

NOTE ON THE EARLY DIAGNOSIS OF ACUTE POLIOMYELITIS.*

We are informed by the Ministry of Health that the attention of the Minister of Health has been directed to the lack of facilities in London for dealing adequately with the after effects of poliomyelitis in children, and to the permanent crippling and physical deformity caused by this disease which is apt to be unnecessarily severe and disabling in consequence of the lack of skilled and prolonged treatment, particularly during the later stages of the illness.

The London County Council is organising arrangements under which hospital accommodation will be available for children in the later and chronic stages of poliomyelitis. It is essential to the success of the scheme that cases should be recognised and brought to the notice of the Borough Medical Officer of Health at as early a stage as possible, and it is hoped that this Note will conduce to this end.

1. Features of the disease and its Notification.

Acute Poliomyelitis is an infectious disease which attacks the central nervous system and may give rise to paralysis. In this respect it is comparable with cerebro-spinal meningitis and encephalitis lethargica.

The disease has long been known, under the name of "Infantile paralysis," as a form of paralysis of which sporadic cases occur, chiefly in children and less frequently in adults. In recent years it has occurred in epidemic form in America, Australia, and in some parts of Europe. The New York epidemic of 1916 was on a scale of considerable magnitude. A number of local outbreaks have occurred in this country.

Polio-encephalitis and Poliomyelitis were made compulsorily notifiable in London as from March 13th, 1912.

2. Pathology.

The virus of the disease is so minute that it passes through the finest filter. It attacks the nervous system causing inflammation of the grey matter of the spinal cord, especially of its anterior cornua.

In some cases the brain may be primarily or secondarily affected (polio-encephalo-myelitis). The meninges also may be implicated in the morbid process.

3. Epidemiology.

Poliomyelitis is most prevalent in the summer. It appears to have no special relationship to social or sanitary conditions and often occurs in sparsely-populated districts. Clinical evidence points to an incubation period in the disease of four or five days, though shorter and much longer incubation periods are recorded.

The disease presents an erratic character as regards infectivity; this in part may be due to failure to recognise the mild and abortive cases. In some instances the disease has developed after contact of short duration with a patient suffering from poliomyelitis, and multiple attacks in households are not uncommon. In other instances children have been known to sleep in the same bed with a patient and to escape infection.

The fatality of poliomyelitis varies within wide limits. Commonly 10 to 12 per cent. of the attacks prove fatal, but much depends on the proportion of mild or so-called abortive cases which are recognised.

It is important to isolate all patients suffering from poliomyelitis in the acute stage, whether the manifestation of illness be slight or severe. Prompt action in this respect largely minimises the risk of spread of an epidemic.

4. Symptomatology.

The early manifestations of poliomyelitis give rise to considerable difficulty in diagnosis at a stage of the disease, namely, before paralysis supervenes, when its identification is of extreme importance.

*H.M. Stationery Office, Adastral House, Kingsway, London (price 1d.).

Usually an initial febrile attack occurs, the temperature seldom rising above 102°-103° Fahr. This febrile period is of comparatively short duration, lasting for about 2-5 days and rarely longer than 10 days. A curious hump in the temperature curve, "the Dromedary Temperature" of Draper, may be observed in some cases. Recrudescence of the fever usually indicates further progress of the disease and paralysis.

Commonly there is malaise and drowsiness, sometimes intensified as stupor, accompanied by headaches and occasionally by vomiting; there is often nasal and pharyngeal catarrh or gastro-intestinal disturbance associated with loss of appetite, sickness, constipation or diarrhoea.

Profuse sweating is common; there is no characteristic skin eruption, but eruptions such as herpes zoster, herpes labialis and erythema are sometimes recorded.

The patient is irritable and restless as a rule, especially when roused from somnolence; he may be mentally confused or delirious. Twitchings and tremors are generally observed even in mild cases. Rigidity of the muscles of the neck and spine frequently occurs and the head may be retracted, there may be pain and tenderness of the skin, over the spine and on pressure of muscles and nerves. Retention of urine is common. Convulsions are sometimes met with in young children.

Generally, if the patient is carefully watched, an irritative stage (usually indicated by transient nystagmus, twitchings and paresis of limbs or of groups of muscles) can be recognised prior to the paralytic stage. At this time the knee jerk may be exaggerated. Definite paralysis, usually of the flaccid type, may follow primary symptoms; it affects one or more groups of muscles, especially of the limbs, but may involve any part of the muscular system. The reflexes are now commonly absent.

5. Diagnosis.

In some cases the sudden onset of paralysis is apparent, but in the majority the serious nature of the illness at the outset may be obscure. On the other hand the implication of the medulla, brain, meninges or special nerves may give rise to additional symptoms, causing possible confusion; thus in bulbar paralysis speech disturbances are noted. In these anomalous cases confusion in the differential diagnosis between poliomyelitis and encephalitis lethargica or cerebro-spinal meningitis is apt to occur; the latter error is more frequent when the meninges are affected. The meningeal type may also be confused with tuberculous meningitis or septic meningitis. In such cases, the previous medical history of the patient and the presence of other similar cases in the vicinity, together with examination of the cerebro-spinal fluid, may aid the diagnosis.

The symptoms of poliomyelitis before the onset of paralysis have frequently been attributed to influenza. Cases at this stage have also been diagnosed as sunstroke, enteric fever, food poisoning, rheumatic fever and a number of other diseases.

In the mild or abortive cases of poliomyelitis in which no paralysis supervenes the symptoms are similar to those ushering in the graver forms. They are often associated with general or localised muscular weakness or gastro-intestinal disturbance. Such symptoms, if they occur in patients having association with paralytic cases, should arouse suspicion.

6. Fatality and after-effects.

Death in the acute stage of the illness is usually due to bronchitis or broncho-pneumonia, which supervenes through affection of the respiratory centres.

Those who recover are liable to permanent paralysis of particular groups of muscles, and it has been asserted that over half the patients who survive an attack of acute poliomyelitis remain crippled to a greater or less extent.

[previous page](#)

[next page](#)