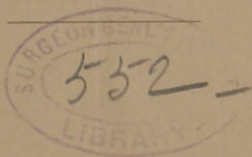


MILES (G. W.)

TETANY, WITH ILLUSTRATIVE CASE.

BY

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VERY little mention of the disease known as "Tetany" is found either in text-books of general medicine or in special works on nervous diseases. An interesting and exhaustive study of the subject has been published by Professor J. P. Crozer Griffith, of Philadelphia.¹ Dr. Griffith expresses surprise at the scarcity of records of tetany to be found in American medical literature, and speaks of the disease as one of "rare occurrence in this country."

A short time previous to the publication of Dr. Griffith's paper (December 11, 1894) I reported to the Madison County (N. Y.) Medical Society a case of tetany occurring in my practice. It is possible that, in view of the conceded infrequency of the disease, a brief consideration of the subject of tetany, in connection with the history of my own case, may be of interest.

In a work published quite recently is found the following definition of "Tetany," "Tetanilla," or "Little Tetanus": "A functional disease of the nervo-muscular apparatus, characterized by the occurrence of paroxysmal tonic spasms that involve

¹ American Journal of the Medical Sciences, February, 1895.



certain groups of muscles, and that in severe cases may extend to nearly all the voluntary muscles of the limbs and body." This definition gives little idea of the terrible intensity of suffering that marks the clinical history of tetany. The nerves that are concerned in the production of the contractions exhibit an immense increase of electrical and mechanical excitability. The functional character of the disease has led many observers to doubt the propriety of dividing it from other functional spasmodic disorders, or as to regarding the disease as a separate entity. The disease is observed more frequently by physicians in general practice than by those whose experience is limited to office and consultation practice. The weight of opinion seems to be that tetany occurs most frequently among children. The influence of sex is not very decided. Persons who have been exposed to cold or wet seem to be particularly liable to attacks of tetany. Stubborn constipation or any intestinal irritation is liable to provoke an attack. Dentition is said to be, likewise, a cause. Attacks occur also in connection with other diseases, particularly typhoid fever. Constitutional causes favor its development. When a predisposition to tetany exists almost any irritation of the cutaneous or mucous surfaces may excite an attack of the disease.

The occurrence of an attack is usually preceded by certain premonitory symptoms, as dizziness, determination of blood to the head, humming noises in the ears, and disturbance of vision. When the attack is matured, the force of the paroxysms is expended upon certain groups of muscles, the flexors

being affected more frequently than the extensors. Neuralgic pains and soreness are complained of, headache, dizziness, and other cerebral symptoms of sensory disorder. The increased and inordinate excitability of the motor nerves is further indicated by their behavior under the influence of mechanical stimulation, a slight tap upon the nerve-trunk being sufficient to arouse a paroxysm. The duration of a paroxysm may vary from a few minutes to many hours, or even two or three days. The disease might be confounded with tetanus, but is lacking in the rapidly increasing severity of the phenomena of that terrible disease. Although a few examinations post mortem have been made in tetany there is little known of the pathology of the disease. One observer claims to have found a periarteritis and a periphlebitis of the bloodvessels of the white commissure and of the anterior horns of the cervical portions of the spinal cord. Others have found nothing of the kind, but, in the place of pathological facts, have built up an ingenious theory that the attacks of tetany are due to an irritable condition of the gray matter of the medulla and spinal cord, and that this irritable condition is due to sympathetic disturbances, causing irregularities in the vascular innervation of the bloodvessels of the spinal cord. This, however, does not appear to be a very lucid explanation of the attacks. The disease is seldom fatal, but sometimes persists for a considerable period of time. In these lingering cases a certain degree of muscular contracture and weakness is often evident after the cessation of spasmodic attacks. The disease has a distinct

symptomatology, and this will be best illustrated by the narration of the case before mentioned.

