

After the child has recovered from the attack, the parents should be warned that return of the disease is by no means infrequent, and is particularly liable to follow overwork at school or debilitating influences of any kind. These relapses are apt to occur in the spring. Sydenham advised purging in order to prevent the vernal recurrence of the disease.

IV. OTHER AFFECTIONS DESCRIBED AS CHOREA.

(a) **Chorea Major; Pandemic Chorea.**—The common name, St. Vitus's dance, applied to chorea has come to us from the middle ages, when under the influence of religious fervor there were epidemics characterized by great excitement, gesticulations, and dancing. For the relief of these symptoms, when excessive, pilgrimages were made, and, in the Rhenish provinces, particularly to the Chapel of St. Vitus in Zebern. Epidemics of this sort have occurred also during this century, and descriptions of them among the early settlers in Kentucky have been given by Robertson and Yandell. It was unfortunate that Sydenham applied the term chorea to an affection in children totally distinct from this chorea major, which and is in reality an hysterical manifestation under the influence of religious excitement.

(b) **Habit Spasm (Habit Chorea); Convulsive Tic (of the French).**

Two groups of cases may be recognized under the designation of habit spasm—one in which there is simply localized spasmodic movements, and the other in which, in addition to this, there are explosive utterances and psychical symptoms, a condition to which French writers have given the name *tic convulsif*.

(1) **Habit Spasm.**—This is found chiefly in childhood, most frequently in girls from seven to fourteen years of age (Mitchell). In its simplest form there is a sudden, quick contraction of certain of the facial muscles, such as rapid winking or drawing of the mouth to one side, or the neck muscles are involved and there are unilateral movements of the head. The head is given a sudden, quick shake, and at the same time the eyes wink. A not infrequent form is the shrugging of one shoulder. The grimace or movement is repeated at irregular intervals, and is much aggravated by emotion. A short inspiratory sniff is not an uncommon symptom. The cases are found most frequently in children who are "out of sorts," or who have been growing rapidly, or who have inherited a tendency to neurotic disorders. Allied to or associated with this are some of the curious tricks of children. A boy at my clinic was in the habit every few moments of putting the middle finger into the mouth, biting it, and at the same time pressing his nose with the forefinger. Hartley Coleridge is said to have had a somewhat similar trick, only he bit his arm. In all these cases the habits of the child should be examined carefully, the nose and vault of the pharynx thoroughly inspected, and the eyes accurately

tested. As a rule the condition is transient, and after persisting for a few months or longer gradually disappears. Occasionally a local spasm persists—twitching of the eyelids, or the facial grimace.

(2) ***Tic Convulsif* (Gilles de la Tourette's Disease).**—This remarkable affection, often mistaken for chorea, more frequently for habit spasm, is really a psychosis allied to hysteria, though in certain of its aspects it has the features of monomania. The disease begins, as a rule, in young children, occurring as early as the sixth year, though it may develop after puberty. There is usually a markedly neurotic family history. The special features of the complaint are:

(a) Involuntary muscular movements, usually affecting the facial or brachial muscles, but in aggravated cases all the muscles of the body may be involved and the movements may be extremely irregular and violent.

(b) Explosive utterances, which may resemble a bark or an inarticulate cry. A word heard may be mimicked at once and repeated over and over again, usually with the involuntary movements. To this the term *echolalia* has been applied. A much more distressing disturbance in these cases is *coprolalia*, or the use of bad language. A child of eight or ten may shock its mother and friends by constantly using the word *damn* when making the involuntary movements, or by uttering all sorts of obscene words. Occasionally actions are mimicked—*echokinesis*.

(c) Associated with some of these cases are curious mental disturbances; the patient becomes the subject of a form of obsession or a fixed idea. I was consulted recently about a young girl in whom the spasms were very slight, amounting only to twitching of the eyes and slight jerking of the shoulder, but who had a most pronounced grade of the fixed idea known as *arithmomania*. Almost every action, even the most trifling, was preceded by the counting of a certain number of figures. Before she went to bed she had to tap her heel upon the side of the bedstead a certain number of times; before drinking the tumbler had to be rotated eight or ten times, and then when set down again the same act was repeated. Before opening the door a certain number of knocks had to be given. The greatest difficulty was experienced in getting her to brush her hair, as it took her so long to count the necessary number of figures before she began. In other cases the fixed idea takes the form of the impulse to touch objects. According to Guinon, who has written an exhaustive article upon it in the *Dictionnaire Encyclopédique*, the prognosis is bad.

The disease is well marked and readily distinguished from ordinary chorea. The movements have a larger range and are explosive in character. Tourette regards the coprolalia as the most distinctive feature of the disease.

