

Post-Polio Syndrome

Mains: *GS II - Health*

Why in News?

Recently, it is found that survivors of polio may develop an insidious condition known as Post-Polio Syndrome (PPS).

What is post-polio syndrome?

- **Post-polio syndrome (PPS)** It is a condition that affects people who have had polio, causing new or worsening muscle weakness, fatigue, and muscle/joint pain many years after the initial infection.
- It develops <u>10 to 40 years after the initial illness</u> and is a progressive disorder caused by the deterioration of motor neurons.
- **Symptoms** The symptoms include
 - Muscle weakness and atrophy New or increasing weakness and a decrease in muscle size.
 - **Fatigue** Extreme tiredness that can be either general or muscular.
 - **Pain -** Aching pain in muscles and joints, often in areas affected by the original polio.
 - Other symptoms Sleep disturbances, breathing difficulties (in more severe cases), joint and skeletal deformities.

Causes

- The exact cause is not fully understood, but a leading theory suggests that the nerve cells that survived the initial polio infection become overworked over time.
- These surviving nerve cells may have to "compensate" for the ones that were destroyed by the polio virus.
- After many years of this extra work, these nerve cells may begin to fail, leading to the new symptoms.
- **Global concern** PPS is a growing concern around the world.
- Since the severe polio epidemics of the 1940-60s led to millions of people surviving polio, many of these people are now older adults experiencing PPS.
- From a functional perspective, the decline in function can impact mobility, independence, work ability and quality of life.

What are the long-term consequences?

• **Progressive muscle weakness** - Muscles continue to weaken, leading to a gradual loss of muscle mass over time.

- **Chronic pain** This can be both muscular and joint-related, often caused by the increased stress on muscles and joints from a lifetime of compensating for weakness.
- Increased risk of falls Leg muscle weakness can make it difficult to maintain balance, increasing the risk of falls and subsequent injuries.
- **Skeletal deformities** The long-term stress on the body can contribute to skeletal issues like scoliosis (a curvature of the spine).
- Osteoporosis This is a potential complication where bones become weak and brittle.
- **Sleep disorders** Frequent waking and difficulty returning to sleep are common, which can worsen fatigue.
- **Difficulty with daily activities** Weakness can make it challenging to perform activities like walking, climbing stairs, and lifting objects.
- **Breathing problems** In more severe cases, the muscles that control breathing can weaken, leading to chronic respiratory issues.
- **Swallowing difficulties** Weakening of the muscles used for swallowing can also occur.
- Malnutrition and dehydration Difficulty swallowing can lead to problems with eating and drinking, potentially causing malnutrition and dehydration.
- **Sensitivity to cold** Many individuals with PPS experience increased sensitivity to cold temperatures.
- **Impact on mental health** The chronic nature of the condition can significantly impact a person's quality of life and mental well-being.
- **Paralysis** The poliovirus attacks motor neurons in the spinal cord, leading to muscle weakness or paralysis in some victims.
- Many survivors recover significantly, thanks to the nervous system's capacity to "sprout" compensatory connections.
- However, decades later that very compensation may start to fail.
- Estimates suggest <u>PPS may affect anywhere from 25% to 40% of polio survivors</u>, although depending on the criteria used it could range more widely (some reports say up to 80 %).

What are treatments to PP syndrome?

- No specific treatment There's currently no specific treatment for post-polio syndrome (PPS).
- Instead, healthcare providers focus on managing symptoms and improving quality of life.
- It's important to see a healthcare provider who specializes in treating neuromuscular conditions if you have PPS.
- **Non-fatiguing exercises** Exercises that don't cause pain or fatigue may improve muscle strength and reduce overall fatigue.
- Cardiorespiratory endurance training Cardiorespiratory endurance is the level at which your heart, lungs and muscles work together when exercising for a prolonged time.
- You should talk to your provider before trying this type of training.
- **Mobility aids** Devices such as canes, walkers and scooters can help with mobility and help avoid rapid muscle tiring and exhaustion.
- Occupational therapy An occupational therapist can help you make adjustments in

your home so you can perform daily tasks more easily.

- Speech therapy- If PPS has made swallowing difficult, a speech therapist can help.
- **Lifestyle changes** Your provider will likely recommend eating a healthy diet, managing your weight, getting quality sleep and not smoking to help manage your symptoms and stay healthy.
- Counseling (psychotherapy) may help you and your family adjust to life with PPS.
- Support groups that encourage self-help and sharing experiences can be beneficial as well.

What lies ahead?

- As the polio survivor population ages, clinicians and health systems need to be aware of PPS it is frequently under-diagnosed or mislabelled as "just ageing" or "arthritis."
- Vigilance involves asking about a past history of polio in older patients with new weakness/fatigue; evaluating for other causes, and then implementing a multidisciplinary care plan.
- From a public health perspective, it is also a reminder of just how powerful—and long-lasting—the benefits of vaccination are.
- Preventing polio in the first place means you avoid not just the acute illness, but the decades-later burden of PPS.
- Surviving polio doesn't always mean you are done with it. Many people come through the acute phase, recover well and then decades later hit a second curve of new problems.
- As doctors, we must bring PPS into our radar, treat it with respect, and help our patients adapt their lives rather than suffer passively.
- For survivors, the message is, if you had polio, and you're noticing new fatigue, weakness or pain don't just shrug it off as "ageing", ask your doctor about PPS, get the right rehabilitation and support, and make sure mobility and quality of life remain in your hands.

References

- 1.The Hindu | Post Polio Syndrome
- 2. Cleveland Clinic | PP syndrome

