabbit whose kidneys were removed lived 50 hours, the others 48 and 56 hours respectively.

The macroscopic examination of the brains of these animals offered nothing of importance. A certain amount of hyperæmia was present in two of the dogs' brains, while in the other two the brains were anæmic. The brain of the dog that lived 7 days showed a slight diffuse opacity of the pia, and a slight amount of softening of the superficial strata of the cortex. The rabbits' brains showed nothing appreciable. The methods employed were those of Golgi and Nissl.

The ganglion cells of the brain cortex, of the hippocampus, cerebellum, and the neuroglia cells showed a degeneration or rather a varicose atrophy of the protoplasmic prolongations in various degrees.

The authors draw the following conclusions from their experiments:—

1. That ligation of the ureters or bilateral nephrectomy provokes in the nerve centres lesions easily demonstrated by Golgi's method. Lesions characterized by a varicose atrophy of the dendrites of the ganglion cells, while the axis cylinder prolongation remains unaltered. Also that, contrary to the teachings of Acquisto and Pusaterie, the neuroglia cells do participate, showing varicose degeneration of the prolongations of the cells.

2. That regarding the distribution of these lesions—

- a. The elements having undergone degeneration are most diffuse in the whole cerebral cortex and appertain to the different layers of cells.