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CHAPTER II.

TETANY—TETANILLA—TETANUS INTERMITTENS.

THE name tetany (Corvisart) has been given to a neurosis which is characterized by paroxysmal tonic muscular spasms, during which consciousness remains undisturbed. The spasms are often confined to the flexors of the fingers and of the wrist joint, and only rarely attack the muscles of the lower extremities; they are always bilateral. The fingers are drawn together and the hand assumes, to use Trousseau's comparison, the shape which the obstetrician gives it when introducing it into the vagina. With these spasms, which are of great intensity, so that the affected muscles feel tense and hard as boards, are associated slight flexion at the elbow joint and a moderate adduction of the upper arm. Hérard claims that the pressure of the thumb upon the other fingers may be so strong as to lead to pressure gangrene, but this is unquestionably very rare. If the lower extremities are affected the feet assume a position of plantar flexion, and the big toe is drawn under the second or third. Sensory disturbances are usually entirely absent, except that the contracted muscles are painful on pressure and the skin over them is covered with a copious sweat.

These attacks, which vary a good deal in frequency as well as in duration, may be produced by pressure upon the larger nerve trunks or the larger arteries of the upper extremities, as Trousseau found accidentally, by applying a venesection bandage; thus, by pressure upon the median nerve or the brachial artery, a spasm may be produced of exactly the same nature as the spontaneous ones. This is called Trousseau's sign, and is considered to be of great diagnostic importance.

The attacks scarcely ever occur suddenly and unexpectedly. Generally they are preceded by prodromal symptoms, which last for a few minutes and consist in a painful drawing sensation of the hands and arms. Previous to the first attack such

sensations, together with formication, feelings of coldness, etc., may have existed for weeks. The attacks last rarely more than five or ten, usually they are over in one or two minutes, and it is only in very exceptional instances that they go on for several hours. Their frequency also varies, as we have said. Some patients—just as now and then happens in epilepsy—have not more than one all their life, some have several a day, and in others again weeks, months, or years pass between the individual attacks, and the disease may extend over twenty or thirty years. Jaksch (cf. lit.) distinguishes an acute recurrent and a chronic tetany, and thinks that certain forms occur in the course of grave cerebral disorders. In all cases, however, provided there exist no complications—such as joint affections—the outcome is favorable, and in no case can any lasting bad effects upon the organism in general be noticed. In the intervals the patient does not complain of anything and feels in perfect health. Only an objective sign is demonstrable, which betrays that everything is not going on normally—namely, an increase, not only of the electrical, but also of the mechanical excitability of the nerves—a condition to which Erb has called attention. Even a weak current produces a marked effect, and by simply stroking the face with the finger it is possible to elicit lively contractions of the muscles supplied by the facial nerve. Although this sign is not constant, since it has in cases of tetany been looked for in vain, even after the most careful examinations, and although we must not forget that it occurs not in tetany alone, but also in organic diseases of the spinal cord—e. g., in glioma—it remains, nevertheless, very valuable, and must certainly be taken into account in the diagnosis.

The anatomical seat of the disease is still obscure. It has been referred to the most varied parts of the nervous system, to the cerebrum, the cerebellum, the spinal cord, the peripheral nerves, even to the sympathetic, which seems anyhow to be the part of the nervous system which is blamed for affections we can not locate. All these, one after the other, have been suspected of playing a rôle in the pathogenesis of tetany, but proofs have never been brought forward for the correctness of any of these views (cf. also the theories proposed by Schlesinger in the *Neurol. Centralblatt*, 1892, 3).

