Clinical Features of Polio

During the acute polio epidemics in the early 20th century, the following categories were often used to classify the extent and seriousness of the disease.[12]

Sub-Clinical Polio

The patient is unaware of infection and gains active (sometime lifelong) immunity to further infection from the strain. Many people obtained immunity this way before the development of vaccines. Sub-clinical polio usually occurred in infants and very young children.

Abortive Polio

Abortive polio is often characterised by acute respiratory infection or gastroenteritis, but is generally not dangerous. The infection is cut short by the host's defences before it can enter the central nervous system. Symptoms may include fever, headache, vomiting, diarrhoea, constipation and sore throat.

Non-Paralytic Polio

The vast majority of infected individuals remain asymptomatic or experience a self-limited illness. In non-paralytic polio, symptoms generally tend to subside after one to three days.

Symptoms may include headache, neck, back, abdominal and extremity pain, fever, vomiting, lethargy and irritability. Muscle spasm is present in the extensors of the neck and back, usually present in the hamstring muscles, and of variable presence in other muscles throughout the body. Resistance to flexion of the neck is noted after a varying range of free flexion. The patient assumes the “tripod” position on sitting up, usually by rolling to avoid flexing the back. Straight leg raising is less than 90 degrees. Spasm may be observed when the patient is at rest or may be elicited by putting each muscle through the maximum range of motion. The muscles may be tender to palpation.

Paralytic Polio

Some individuals proceed to develop more severe symptoms. If the virus crosses the blood-brain barrier, it attacks nerve cells in the brain, brainstem and spinal cord. Paralysis may occur at any time during the febrile period.

In addition to the symptoms of non-paralytic polio, tremors and muscle weakness appear. Paresthesias (due to involvement of ganglionic neurons) and urinary retention are noted occasionally. Constipation and abdominal distention (ileus) may also occur.

Clinically, paralytic polio may be divided into two forms that may coexist:

1. Spinal Polio

This condition is characterised by flaccid paralysis of muscles innervated by the motor neurons of the spinal cord and is the most common type of paralytic polio. Unless paralysis is complete, paralysis is assymetrical. Lower limbs are more commonly affected than the upper limbs and trunk.[13]

2. Bulbar Polio

This condition involves damage of neurons in the reticular formation and the nuclei of cranial nerves in the brainstem, which may lead to dysphagia, dysphonia, facial weakness, nasal voice, regurgitation of fluids through the nose, weakness of the sternocleidomastoid and trapezius muscles, difficulty in chewing, inability to swallow or expel saliva and respiratory tract secretions. The most life threatening aspect of bulbar polio is respiratory involvement due to pontile (central) involvement. Autonomic dysfunction may occur producing cardiac arrhythmia, blood pressure instability and impaired bladder and bowel function.[3]