# Generalized Fatigue: Why Post-Polio Syndrome Should Be Included as A Differential Diagnosis

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Dear Editor, Post-Polio Syndrome (PPS) is a neurological condition that manifests in the form of non-specific symptoms such as fatigue, sleep dysfunction, muscle and bone pains, at least 15 years after the initial infection with polio virus. Multiple mechanisms have been suggested to describe the pathogenesis of PPS, with some studies attributing it to accommodative changes in the muscle fibres, with replacement of type II fibres by type I fibres and muscle hypertrophy. It has also been postulated that the virus may persist unknowingly or be reactivated. Additionally, inflammatory and autoimmune causes have also been hypothesized.[1]

Among the symptoms, fatigue, muscle weakness with atrophy and motor dysfunction are the most common ones to be reported in PPS, associated with significant morbidity in patients. [2]

Owing to the non-availability of diagnostic tests for this condition, PPS remains a diagnosis of exclusion with factors such as a confirmation of previous polio infection and subsequent resolution characterized by neurologic stability for more than 15 years, abrupt onset of neurologic symptoms with persistence for one year, and exclusion of other possible attributable medical conditions established as essential parts of its diagnostic criteria. [3]

The management of the condition is mainly based on physical therapy, and previous researches based on the use of drugs such as pyridostigmine, steroids, and IV immunoglobulins have shown limited efficacy in the improvement of the prognosis and condition of PPS patients.[2]

As of today, Pakistan remains among the three countries where the transmission of polio virus is prevalent, with the majority of outcomes in the past twenty years attributed to areas in the northern transmission zone bordering eastern Afghanistan, such as Khyber Pakhtunkhwa and Federally Administered Tribal Areas, and those in the southern transmission zone including southern Punjab, northern Sindh and Karachi.[4] According to the Pakistan Polio Eradication Programme, 354 cases of polio virus have been reported in Pakistan from 2015-2024, with the highest number of infections occurring in Khyber Pakhtunkhwa. This is in contrast to the 20,000 cases reported in the early 1990s prior to immunization efforts.[5] Statistically, 15-20 million people across the globe still suffer from the sequelae of infection with the virus.[1] Additionally, it has been postulated that about 25 to 40 percent of such survivors of poliomyelitis will experience PPS at some point in their lifetime. The clinical entity, at the time of occurrence, is difficult to distinguish from Motor Neuron Disease (MND) such as Amyotrophic Lateral Sclerosis.[2] However, it must be noted that PPS lacks the linear pattern of appearance of symptoms that is usually associated with MND.[2]

Taking the aforementioned factors into consideration, it is paramount to include PPS as a differential diagnosis when encountering a patient with unexplained fatigue, pain or other nonspecific symptoms described above, so as to provide and ensure a better level of patient care and treatment. Additionally, emphasis on vaccination with the inactive form of the virus must be imparted in order to prevent the primary infection with its impending sequelae.

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