The least probable theory seems to be the one which assumes the disease to be of a peripheral nature. This can hardly be brought into accord with the fact that the affection has been

known to follow psychical influences, for, just as we have seen to be the case in chorea, and as we shall soon learn for epilepsy, this disease also can be brought about by imitation, and indeed there have been instances recorded where in this manner even small epidemics of tetany appeared in schools (Magnan, *Gaz. de Paris*, 1876, 50, and *Gaz. des hôp.*, 1876, 141). The disease has further been observed in women who are suckling infants, in young mothers and wet nurses; and so frequently has this been the case that Trousseau felt himself justified in terming tetany "la contracture des nourrices." It has also been seen associated with various affections of the stomach especially dilatation. (Loeb, *Deutsches Arch. f. klin. Med.*, 1889, xlv, Heft 1, assumes that in such cases there occurs an absorption of poisonous products which act upon the nervous system.) Quite inexplicable are those cases occurring after extirpation of goitres (N. Weiss, Falkson, v. Eiselsberg, and others) and after infectious diseases, especially scarlet fever and typhoid. All this speaks, however, in favor of the central nature of the disease, as does also the fact that the occupation may have some causative influence, inasmuch as people who have to use their arms, hands, and fingers a great deal—telegraph operators, seamstresses (Mader, Hirt)—are relatively frequently subject to it. According to our opinion, the cortical nature of tetany is as probable as the cortical nature of writer's cramp. In this connection it is to be noted that von Frankl-Hochwart has repeatedly observed psychoses developing in the course of tetany (*Jahrbücher f. Psych.*, 1890, ix, 1, 2).

The great rarity with which the affection occurs makes it practically of little importance. If we add to this that the cases, which we see, run without exception a favorable course, one can understand why but little is to be said of the treatment. If any interference be necessary or desirable we may avail ourselves of the galvanic current, placing the anode over the affected parts and the cathode in some indifferent place. This may be repeated two or three times a week, each time a moderate current being allowed to pass for from three to five minutes. During the attack this procedure is sometimes quite beneficial, whereas upon the course of the disease it has as little influence as the well-known nervines. We have used tepid baths with success, inasmuch as the patients felt very comfortable in them and claimed to be able to notice a diminution in the frequency of the attacks. It is our opinion, however, that

even the baths can be dispensed with, and that it is best not to subject the patient to any therapeutic measures at all.

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Thomsen's Disease.—Under the name of Thomsen's disease an affection has been described which is characterized by "tonic spasms in the muscles during voluntary movements." When any muscle is moved voluntarily, as it contracts, a tonic, painless spasm comes on which either greatly impedes the intended movement or completely frustrates it. If the patient wishes to perform certain motions a sensation of fatigue is felt in the part and a resistance, which he has first to overcome before the intended movement can be executed. Objects which he is holding in his hands he can not let go at once and put down. If he opens his mouth, he can not close it without the aid of his hand (Fig. 148); he can not rise from his chair without assisting himself with his arms (Fig. 149). Running, dancing, gymnastics, the manipulations of the military drill, are absolutely impossible, and any such attempts distress him very much and bring him into the most annoying situations. If the musculature of the tongue is implicated a motor speech disturbance is added. Sensory disorders are not found, and in general the patients are perfectly well if they do not attempt to move. Objectively may be noted, besides the increased excitability to the galvanic current, an unusually strong development of the muscula-

ture and an increased power which seem almost to belie the complaints of the patients that they are embarrassed in their movements.

Heredity stands for a great deal in the disease, which was evident from the first from the description which Thomsen himself gave

