complained of a bleeding tumor at the vulva. Examination showed an ulcerated swelling the size of an English walnut situated on the anterior wall of the vagina over the lower course of the urethra. It had no connection with the hysterectomy cicatrix, the upper margin of the tumor being four centimetres distant from it. A free dissection of the growth was made on February 10th, but it was found that the disease had invaded the base of the bladder and the walls of the urethra so that complete removal was impossible. In April there was involvement of the glands in the groins and stoppage of urine and the patient finally died of septicemia July 24th. The pathologist reported that the tumor removed was epithelioma.

A CASE OF TETANY.[1]

BY FRANKLIN WARREN WHITE, M.D., BOSTON.

MY reason for giving this report is the rarity of the disease in the vicinity of Boston, and the occurrence of certain unusual features in this case.

The patient was a boy three and a half years old, born in this country of Italian parents. No family predisposition to tetany, or other neuropathic heredity could be traced. Both parents were healthy, and there were four healthy children, none of whom had ever had an attack. The boy had measles at the age of one year, and had had occasional attacks of acute indigestion in previous years but none in the last year. He was nursed for the first eight months, and since then had an opportunity to eat anything on the family table, but lived mostly on bread, milk and potato. He has always lived amid poor hygienic conditions in the lower quarters of the city, and has been rhachitic since a baby. His first teeth appeared at the age of one year and he was not able to walk till two and a half years old, and has never been able to run about freely owing to hip deformity. He has never had any previous attack of tetany. The present illness developed suddenly with muscular spasm of the lower limbs without any previous pain, tingling, or other premonitory symptoms. The spasm was continuous whether asleep or awake, without any paroxysms. The legs and feet were held stiffly in a strongly extended position, and voluntary motion was almost impossible. The spasm was not apparently painful, but handling or moving the legs showed that they were quite tender. The muscles of the trunk, head and arms were not involved. There was no spasm of the larynx, nor difficulty in swallowing or articulation, and no general convulsions. The child's intelligence was not impaired during the attack. There was no digestive disturbance before or during the illness. The child was fairly developed and well nourished and had good color. He showed marked signs of rhachitis, a large square head, large rosary, enlarged epiphyses at wrists and ankles, a flaring lower chest, prominent belly, and slight kyphosis. There was slight enlargement of the spleen and lymphatic glands.

The muscular spasm was symmetrical in the lower limbs, the knees were strongly extended, and the feet extended in the position of talipes equinus, with the toes flexed. The thighs were strongly adducted, with a tendency to hold the feet crossed. The muscles of the thighs and calves were firm and hard, in a state of tonic spasm, but without fibrillary twitching. There was practically no voluntary motion in the legs and feet. Chvostek's symptom, spasm of the facial muscles following a sharp blow upon the facial nerve, could not be obtained. Trousseau's symptom, the production of characteristic contractures by pressure on large nerves, was easily obtained during and after the attack. There was never any spontaneous spasm in the arms, but pressure on the large nerves of the upper arm during the height of the disease readily produced typical contractures lasting for a minute or two, the fingers were flexed at the metacarpo-phalangeal joints and extended at the other joints and were pressed together, the thumb was adducted and extended, the wrist slightly flexed, and the hand turned toward the ulnar side; the elbow and shoulder were not involved. For several days after the continuous spasm had subsided in the legs, the contractures would recur whenever an attempt was made to walk or stand, and could also be induced by pressure upon nerve trunks in the thigh.

Erb's symptom, increased electrical excitability of the muscles and nerves, was present during and after the attack. The muscles were tested with the faradic current only and their excitability was found very much increased in the arm and leg. This increased excitability persisted for about ten days after all spontaneous spasm had ceased, and five or six days after any contracture could be produced by nerve pressure. I regret to say that I did not have an opportunity to test the muscles with the voltaic current, for the qualitative electrical changes are of considerable interest. The cutaneous reflexes were increased, the knee-jerks were slight at first (owing to persistent muscular contraction), later were very lively and remained increased for three weeks after the attack. Wrist and elbow jerks were not obtained. No vasomotor or trophic disturbances of the skin, such as perspiration, redness, or edema, were noted. The patient's pulse and temperature were normal during the attack, and nothing pathological was found in the urine.

The diagnosis in this case is easy; the peculiar character of the spasm, its commencement in the extremities, its limitation to certain muscle groups and its bilateral symmetry are all typical of tetany. The continuous character of the spasm suggests tetanus, but this is clearly excluded by the absence of any external injury, the absence of trismus and the presence of Trousseau's symptom. The age of the patient, the bilateral character of the spasm and the course of the attack exclude the possibility of hysteria, and there is nothing in this case to remind one of epilepsy, though Sachs cites an instance where frequently repeated epileptiform convulsions simulated tetany closely enough to cause a mistaken diagnosis. Sachs and Gowers describe a simple "carpopedal spasm" with inversion of the thumbs and great toes, which may occur in rhachitic children either alone or preceding a general convulsion, but it is evidently not the condition we are dealing with in this case, from the duration of the contractures and the presence of Erb's and Trousseau's symptoms.

