**Atypical Parkinson's syndrome**

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***Atypical Parkinson syndrome: what is it?***

Atypical Parkinson syndrome can be defined as a group of progressive diseases in which patients exhibit some of the main symptoms of Parkinson's disease, such as slow movement, muscle stiffness, and tremors, but do not respond to levodopa treatment. Atypical Parkinson syndrome is characterized by an accumulation of abnormal proteins in the brain. These diseases include multiple system atrophy (MSA), progressive supranuclear palsy (PSP), corticobasal syndrome, and dementia with Lewy bodies (DLB).

***Multiple system atrophy (MSA)***

Women and men are equally affected by MSA, which typically occurs between the ages of 50 and 60. The disease affects approximately three to four people out of every 100,000. MSA affects a number of brain systems. A number of these systems are responsible for maintaining motor control, balance, and coordination, while others are responsible for maintaining blood pressure, bladder, bowel, and sexual function. As a consequence, patients may experience slow movement, stiff muscles, tremors, imbalance, dizziness, and constipation. The diagnosis of MSA with predominant parkinsonian symptoms is known as MSA-P, whereas MSA with predominant cerebellar ataxia is known as MSA-C. The exact cause of the disease is not clear, but it may be due to the deposition of abnormal α-synuclein protein in the brain, although the reason for this deposition is unknown. A growing number of synuclein-containing proteins accumulate in neurons over time, leading to the loss of function and eventual death of those neurons. Multiple system atrophy has been reported in some families, but it is not considered to be hereditary.

***Progressive supranuclear palsy (PSP)***

Males and females are equally affected by the disease, and the average age at which the disease begins is around 60 years old. There are many symptoms associated with PSP. During the early stages of the disease, patients often have difficulty walking, have poor balance, and frequently fall backwards. Patients may move quickly and impulsively, or feel as if their feet are stuck on the ground. It is common for patients to have difficulty with eye movements, especially when looking downward, which makes reading difficult. Additionally, patients may experience involuntary blinking or difficulty closing or opening their eyes. The patient may feel stiff, particularly in the neck area. A deep furrowed brow and staring ahead may be associated with facial expressions. Slurred speech, hoarseness, and difficulty swallowing are also common symptoms. As the disease progresses, cognitive problems may develop, such as loss of motivation, emotional instability, and dementia. The symptoms of PSP may vary from patient to patient. Some patients may experience freezing and slow movements when walking, while others may experience early tremors, similar to those associated with Parkinson's disease. It is believed that the disease is caused by the accumulation of a protein called tau in the brain, but the exact cause is not known. Normal neuronal function requires tau protein, but abnormal tau protein can damage neurons if it accumulates. Currently, PSP is not considered to be a hereditary condition.

***Corticobasal syndrome***

The cortico-basal degeneration is a rare, progressive neurodegenerative disease that usually begins between the ages of 60 and 70. There are usually more severe symptoms of cortico-basal degeneration on one side of the body than on the other. The most common symptoms include stiffness and slow movement of the neck, arms, and legs, instability of gait, muscle spasms, difficulties performing common movements with the arms and legs, loss of sensation or difficulty identifying objects by touch on one side, feeling as if one's hand is not one's own, and difficulties in speaking and writing, including irritability, loss of motivation, and personality changes. There is no known cause for cortico-basal syndrome, but abnormal tau protein deposits are associated with the syndrome. The cortico-basal syndrome is also not an inherited disease and is not caused by environmental factors.

***Dementia with Lewy bodies (DLB)***

The disease is characterized by the degeneration of cognitive, behavioral, and motor functions. The symptoms typically begin with changes in thinking and behavior, followed by the appearance of motor symptoms, which may be similar to those experienced by patients with Parkinson's disease. It is common for patients to develop symptoms after the age of 50. The most common symptoms include difficulty concentrating, memory loss, excessive sleepiness during the day, and sleep disturbances at night. It is also possible for patients to experience hallucinations, in which they perceive people, objects, or animals that are not present. It is possible for some patients to experience stiff muscles, a stooped posture, or difficulty moving their limbs, and may even require assistance in walking. It is possible for patients to appear better on some days than others. A possible cause is the buildup of synuclein protein, which forms Lewy bodies.

***Diagnosis***

The disease may initially appear similar to Parkinson's disease, making establishing a diagnosis challenging. A diagnosis is usually made based on symptoms and the results of a physical examination. A number of other tests may be performed, including a brain magnetic resonance imaging examination, a bladder function test, and a tilt table blood pressure measurement.

***Treatment***

There is no cure for atypical Parkinson syndrome, nor is there a way to slow or reverse its progression. Some medications and physical therapy may be able to alleviate the patient's symptoms. Medication used to treat Parkinson's disease can improve symptoms such as slow movement, stiffness, and tremors. It is recommended that individuals avoid alcohol consumption or being in a dehydrated or hot environment in order to reduce orthostatic hypotension. The extent of blood pressure drops may also be reduced by drinking more water and salt, wearing an abdominal binder, or wearing compression stockings. Furthermore, doctors may prescribe specific medications to increase blood pressure or adjust the existing blood pressure medication. It is possible to improve the condition of bladder and bowel problems through the use of medication, regular bowel movements, bladder training, and catheterization. There are certain medications that can alleviate the symptoms of dementia and Alzheimer's disease. A botulinum toxin injection may be used as a treatment for involuntary eyelid closure and stiffness in the limbs caused by muscle contractions. Depression and anxiety can be treated with antidepressants. There are many different types of therapy that can be used to relieve patient discomfort and promote overall well-being, including physical therapy, occupational therapy, and speech therapy.

***Conclusion***

Atypical Parkinson syndrome is very difficult to diagnose early and requires careful differentiation from Parkinson's disease. Antiparkinsonian medications produce poorer results than Parkinson's disease, requiring more supportive treatment and presenting more challenges than Parkinson's disease.