Short Notes and Clinical Cases.

ORGANIC NERVOUS DISEASES SUPERVENING IN THE SUBJECTS OF OLD INFANTILE PARALYSIS OR OLD INFANTILE HEMIPLEGIA.

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IN 1899, at the Clinical Society of London, I showed a boy, aged seventeen years,⁵ whose right lower extremity was completely wasted from infantile paralysis at two years of age. During the last four or five months he had complained of loss of power in the right hand, and he had found that the muscles of the right thumb were wasted. The case was perhaps an example of the supervention of chronic spinal muscular atrophy (Duchenne-Aran) in a subject of long-past infantile paralysis, but I lost sight of the patient after 1902.

By 1899 Charcot, Gowers and many others had drawn attention to the occasional occurrence of chronic anterior poliomyelitis in persons who had suffered from acute anterior poliomyelitis during childhood. In some but not in all cases the chronic wasting had been observed to start in limbs already damaged by the acute infantile disease.

In 1906, at the Clinical Society, Sir A. E. Garrod¹ showed a girl, aged eleven years, possibly an example (according to Dr. Farquhar Buzzard, in the discussion) of myopathy grafted on the infantile hemiplegia from which the patient had suffered at the age of one year. Dr. Leonard Williams had (October 22, 1903), at the Neurological Society, shown a woman, aged thirty-nine years, with infantile (congenital?) right hemiplegia and recent signs resembling paralysis agitans on the left side. In one or two cases symptoms supposed to resemble progressive primary myopathy have been observed to develop after infantile paralysis, but I do not know if these symptoms have been proved to be not due to chronic anterior poliomyelitis.

At the Paris 'Société de Neurologie,' on February 29, 1912, J. Lhermitte and Kindberg described the remarkable case of a female patient, the subject of passed infantile paralysis, who developed perforating ulcers, sacral bedsores and urinary troubles. At the necropsy, in addition to the lesions of poliomyelitis, there was hemi-atrophy of the spinal cord.

Amongst the earlier writers who referred to cases of nervous disease supervening in the subjects of passed infantile paralysis were Charcot, Ballet, Raymond, Dutil, Laehr, Langer, Strümpell and W. Hirsch. The supervening disease in most cases recorded by those writers was diagnosed as progressive muscular atrophy, mostly of the Duchenne-Aran type. The later disease did not always show itself first in the parts affected by the infantile paralysis. M. Laehr⁴ described the case of a tailor, aged forty-seven years, who as a result of infantile paralysis in early childhood was the subject of permanent atrophic paralysis of the right lower extremity and paresis of the left lower extremity. Later on atrophy of the small muscles of the right hand gradually developed, perhaps due to a process of chronic anterior poliomyelitis, though the patient had urinary symptoms (which, however, may have been due to prostatic enlargement).

W. Hirsch³ described (after an elaborate post-mortem examination) the case of a tailor, who at two years had had an attack of infantile paralysis, from which partial atrophy of the left upper extremity remained. At forty-two years of age progressive muscular atrophy—apparently amyotrophic lateral sclerosis—developed, terminating in the patient's death, with bulbar paralysis, at the age of forty-five years.

I will now refer to two cases which I have myself observed during recent years. The first of these two patients was a girl, D. C., admitted to hospital on September 8, 1919. She had an atrophic condition of the whole right lower extremity, together with paralytic talipes equinus on both sides, the result of an attack of infantile paralysis at the age of one and a half years. About a week before admission (at the age of fifteen years) she suddenly developed paralytic drop-wrist on the right side, and on admission there was already considerable wasting of the intrinsic muscles of the right hand. During a night, the second night after admission, she developed paralytic drop-wrist on the left side, and this was followed by wasting of the intrinsic muscles of the left hand. There was no fever or feeling of illness connected with the onset of the drop-wrist on either side. Later on, under treatment by electricity and massage, great improvement in the use of the hands took place, and the atrophy in the hand-muscles diminished. On October 28, 1919, her upper extremities had apparently recovered, and she could dress herself and use her hands like other persons. Whether the drop-wrists were due to an attack of anterior poliomyelitis or peripheral neuritis I am not quite sure.

The second case is that of a young Jewish man, aged nineteen years, born in England, admitted to hospital on January 29, 1923. In the examination of his present condition I had the great assistance of my present house-physician, Dr. G. Welsch. As a result of infantile paralysis at one and a third years of age he has a wasted right lower

extremity, but his present complaint commenced, according to his account, in December, 1917, when he suffered from a curious 'numbness' of the right side of the body, lasting fourteen days. He had a similar temporary attack on the left side in December, 1918, and in December, 1919, he had another temporary attack of the same nature on the right side. In June, 1920, he had 'numbness' all over his body and was moved about in a bath-chair at the seaside. He now has signs of disseminated sclerosis, which was first diagnosed in 1922, at another hospital, by Dr. C. Worster-Drought. He has a spastic ataxic gait, and shows slight ataxy and intention-tremor when he touches his nose with his finger. In his left (not wasted) lower extremity the knee-jerk is exaggerated, the plantar reflex is of the extensor type (Babinski's sign), and there is ankle clonus. Abdominal reflexes can still be obtained. Slight nystagmus is present, and ophthalmoscopic examination (Dr. R. Gruber) shows partial non-inflammatory, optic nerve atrophy on the right, but not the left side. By the kindness of Dr. Worster-Drought I hear that a course of treatment in 1922 by intravenous injections of 'novarsenobillon' did not lead to any improvement in the symptoms. The cerebrospinal fluid in March, 1922, was found to give a negative Wassermann reaction and a faintly positive globulin (Nonne-Appelt) reaction.

Sir William Gowers twice saw the symptoms of lateral sclerosis slowly developed in subjects of long-passed infantile paralysis. In one case the patient was seventeen years old, in the other twenty-eight. I have heard even of symptoms of syringomyelia developing in a person with old infantile paralysis. Gowers wrote²: "In the spinal cord of the subject of old infantile paralysis there seems thus to persist some disposition, slight though it be, to fresh disease, and the cases of lateral sclerosis mentioned show that the liability to disease is not limited, as has been thought, to the grey matter."

The variety of the symptoms (as judged from the preceding notes) that may supervene in the subjects of old infantile paralysis and old infantile hemiplegia certainly suggests that in some cases a special liability to disease exists (rather than persists) in the grey and the white matter of the spinal cord. But whether this liability to disease in any cases extends also to the motor nerves or their continuations—the muscles themselves—future observations must show.

REFERENCES.

- ¹ GARROD, *Trans. Clin. Soc. Lond.*, 1906, xxxix, 254.
- ² GOWERS and TAYLOR, *Diseases of the Nervous System*, third edition, 1899, i, 409.
- ³ HIRSCH, W. "On the Relations of Infantile Spinal Paralysis to Spinal Diseases of Later Life," *Journ. Nerv. Ment. Dis.*, 1899, xxvi, 269.
- ⁴ LAEHR, *Charité-Annalen*, 1894, xix, 730.
- ⁵ WEBER, F. PARKES, *Trans. Clin. Soc. Lond.*, 1899, xxxii, 228.