The treatment of this case was as follows: The child was put to bed and kept as quiet as possible, a simple diet given and daily warm baths advised. He also took ten grains of sodium bromide daily for several days. Gowers says that continuous tetany in early

[1] Read before the Clinical Section of the Suffolk District Medical Society, May 17, 1899.

life is less amenable to sedatives than the intermittent tetany of older children and adults. In this patient the continuous spasm, which had lasted for four days when I first saw him, disappeared two days after treatment had begun. For a week longer, any attempt to use the legs in standing or walking provoked a temporary spasm, and the child was therefore kept in bed as much as possible. Trousseau's symptom was present up to this time. Ten days after the end of the attack the child was able to walk as well as he ever could. The lively knee-jerks and increased electrical excitability of nerves and muscles lasted for several weeks after the attack.

I regard rhachitis as the cause, or, at least, the predisposing factor in this attack of tetany, therefore treatment was directed to improving the child's general condition, with the object of preventing further attacks, and a suitable diet, fresh air, cod-liver oil and iron were prescribed.

The parents stated that the child had never been able to walk properly, and in examining the legs after the contractures had entirely passed away a chronic deformity was found. The trochanters were half an inch above Nelaton's line; abduction of the thighs was limited to one-half the normal amount, flexion of the thighs was increased and hyperextension limited, fifteen degrees of inward rotation of the thigh was possible and about eighty degrees of outward rotation. There was marked general anterior bowing of the femur, with slight outward bowing. Extension of the knees was twenty degrees less than normal, due in good part to bowing of the femur above the condyles. The condition is one of "coxa vara," a bone lesion resulting from rickets and not in any way connected with the contractures present during the attack of tetany. The treatment of the "coxa vara" will not be referred to here.

This attack occurred at the time of greatest frequency of tetany, namely, winter or early spring, and in the absence of any acute infectious disease or gastro-intestinal disturbance, we regard the rickets, or the same conditions which produced the rickets, namely, indoor life, unhygienic surroundings, lack of sun and air, as the predisposing factor.

The features of special interest in this case are (1) the limitation of the spontaneous contracture to the feet, which is rare, as the spasm almost always involves the hands, often the hands and feet at the same time; (2) the continuous character of the spasm, which is distinctly less common than the paroxysmal sort; (3) the short duration of the attack and the lack of any recurrence up to the present time, an interval of about two months.

In closing I wish to thank Dr. James S. Stone for his kindness in making a careful examination of the hip deformity.

A CASE OF GASTRIC TETANY.[1]

BY RALPH C. LARRABEE, M.D., BOSTON.

THE patient was a married woman of twenty-six. Her family history was negative. Her habits were good and her past history negative, except that she has always been a hearty and careless eater, and several years ago she had a severe attack of "indigestion." It followed overeating but was not at all like the illness here reported. Otherwise she has always been unusually free from gastric symptoms.

The present attack began in the forenoon of April 30, 1899. The night before she had eaten only a light supper and in the morning was perfectly well. She had for breakfast only oatmeal and milk. Later in the forenoon she ate some maple sugar and a banana. Soon after she had a headache increasing in severity, but she was able to eat a large dinner consisting of the following remarkable assortment: Roast lamb, potato, lettuce, cucumbers (with oil, vinegar, pepper, and salt), rhubarb pie, banana and milk! After dinner she took a Seidlitz powder, and repeated it about an hour later. Headache and nausea soon compelled her to go to bed. There was no vomiting and no pain in the abdomen or elsewhere. Two hours after eating she tried to undress but fainted while doing so. Her husband carried her back to bed and she soon regained consciousness. Then she began to have spasmodic contractions of the arms. The elbows and wrists were strongly flexed. The fingers were extended at the phalangeal joints and flexed at the metacarpo-phalangeal joints. The feet were not affected. There were prickling sensations in the forearms and hands, and severe pain. The cramps were intermittent, and lasted in all about twenty minutes.

I saw her about an hour after the spasms had subsided. She had had in the meantime a large, spontaneous evacuation of the bowels, not containing blood, mucus, or undigested food, and not foul. She was complaining of nausea and very severe headache. She was much exhausted and pale. Her pulse was fairly good and her temperature normal. The chest was normal. The abdomen showed nothing abnormal except slight tenderness in the epigastrium. On making pressure over the brachial artery and its accompanying nerves of the left arm there was a return of the pain and prickling sensations, followed by contractions of the forearm and hand, the position being perfectly characteristic of tetany — Trousseau's sign. After omitting the pressure, pain and spasms rapidly subsided. Chvostek's sign was absent. The patient was not at all hysterical.

The woman was encouraged to vomit, which she soon did. No emetic was given. She got rid of about a quart of greenish material, not containing undigested food or mucus, and having very little odor. Headache was at once relieved. She also received four grains of calomel and twenty grains of potassium bromide.

The patient was up and about within twenty-four hours, and on the third day she resumed her usual occupations and her usual indiscretions of diet. When I next saw her, Trousseau's sign was absent. There was no abdominal tenderness, and no evidence of gastric dilatation, except slight splashing on palpation in the epigastrium.

In nearly all of the reported cases of gastric tetany there has been chronic disease of the stomach, most frequently dilatation or pyloric disease. In many of these the symptoms have followed severe vomiting: in a few they have followed the use of the stomach tube. In the cases of this sort reported by Bouveret and Devic[2] and by Fenwick[3] the mortality has been about 70 per cent. In my case there was no evidence

[1] Read before the Clinical Section of the Suffolk District Medical Society, May 17, 1899.

[2] Revue de Médecine, February, 1892.

[3] The Practitioner, April, 1892