

A Note on Parkinson's Disease and its Treatment

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DESCRIPTION

Parkinson's Disease (PD) is a long-term degenerative disorder of the central nervous system that predominantly affects the motor system. Parkinson's symptoms typically appear gradually and worsen over time. People may have difficulty walking and talking as the disease progresses. They may also experience mental and behavioural changes, sleep issues, depression, memory problems, and fatigue. Parkinson's disease can affect both men and women. However, men are affected by the disease at a rate that is roughly half that of women. Parkinson's disease develops when nerve cells in the basal ganglia, a region in the brain that controls movement, become damaged or die. Usually, these nerve cells, or neurons, produce dopamine, the main chemical released by the brain.

Parkinson's patients also lose nerve endings that produce norepinephrine, the essential chemical messenger of the sympathetic nervous system, which controls many bodily functions such as heart rate and blood pressure. Although some Parkinson's cases appear to be hereditary, and a few can be linked to specific genetic mutations, the disease appears to occur at chance and does not appear to run in families in the majority of cases. Many researchers now believe that Parkinson's disease is caused by a combination of genetic and environmental factors, such as toxicity exposure. There is significant clinical and pathological overlap between tauopathies and synucleinopathies, but there are differences. Memory loss is the most common symptom of Alzheimer's disease, as opposed to Parkinson's disease. The cardinal symptoms of Parkinson's disease (slowness, tremor, stiffness, and postural instability) are not typical of Alzheimer's disease.

Symptoms of Parkinson's Disease (PD)

Parkinson's disease is characterised by four major symptoms:

- Tremor (shaking) of the hands, arms, legs, jaw, or head
- Extreme limb and trunk stiffness
- Movement is slow.
- Depression and other mood changes

Eating, chewing, speaking, bladder issues or constipation, skin problems, and sleep disruptions are the additional symptoms of Parkinson's disease. Individuals have different Parkinson's symptoms and progression rates. Early signals of Parkinson's disease are commonly considered as the result of normal aging and are ignored. In most cases, there are no medical tests that can definitively detect the disease, making accurate diagnosis difficult. Parkinson's disease's early symptoms are subtle and appear gradually. Affected individuals, for example, may experience mild tremors or difficulty getting out of a chair. They may notice that they speak too softly or that their handwriting is slow, cramped, or small. Friends and family members can notice the changes in early-stage of Parkinson's disease. They may observe that the person's face

lacks expression. They may also have difficulty initiating or maintaining movement.

Symptoms commonly initiate on one side of the body or even in a single limb on one side of the body. The disease eventually affects both sides as it progresses. However, the symptoms may be worse on one side than the other. Many Parkinson's patients report that they had sleep problems, constipation, a decreased ability to smell, and restless legs before experiencing stiffness and tremor.

Some different disorders can produce symptoms similar to Parkinson's disease. Because many other diseases have similar symptoms but require different treatments, it is critical to get an accurate diagnosis as soon as possible. There are currently no blood or laboratory tests available to diagnose Parkinson's disease in nongenetic cases. A person's medical history and a neurological examination are used to make a diagnosis. Another significant element of Parkinson's disease is improvement after starting medication. Although there is no cure for Parkinson's disease, medications, surgery, and other therapies can often alleviate symptoms.

Treatment

Levodopa (a dopamine precursor used in Parkinson's disease), also known as L-dopa, is the primary treatment for Parkinson's disease. Nerve cells use levodopa to produce dopamine, which replenishes the brain's depleted supply. People typically take levodopa in conjunction with another medication known as carbidopa. Carbidopa prevents or reduces some of the side effects of levodopa therapy, such as nausea, vomiting, low blood pressure, and restlessness, and it decreases the amount of levodopa required to improve symptoms.

People with Parkinson's disease should never discontinue levodopa without first consulting their doctor. Stopping the drug abruptly can have serious consequences, such as being unable to move or having difficulty breathing.

Other medications used to treat Parkinson's symptoms include:

- Dopamine agonists, which mimic the role of dopamine in the brain.
- MAO-B inhibitors, which slow down an enzyme that breaks down dopamine in the brain.
- COMT inhibitors, which help break down dopamine.
- Amantadine, an antiviral drug.
- Anticholinergic drugs, which reduce tremors and muscle rigidity.

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