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Assignment	General Science
Topic	Poliomyelitis
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• Polio myelitis:

⇒ Definition:

The term *poliomyelitis* derives from Greek words referring to inflammation (itis) of the gray (polios) matter of the spinal cord (myelos). It is infectious viral disease that sometimes results in paralysis. The infection chiefly affects children and young adults.

⇒ Causes:

Poliomyelitis is caused by any one of three related viruses called *polioviruses*. There are three types of poliovirus which have been identified.

- Type 1 (also known as Brunhilde)
- Type 2 (Lansing)
- Type 3 (Leon)

⇒ Type 1 is the most common form and the one most closely associated with polio's more severe, paralytic progression.

⇒ Poliovirus typically enters the body through the mouth and multiplies in the tonsils and lymph nodes of the upper respiratory tract. Infection proceeds from the mouth into the gastrointestinal tract through the stomach to the intestines. The virus multiplies in the intestines and is shed from the body in feces, often resulting in further infections.

⇒ Large quantities of poliovirus multiply in intestinal tissue, where cells of the body's lymphatic system are concentrated. Passage of the viruses into the body's lymphatic system stimulates the production of antibodies. These specialized immune system defenders, in time, will destroy the viral intruder. From the lymphatic system, the virus typically invades the bloodstream.

⇒ **Symptoms:**

- Some infections result in **abortive poliomyelitis**, a mild form of the disease characterized by fever, headache, sore throat, fatigue, nausea, and vomiting. This short-lived form of the illness lasts only from hours to a few days. In more than **95%** of cases, the disease gets no worse.
- Some poliovirus infections of nerve cells, or neurons, result in **nonparalytic poliomyelitis**. In addition to the fever and other symptoms seen in abortive poliomyelitis, nonparalytic poliomyelitis causes pain and stiffness in the neck and back. This infection typically produces aseptic meningitis.
- In perhaps 1 or 2 percent of cases a more disabling form of the disease occurs, called **paralytic poliomyelitis**. In this form viral infection of neurons in the spinal cord may cause temporary damage to these cells or permanent destruction. The muscles activated by the involved neurons become painful, and muscular weakness in the arms and legs may develop, sometimes followed by paralysis.
- In the most serious cases of polio infection the virus attacks the brain, causing **bulbar**

poliomyelitis. Various nerves in the head and face, including those that send signals to the ears, eyes, and the muscles controlling chewing and swallowing, may be affected. Sometimes the virus affects the part of the brain that controls breathing and heart beat, resulting in death.

⇒ **Treatment:-**

As yet there is no cure for polio - no drug or other medical treatment can halt the destruction of poliovirus in the body. However, several medical treatments can lessen the severity of the disease. Mild cases of polio do not require specific treatment. For the more serious cases of paralytic polio, keeping patients still and quiet can, in some cases, minimize the severity of paralysis. Simple treatments, including moist heat applied to affected muscles, can ease pain. Physical therapy can be used to treat Polio. Sabin oral vaccine should be used to prevent this disease.

⇒ Preventive Measures:

- While there's no cure for polio, preventive care options - particularly vaccination provide protection against virus. It's recommended that children receive polio vaccines as part of routine immunizations. Adults can be vaccinated against polio, too.
- Outside of vaccination, it's essential to practice good handwashing, hygiene habits and proper sanitation and have access to fresh, clean water.

According to WHO:

Cases due to wild poliovirus have decreased by over 99% since 1988, from an estimated 350000 cases in more than 125 endemic countries, to just two endemic countries (as of October 2023).

The End