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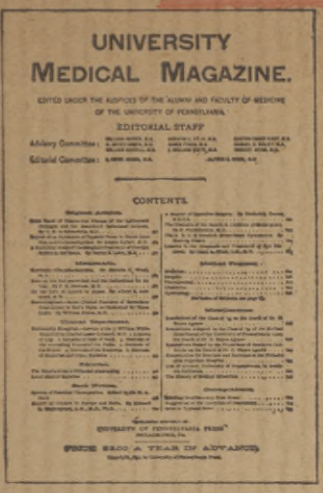

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EDITORIAL STAFF

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By Charles W. Burr, M.D.,

Visiting Physician to St. Joseph's Hospital; Pathologist to the Orthopedic Hospital and Infirmary for Nervous Diseases.

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A. S., single, aged 30 years, came to my service at the Polyclinic in February last, complaining of periodic attacks of paralysis involving all the extremities.

His parents are living and healthy. Nine brothers and sisters died in infancy; two are still alive and healthy. No evidence of parental syphilis can be obtained. The patient never had convulsions, malaria, or indeed any serious illness except the present one. Since 10 years of age he has been subject to attacks of the following character: He is awakened by aching or rather soreness in the muscles of the arms and legs and on attempting to move finds that he is more or less unable to do so, not on account of pain, but from loss of power. The paralysis is never absolute. He can always move the hands and feet a little, though he cannot stand nor feed himself, nor indeed hold anything nor make any complicated movement. Rarely, one or two members are not affected. The cranial nerves always escape, and there is very slight involvement of the neck. There is never any affection of speech, unconsciousness, or loss of control of bladder or rectum. Sensation in all forms is normal. The attacks last from a day to a week, and recur about once in four months, though during the first few years they were much more frequent. Recovery is gradual, that is to say it is a matter of several days, and may begin in any extremity. The patient has no warning of the onset of an attack, no illness, no fever.

When first seen, two days after the beginning of an attack, and while the paralysis was receding, there was left hemiparesis, the face not being involved. The left leg dragged slightly in walking, and it was difficult for him to raise it in going up stairs. In the arm the loss of power was more marked. The member hung limp at the side. He could not put on or take off his coat, feed himself nor put his hand to his head. The grasp was very weak—40—while on the right it was

150. There were no contractures. The knee jerk was absent on the left and not reinforceable. On the right it was slight but distinct. The plantar reflex and biceps jerk were slight on both sides. Station was fair.

The eyes were examined by Dr. Mayo, who reports that the only abnormality is a slight overlapping of the red field by the blue. The pupils are equal, and react well to light and accommodation. The fundus is normal. Examination of the thoracic and abdominal organs reveals no signs of disease. The spleen is not enlarged. The urine is normal. Circumstances prevented an electrical examination. He is a well-built, strong-looking man. He worries much about his condition, and is in constant fear of an attack. Though, as stated above, the onset is always during sleep, yet he at times becomes momentarily weak in the street, never while at home, and feels that he must return to the house lest he lose the power of walking.

The hemiparesis which was present when first seen disappeared after a few days. Some weeks later he had a slight attack involving all the extremities.

On hearing this remarkable history, my first thought was of deception. Careful questioning of the relatives of the patient, however, verified the statement that the affection began in childhood, and it is hardly conceivable that fraud could have been begun so early and have been carried on successfully during so many years. Further, the manner of the man was frank and honest, and his story lacked the dramatic element commonly found in the tales of those anxious to make an impression. I am now convinced, after careful study of the case, that the affection is genuine.

The commonest form of this rare affection, periodic palsy, is that which occurs in persons suffering from malarial poisoning. It is indeed curious that it should be so rare if malarial poisoning be in truth the cause. We owe to Romberg[1] the description of one of the first recognized cases of the affection. A woman, 64 years old, suddenly became paraplegic, with involuntary discharges from the bladder and rectum, but without fever. The following day the palsy disappeared, but returned again on the third and the fifth day. She recovered completely under quinine.

Gibney[2] reports two cases. In the first there were four attacks, affecting the legs always, and once the arms also. Each attack was preceded by fever, and varied in duration from a week to six months. The reaction of degeneration was present in some muscles. Recovery followed the administration of quinine. In the second there were three

[1] Diseases of the Nervous System, Sydenham Society, Vol. II, p. 439.
[2] American Journal of Neurology and Psychiatry, Vol. I, 1882, p. 1.

attacks, each preceded by fever and pain in the legs. The patient died two weeks after the last attack in convulsions. An autopsy could not be obtained. Gibney suggests that the affection may have been due to congestion and edema of the cord analogous to that occurring in the spleen.

