A CASE OF ACUTE ENCEPHALITIS

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(WITH A NOTE BY J. LOWE, M.D.)

THE patient, a young European male, arrived in Bombay in May 1943 from Egypt. During the last few days on board the ship he had felt unwell and on the day of arrival in Bombay he felt feverish and suffered severe pains in the head, body and limbs. In spite of considerable disability he took the train to Calcutta on the same day. He noticed difficulty in instability 'as though I was drunk' on standing on the train. He first attributed this to the motion of the train, but later he realized that it was caused by his illness. Of the later phases of the journey from Bombay to Calcutta he remembers little. He noticed that his vision was double for a day and that his hands were shaky and clumsy. He found it difficult to manage food. He slept little at night. On his arrival in Calcutta he was carried from the train and was put to bed where I was called to see him on the next day.

He still had some fever and was suffering from severe hiccup which made it very difficult for him to eat or drink. Examination revealed the following findings. Signs were confined to the nervous system. There was drooping of the right corner of the mouth; the right side of the tongue was flat and the tongue deviated to the right. The pupils were moderate in size but the right one was not completely circular; the reaction to light was present but slow, and convergence and accommodation were not perfect. Speech was very slow and indistinct, apparently due to the muscular affection of the tongue.

The third, fourth, sixth and seventh cranial nerves showed no abnormality.

All reflexes in the body were present and equal on both sides. There were no pyramidal symptoms. The muscular power of the left arm and leg was definitely reduced compared with that of the right side.

The patient answered questions but with obvious difficulty—difficulty in concentration and difficulty in speech. The superficial sensation and deep sensation were normal.

Micturition was normal; there was constipation. Examination of the thorax and abdomen revealed nothing.

The patient was unable to rise from the bed. There was much weakness and some inco-ordination.

(*Continued from previous page*)

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On the next day, examination of red and white cell counts, etc., showed nothing abnormal and examination of the fundus of the eyes also revealed no abnormality.

The patient was admitted into a hospital, and I did not see him again till his discharge eight days later. Unfortunately no examination of the cerebro-spinal fluid was made while he was in hospital. The fever had gone and he felt better; the speech was improved, the tongue was level but with a little deviation to the right. The hiccup had disappeared and also the drooping of the mouth. The patient was still weak but movements were carried out with a little difficulty. All reflexes were present and normal. Attempts to walk, however, were made with great difficulty and the gait was definitely staggering, though Romberg's sign was not definitely present.

The patient's mental condition was clear but there was a certain dullness and morosity which, his friends said, was very different from his normal friendly cheerful disposition. He still slept little at night and was drowsy in the day. Muscular power on the left side was still less than on the right.

At this stage I decided that this was a mild case of encephalitis and this diagnosis was later accepted by other physicians who examined the patient.

A few days later the patient went away to the hills and I saw him again six weeks later. The improvement was marked and his behaviour appeared almost normal. He walked fairly well but with a slight tendency to staggering. (His companion in the hills stated that his muscular control in walking up and down hills was still rather defective.) His movements were quite brisk and definite.

The pupils were of equal size, the right was not completely round. They reacted to accommodation but only slowly to light.

There was some wasting of the left forearm which measured $\frac{3}{4}$ inch less than the right. It is doubtful if this difference can be explained by the greater use of the right arm. The tendon reflexes on the left side appeared slightly brisker than on the right. There were no other changes detectable anywhere.

Later the patient left Calcutta for England where he is now under the observation of a neurologist as a convalescent case of acute encephalitis.

Discussion

The diagnosis of acute encephalitis was made in this case on the basis of my previous experience of the disease in Europe and on my knowledge of the literature of the subject. The hiccup is a very characteristic sign, as also are the inversion of sleep (restlessness at night and drowsiness during the day), the ocular symptoms, the onset, the course and the fleeting nature of some of the nervous symptoms. The absence of meningeal bulbar and spinal symptoms also points to acute encephalitis. Severe rheumatic

pains (as observed in our case) are seen in many varied conditions, but seen in connection with paralytic or paretic signs, and followed by trophic changes in certain muscle groups, they may be of diagnostic value in the absence of any other explanation.

Since it appears doubtful if any such cases have previously been recorded in India, I am publishing this note on this case.

Note by J. Lowe, M.D.

The case described above was seen by me and the diagnosis was accepted. My experience of this condition is very limited, a few cases having been seen by me in England, twenty years ago. I propose here merely to discuss some broad outlines of the disease and its possible occurrence in India.

