

Development of Parkinson's Disease and Movement Disorders

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Introduction

Parkinson's is a progressive Neurological Disease with the neuronal death. As time progresses, it gets worsened. Due to decreased levels of Dopamine it results in tremor- involuntary shaking of certain body parts, stiffness of the muscles and slow movement. Although there is no cure for Parkinson's disease, treatment can better the symptoms and enhance the quality of life.

Parkinson's Disease (PD), or simply Parkinson's, is a long-term degenerative disorder of the central nervous system that mainly affects the motor system. The symptoms usually emerge slowly and, as the disease worsens, non-motor symptoms become more common. The most obvious early symptoms are tremor, rigidity, slowness of movement, and

difficulty with walking. Cognitive and behavioral problems may also occur with depression, anxiety, and apathy occurring in many people with PD. Parkinson's Disease dementia becomes common in the advanced stages of the disease. Those with Parkinson's can also have problems with their sleep and sensory systems. The motor symptoms of the disease result from the death of cells in the substantia nigra, a region of the midbrain, leading to a dopamine deficit. The cause of this cell death is poorly understood, but involves the build-up of misfolded proteins into Lewy bodies in the neurons. Collectively, the main motor symptoms are also known as "parkinsonism" or a "parkinsonian syndrome".

Movement Disorders are clinical syndromes with either an excess of movement or a paucity of voluntary and involuntary movements, unrelated to weakness or spasticity. Movement disorders are synonymous with basal ganglia or extrapyramidal diseases. Movement disorders are conventionally divided into two major categories: hyperkinetic and hypokinetic. Hyperkinetic movement Disorders refer to dyskinesia, or excessive, often repetitive,

involuntary movements that intrude upon the normal flow of motor activity.

Hypokinetic movement Disorders refer to akinesia, hyperkinesia, bradykinesia, and rigidity. In primary movement disorders, the abnormal movement is the primary manifestation of the disorder. In secondary movement disorders, the abnormal movement is a manifestation of another systemic or neurological disorder. The cause of PD is unknown, with both inherited and environmental factors being believed to play a role. Those with a family member affected by PD are at an increased risk of getting the disease, with certain genes known to be inheritable risk factors. Other risk factors are those who have been exposed to certain pesticides and who have prior head injuries. Tobacco smokers and coffee and tea drinkers are at a reduced risk.

Conclusion

Diagnosis of typical cases is mainly based on symptoms, with motor symptoms being the chief complaint. Tests such as neuroimaging can be used to help rule out other diseases. Parkinson's disease typically occurs in people over the age of 60, of whom about one percent are affected. There is no cure for PD; treatment aims to improve the symptoms. Initial treatment is typically with the medications levodopa, MAO-B inhibitors, or dopamine agonists. As the disease progresses, these medications become less effective, while at the same time producing a side effect marked by involuntary muscle movements. At that time, medications may be used in combination and doses may be increased. Diet and certain forms of rehabilitation have shown some effectiveness at improving symptoms. Surgery to place microelectrodes for deep brain stimulation has been used to reduce motor symptoms in severe cases where drugs are ineffective.

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