Cavaré[1] reports the case of a woman who two days after parturition complained of tingling in the extremities, followed by general paralysis and anesthesia. The tongue was affected so that speech became incomprehensible, and swallowing was difficult. There was slight fever. After three hours the palsy passed away to return again for a few hours the next day and the day after. The administration of quinine was followed by complete and immediate recovery.

Hartwig[2] reports a case occurring in a man five years after an attack of tertian ague. The palsy involved legs, arms and neck, with difficulty in speech, respiration and deglutition. There were no sensory disturbances. Each attack began at night, and was accompanied by pain, but there was always copious sweating. Electric excitability was almost abolished. The attacks were irregularly tertian in type. Quinine ameliorated the condition promptly and for a long time, but when discharged, some six months after the onset, he was still uncured. The attacks could sometimes apparently be prevented by movement.

Suckling[3] speaks of a man who, after a fit of ague, had several attacks of sudden paraplegia, with anesthesia, thick speech, absent plantar and cremasteric reflexes, and normal knee jerk. The electrical reactions were normal. Recovery was complete. The case is complicated by the existence of syphilis.

Though some of the cases just quoted are possibly regarded by the authors as being of malarial origin on insufficient grounds, yet they give a fair view of the symptomatology of malarial intermittent paralysis. They throw no light, however, on the case of A. S. In it there certainly was no malarial element, and we must look further for a possible explanation.

In 1884 Shakovitch[4] reported the case of a man, 44 years old, who was subject to attacks of periodic paralysis, which always commenced in sleep, involved arms and legs, without any sensory disturbance, but with subjective feeling of stiffness. The attacks lasted three to twelve hours, and came on daily or once in a few months. The reflexes were abolished. Consciousness was not affected. The patient's father suffered from the same affection, and "died from an increase in the frequency of the attacks."

[1] Gazette des Hopitaux, 1853.
[2] Inaugural Dissertation, Halle, 1874.
[3] Brain, 1887–8, Vol. x, p. 474.
[4] London Medical Record, 1884 (quoted from Vratch, No. 32, p. 537.).

Westphal[1] reports the case of a boy who was palsied in all extremities with absolute loss of electrical reactions in the nerves and muscles. Sensation and consciousness were unimpaired. The knee jerk was absent during one attack, and the plantar reflex in all, while the cremasteric and abdominal reflexes were normal. The onset occurred during waking hours. Recovery ensued after several months.

A remarkable series of cases, all occurring in one family, is recorded by Georges Cousot.[2] The mother, and four out of eight children, were affected. We will quote only the case of the oldest boy. The attacks were irregularly quotidian. The palsy involved all the members, but was not absolute. Speech and deglutition were somewhat interfered with. Sensation remained perfect. The attacks lasted eight to ten hours, and usually occurred at night. In the intermissions the electrical reactions were normal, but during the attacks absent. The fields of vision were normal. During the attacks a peculiar oily sweat, a kind of seborrhea, appeared over the body. The temperature was never higher than 99.2° F. Curiously enough, if the patient was at work (copying music) at the time of onset, the arm in use was not affected till he stopped work, or, if he forced himself to walk, the attack might be limited to the arms. The author suggests paralysis of inhibition as an explanation, but admits that this does not clear matters very much.

Goldflam[1] reports a family in which the mother and eleven children were affected. He suggests in explanation an auto-intoxication, the poison acting upon the nerve ending in the muscles. Experimentally, he determined that the toxic properties of the urine was much increased during the attacks.

These cases and Hartwig's are sufficiently alike to be grouped together. They all present the greater number of the important symptoms: periodicity, absence of electrical reaction, absence of anesthesia, decreased or abolished knee jerk, frequent nocturnal onset, and the liability of several members of one family to be affected. The case of A. S. agrees in the main with these, but the impossibility of electrical examination renders the report incomplete.

I can offer no explanation of the causation of this curious affection. To call it hysteria is but to give it a meaningless name. It may in the future be shown to be due, as Goldflam suggests, to an auto-intoxication. The fact, however, that voluntary movement in two of the cases sometimes aborted an attack, points to the possibility of a psychic origin.

[1] Berliner klin. Wochenschr., 1885, Nos. 31 and 32, p. 483.
[2] Revue de Medicine, Vol. VII, 1887, p. 190.