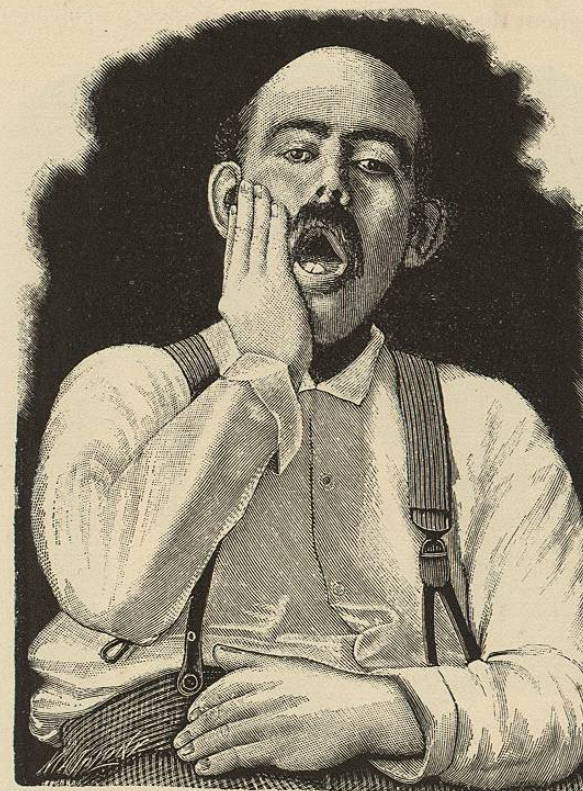


Fig. 148.—THOMSEN'S DISEASE. (After Charles K. Mills, of Philadelphia, International Clinics, April, 1891.)

in 1876. He reported that in his own family in five generations more than twenty persons had suffered from it. Often it is congenital, hence Strümpell has proposed the name myotonia congenita.

The nature of the malady is still a matter of conjecture. The fact that on galvanic stimulation of the muscles the contractures are slow and very prolonged, lasting even as much as thirty seconds—myotonic reaction of Erb—the observation of Erb that on microscopical examination the muscular fibres are seen to be broader, the nuclei multiplied, and the interstitial connective tissue increased, are not points sufficient to warrant a definite decision about the seat of the disease. Still, the possibility that we are actually dealing with

an affection of the muscles is by no means excluded. In favor of this latter view is the case reported by Dejerine and Sottas, in which changes were to be demonstrated only in the muscles (cf. *Deutsche Med.-Ztg.*, 1893, 66, p. 741).

The disease, which interferes greatly with the occupation, is wont to last throughout the entire life. The patients learn to accommodate

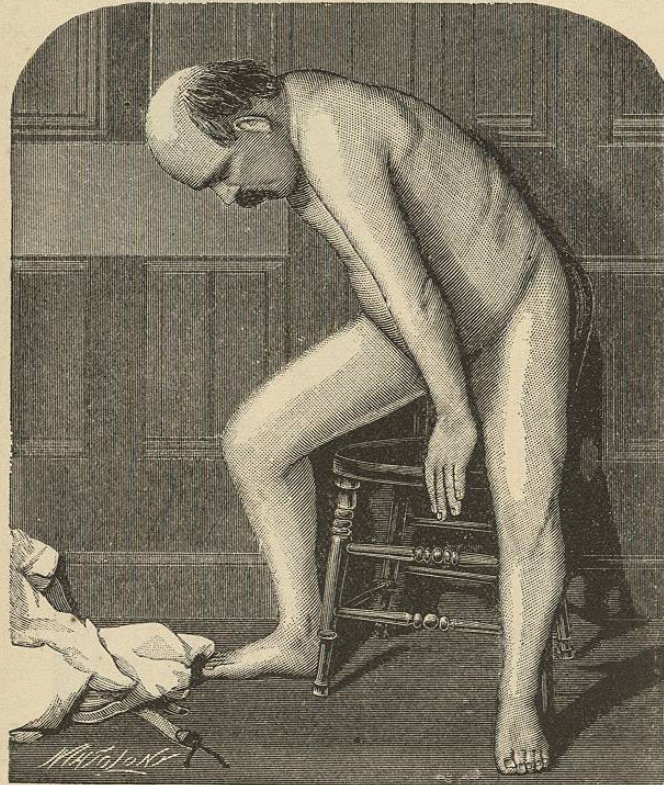


Fig. 149.—THOMSEN'S DISEASE. (After Charles K. Mills.)

themselves to a certain extent to the inconvenience, and by allowing for it are able in a measure to hide their awkwardness. In countries where military service is compulsory any one suffering from myotonia is exempt. No treatment has as yet been promulgated for this rarest of affections.

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