In October, 1894, Florence S., a girl, aged seven years, was brought to me with the request that she be vaccinated. I performed the minor operation in the ordinary way, and in the usual site upon the left arm. About ten days later severe inflammatory symptoms supervened upon the full development of the pock, caused by undue traumatism, the child having injured the arm and destroyed the original vesicle by scratching or rubbing it during sleep. The inflammation was readily relieved by an anodyne and astringent lotion. A considerable wound resulted, however, and there was sloughing of the skin over a space as large as a silver half-dollar. After subsidence of the inflammatory action the healing process was rapid and the arm improved daily. About six weeks after the vaccination, on the morning of November 14th, I was asked to see the child, the parents being much alarmed about her. At this time the sloughing surface upon the arm was rather an insignificant one. The general symptoms, however, were severe and so closely simulated tetanus as to be startling, to say the least. There were tonic spasms of the arms and legs, succeeded by the same condition in the muscles of the neck and back, and likewise in the abdominal muscles. In the latter, particularly, the rigidity was so great as to elicit cries of pain. The muscles of the neck remained for the most part in a state of tonic contraction, so that any movement of the head was rendered quite impossible. The rigidity of any of the muscles was so great that passive movements were impossible. The muscular groups of the forearm, the upper arm, and the legs were involved. The facial muscles were affected,

and the grimaces and contortions resulting served more thoroughly to alarm the friends. The muscular spasms were bilateral. The tips of the fingers and thumbs were drawn together into a conical shape. Some of the toes were flexed and bent laterally under the other toes. The upper arms were drawn against the sides of the thorax and the forearm strongly flexed. There did not seem to be any involvement of the muscles of the diaphragm or bladder, as reported in some cases. These paroxysms lasted only a few moments at a time, but continued intermittently for three or four days, and in the beginning at least the phenomena of tetanus were closely counterfeited. Opisthotonos occurred frequently during the first day. Several authorities, while speaking of the startling resemblance which tetany bears to genuine tetanus, mention as distinguishing the diagnosis that trismus occurs in the outset in tetanus, and is not apt to be or is not often found in tetany. In this case this diagnostic aid was not given me, as the initial spasm of the masseters was a prominent feature of the case. The jaws were so firmly set together that the handle of a spoon could not be inserted flatwise. Any attempt to stir the child in bed was immediately followed by a tense and extremely rigid condition of the entire muscular system. The increased mechanical excitability, which is a well-marked symptom of tetany, was very prominent in this case. The slightest sound, even speaking the patient's name or extending the hand toward her or touching the surface was sufficient to produce a paroxysm. These spasms continued, as I have said, for three or four days at irregular intervals. The patient slept very little for all of that time during the day or night, a light sleep of fifteen or twenty minutes being followed by her awakening with screams and new

paroxysms and pain in the contracted muscles. The pain complained of was sometimes in the jaws, sometimes in the left arm, sometimes in the abdominal muscles. Following each spasm the entire surface of the body was bathed in perspiration. While in the beginning the spasms occurred several times in the space of an hour, the intervals of relaxation became gradually lengthened, and much relief was obtained, though some stiffness of the muscles remained after three or four weeks. After the second day the relaxation of the jaws for a portion of the time was sufficient so that a tube could be inserted between the teeth, and in this manner it was necessary to introduce nourishment. This method of feeding was followed for about two weeks, as for that entire period the masseter muscles were never entirely relaxed except occasionally during sleep. The bowels were greatly constipated. The pulse during the height of the attack remained at about 140 at night and 120 in the morning. There was very little rise in temperature, at least not to exceed a degree. I learned that for a couple of weeks preceding the complete attack nervous symptoms had been noticed by the parents, slight rigidity of the muscles, disturbances of vision, etc. The result of this case was complete recovery. Convalescence was considerably prolonged.

While the condition in this case at first sight was, as I have said, quite startling, and the simulation of true tetanus was great, still the complete recovery (a circumstance not within my experience in tetanus), a consideration of the latent period which had existed, the prominence of the mechanical excitability, the complete relaxation of all the muscles during the intervals of the attack, all of this leads

me to the belief that the disease was not the graver one. The idea of an hysterical element in the case was not lost sight of, but all symptoms and the entire history seem to admit of classifying this case with those of tetany already reported.

How much, if anything, the vaccination or the wound following had to do with the symptoms which existed I do not know. I imagine that these matters were neither directly nor entirely causative. In the minds of the frightened parents, however, the vaccination was the only thing prominent, and the night-calls, the extra work, and the unnecessary trouble that was made me for three or four days were such as almost to make me wish that the immortal Jenner had never been born.

I know that the child is of a general neurotic temperament; she was of a constipated habit; she had been exposed to the cold and wet; she had at the time an extremely sore mouth, the result of digestive disturbances. Each of these things and many others are believed to have been causes of special cases of tetany. I have no doubt that some or all of them entered into the etiology of this case, and it is possible that the irritation of the cutaneous surface by vaccination may have likewise been a factor.

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