(c) **Saltatoric Spasm (Lata; Myriachit; Jumpers).**—Bamberger has described a disease in which when the patient attempted to stand there were strong contractions in the leg muscles, which caused a jumping or

springing motion. This occurs only when the patient attempts to stand. The affection has occurred in both men and women, more frequently in the former, and the subjects have usually shown marked neurotic tendencies. In many cases the condition has been transitory; in others it has persisted for years. Remarkable affections similar to this in certain points occur as a sort of endemic neurosis. One of the most striking of these occurs among the "jumping Frenchmen" of Maine and Canada. As described by Beard and Thornton, the subjects are liable on any sudden emotion to jump violently and utter a loud cry or sound, and will obey any command or imitate any action without regard to its nature. The condition of echolalia is present in a marked degree. The "jumping" prevails in certain families.

A very similar disease prevails in parts of Russia and in Java, where it is known by the names of myriachit and lata, the chief feature of which is mimicry by the patient of everything he sees or hears.

(d) **Chronic Chorea** (*Huntingdon's Chorea*).—An affection characterized by irregular movements, disturbance of speech, and gradual dementia. It is frequently hereditary. The disease has no connection with Sydenham's chorea, and it is unfortunate that the term was applied to it. It was described by Huntingdon, of Pomeroy, Ohio, at the time a practitioner on Long Island, and he gave in three brief paragraphs the salient points in connection with the disease—namely, the hereditary nature, the association with psychical troubles, and the late onset—between the thirtieth and fortieth years. The disease seems common in this country, and many cases have been reported by Clarence King, Sinkler, and others.* I have seen it in two Maryland families within the past two years. Under the term chronic chorea may be grouped the hereditary form and the cases which come on without family disposition, either at middle life or, more commonly, in the aged—senile chorea. It is doubtful whether the cases in children with chronic choreiform movements, often with mental weakness and spastic condition of the legs, should go into this category.

The hereditary character of the disease is very striking, and it has been traced through four or five generations. Huntingdon's father and grandfather, also physicians, had treated the disease in the family which he described. An identical affection occurs without any hereditary disposition. The age of onset is late, rarely before the thirtieth or the thirty-fifth year.

The symptoms are very characteristic. The irregular movements are usually first seen in the hands, and the patient has slight difficulty in performing delicate manipulations or in writing. When well established the movements are disorderly, irregular, incoördinate rather than choreic, and have not the sharp, brusque motion of Sydenham's chorea. In the face there are slow, involuntary grimaces. In a well-developed case the gait is irregular, swaying, and somewhat like that of a drunken man. The speech

* For complete literature, see Huet, de la Chorée Chronique, Paris, 1889.

is slow and difficult, the syllables are badly pronounced and indistinct, but not definitely staccato. The mental impairment is a gradual enfeeblement, leading finally to dementia. At first the patient may be emotional.

Very few post-mortems have been made. No characteristic lesions have been found. Atrophy of the convolutions, chronic meningo-encephalitis, and vascular changes have usually been present, the conditions which one would expect to find in a chronic dementia. These existed in an autopsy which I have on one of my cases. The affection is evidently a neuro-degenerative disorder, and has no connection with the simple chorea of childhood.

(e) **Rhythmic or Hysterical Chorea**.—This is readily recognized by the rhythmical character of the movements. It may affect the muscles of the abdomen, producing the salaam convulsion, or involve the sterno-mastoid, producing a rhythmical movement of the head, or the psoas, or any group of muscles. In its orderly rhythm it resembles the canine chorea.

V. INFANTILE CONVULSIONS (*Eclampsia*).

Convulsive seizures similar to those of epilepsy are not infrequent in children and in adults. The fit may indeed be identical with epilepsy, from which the condition differs in that when the cause is removed there is no tendency for the fits to recur. Occasionally, however, the convulsions in children continue and develop into true epilepsy.

Etiology.—A convulsion in a child may be due to many causes, all of which lead to an unstable condition of the nerve-centres, permitting of sudden, excessive and temporary nervous discharges. The following are the most important of them:

(1) Debility, resulting usually from gastro-intestinal disturbance. Convulsions frequently supervene toward the close of an attack of enterocolitis and recur, sometimes proving fatal. Morris J. Lewis has shown that the death rate in children from eclampsia rises steadily with that of gastro-intestinal disorders.

(2) Peripheral irritation. Dentition alone is rarely a cause of convulsions, but is often one of several factors in a feeble, unhealthy infant. The greatest mortality from convulsions is during the first six months, before the teeth really cut through the gums. Other irritative causes are the overloading of the stomach with indigestible food. It has been suggested that some of these cases are toxic, owing to the absorption of poisonous ptomaines. Worms, to which convulsions are so frequently attributed, probably have little influence. Among other sources possible are phimositis and otitis.

(3) Rickets. The observation of Sir William Jenner upon the association of rickets and convulsions has been amply confirmed. The spasms may be laryngeal, the so-called child-crowing, which, though convulsive in