The disease is considered to be a virus infection of the central nervous system, although nothing precise is known of its causative organism. Twenty years ago there was an epidemic of this disease in Europe but for the last ten years in Europe it has been rare, although the annual recorded deaths attributed to this cause in England and Wales have been persistently over 600. The accuracy of the diagnosis of some of these cases is open to question.

All authorities, however, agree that post-encephalitic Parkinsonism (so called because of its resemblance to paralysis agitans or Parkinson's disease) has been frequent in Europe including Great Britain up to the present time; this fact indicates that the disease is still present. Authorities also agree that many cases of acute encephalitis are exceedingly mild, but also that the mild cases are almost if not quite as frequently followed by the development of Parkinsonism as are the severe cases. A patient not infrequently suffers from a mild febrile attack with possibly some vague nervous symptoms, and it is only later when Parkinsonism develops that the true nature of this febrile attack is realized. Authorities such as Walshe state that Parkinsonism occurs in something like 50 per cent of cases, even mild ones.

The severity and the clinical course of the illness varies in the widest possible manner; some cases may be very mild such as the one described above, and the patient may be ambulant. At the other extreme we have a very severe febrile illness lasting only a short time, with symptoms indicating marked nervous involvement. Some cases may show violent delirium and involuntary movements, either like chorea or of the 'myoclonic' type causing jerking or twitching.

The development of Parkinsonism is described by Walshe as follows :—

'Either during the phase of convalescence, or two or three years later, the slow development of the Parkinsonian syndrome occurs in over 50 per cent of cases. Gradually and very insidiously an extra-pyramidal type of muscular rigidity invades the musculature, producing the Parkinsonian mask, the slow and restricted movements, and occasionally the tremor of paralysis agitans. This state may at first be confined to a single limb, spreading later to the others and becoming generalized. It runs a progressive course and finally, after a variable period of years, disables the sufferer, who becomes emaciated and finally succumbs. In a very few cases it undergoes arrest at some stage short of grave disability.

The early stage of this condition is commonly undiagnosed, for the syndrome is made up of such slight deviations from the normal that, unless the general inspection of the patient as he moves and performs his natural actions reveals the typical slowness and limitation of range of movement, routine examination may fail to detect the disorder. Perhaps the earliest symptom is a failure of an affected arm to swing as the patient walks. If it be the right arm that is affected, the handwriting becomes slow and laboured, and the script progressively smaller as the months go by. The gait becomes slow and gliding in character, the figure slightly bowed and the face fixed. Close examination will reveal a fine flutter of the closed eyelids, a defect of convergence, a "cogwheel" rigidity of the limb musculature, or less commonly a visible tremor. The patient salivates freely by night, if not also by day.

In the initial phase, the patient's complaints are apt to seem out of proportion to anything that examination reveals, and many of the sufferers labour for many months or even longer under a diagnosis of "neurasthenia". If the condition develops unilaterally, a progressive hemiplegia may be diagnosed and an intracranial neoplasm suspected. Yet despite all this, once the syndrome has been seen and duly noted, it should never fail to be recognized.

One other common, though not invariable, feature of post-encephalitic Parkinsonism may be mentioned. It goes by the name of *oculogyric crisis*, and consists of a forced upward deviation of the eyes, with head retraction, lasting for from thirty minutes to an hour and causing some distress.

In children another post-encephalitic sequel is mental and moral deterioration, leading to refractoriness and sometimes to delinquency.'

The question arises as to whether this disease has been found and is found now in India. The present case must be regarded as imported. I have never seen a case in India, but various professional colleagues have given information indicating that such cases do occur. Dr. R. N. Chaudhuri states that he has during the last few years seen several cases of typical Parkinsonism occurring after an illness of doubtful nature. A few months ago he saw a typical case of oculo-gyric crisis. Colonel G. Taylor, Consultant Physician, Eastern Army, and late Professor of Medicine, Medical College, Lahore, states that he saw some cases before the war in the Mayo Hospital, Lahore, and that it was often confused with other cerebral conditions, but the diagnosis was confirmed (in some cases) by the subsequent development of Parkinsonism. In the out-patient department at Lahore, cases of Parkinsonism were seen. One or two other hospital reports indicated the occurrence of an occasional case of acute encephalitis.

There is therefore considerable evidence that cases of acute encephalitis do occur from time to time in India and it is not impossible that this war, as did the last, may bring an epidemic of this condition. It is therefore felt that the publication of this case and discussion may be of interest.