



Classification and Causes of Parkinson's Disease

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ARTICLE HISTORY

Received: 27-May-2022, Manuscript No. JMOLPAT-22-68233;
Editor assigned: 30-May-2022, PreQC No: JMOLPAT-22-68233 (PQ);
Reviewed: 15-Jun-2022, QC No: JMOLPAT-22-68233;
Revised: 21-Jun-2022, Manuscript No: JMOLPAT-22-68233 (R).
Published: 29-Jun-2022

Description

A long-term degenerative illness of the central nervous system that mostly affects the motor system is known as Parkinson's Disease (PD), or simply Parkinson's. Typically, symptoms appear gradually, and as the condition progresses, non-motor symptoms increase in frequency. Tremor, rigidity, slowness of movement, and trouble walking are the most noticeable early signs. In addition to behavioural and cognitive issues, many patients with Parkinson's disease experience sadness, anxiety, and apathy. As the disease progresses, dementia caused by Parkinson's disease becomes more prevalent.

Parkinson's patients may also experience issues with their sleep and sensory systems. The disease's motor symptoms are caused by a dopamine shortage brought on by cell loss in the substantia nigra, a midbrain area. Unfolded proteins accumulate as Lewy bodies in the neurons, which is thought to be the cause of this cell death. The primary motor symptoms are collectively referred to as parkinsonism or a parkinsonian condition.

Although the exact origin of PD is uncertain, it is thought that both genetic and environmental factors may be involved. Given that some genes are known to be inheritable risk factors, those who have a family member with the disease are at an elevated risk of contracting it. People who have been exposed to specific pesticides and those who have suffered head traumas in the past are also at danger. Smokers, tea drinkers, and coffee drinkers all have a lower risk.

Classification

The most prevalent type of parkinsonism, known as "idiopathic parkinsonism," or parkinsonism without a known cause, is Parkinson's disease. Because of an aberrant build-up of the protein alpha-synuclein in the brain, it is sometimes referred to as a form of neurodegenerative illness called synucleinopathy. The classification of

synucleinopathy sets it apart from neurodegenerative conditions like Alzheimer's disease, in which the brain builds up a separate protein called tau protein. Tauopathies and synucleinopathies have a great deal of clinical and pathological similarities, but they also differ. Memory loss is a common symptom of Alzheimer's disease, as opposed to Parkinson's Disease (PD). Slowness, tremor, stiffness, and postural instability, which are the four hallmarks of Parkinson's disease, are not typical symptoms of Alzheimer's. There have been attempts to categorise PD into many subtypes, focusing on the age at onset, the progression of symptoms, and the preponderance of tremor, but none have been accepted.

Causes of Parkinson's disease

Non-genetic: Both pesticide exposure and a history of head injuries have been connected to PD, but the chances are low. A slight increase in the chance of getting PD is also linked to never drinking caffeine-containing beverages. Manganese and carbon disulfide are two poisons that can lead to Parkinson's disease. An increased risk of PD is linked to low blood urate concentrations.

Infections and abnormal metabolic processes are two more recognised causes of parkinsonism. Atypical parkinsonism and parkinson plus syndromes are terms for a number of neurodegenerative diseases that can also manifest as parkinsonism. They include dementia with Lewy bodies, corticobasal degeneration, progressive supranuclear palsy, and multiple system atrophy. Another synucleinopathy is dementia with Lewy bodies, and it shares many pathology features with PD, particularly with the subset of PD cases with dementia known as Parkinson's disease dementia. The connection between PD and DLB is convoluted and understudied. They could be components of a continuum with distinct clinical and pathological characteristics, or they could turn out to be distinct diseases.