



Parkinson' s Disease 巴金森氏病(英文)

Definition

Parkinson' s disease (PD) is a neurodegenerative disorder; patients often suffer from bradykinesia, and limb rigidity and tremor. There are also medicines and brain disorders that could induce Parkinson like symptoms.

Anatomy and Physiology

Basal ganglia (BG), located in both cerebral hemispheres, is engaged in movement coordination. The components of the basal ganglia include corpus striatum, lentiform nucleus, subthalamic nucleus and substantia nigra. The function of corpus striatum is supposed to transform cortical commands into conscious actions. It is modulated by acetylcholine (Ach) secreted in the cerebral cortex and dopamine (DA) secreted in the substantia nigra. Abnormality of the Ach/DA ratio may cause hyper or hypokinetic movement disorders.

Etiology

PD is caused by insufficient Dopamine in the Striato-nigra pathway.

Clinical Manifestations

1. Resting tremor or "Pill-rolling" tremor
2. Rigidity
3. Bradykinesia
4. Masked face
5. Drooling
6. Flexed posture
7. Impaired posture reflex
8. Stiff and shuffling gait

Diagnosis

PD is usually diagnosed by clinical symptoms of limb rigidity, resting tremor, and bradykinesia.

Treatment

1. Medical therapy:

Clinical manifestations of PD are mainly attributed to insufficient Dopamine in Corpus striatum. Therefore, the aim of medical therapy is to increase intra-cerebral Dopamine effect.

2. Surgical therapy:

Surgical therapy could improve resting tremor and rigidity of PD. However, surgery does not change the nature course of the disease or guarantee permanent improvement of symptoms. It is mostly performed on patients with severe Parkinson' s symptoms and carefully selected patients.

3. Physical therapy:

Physical therapy for patients with Parkinson' s disease, includes :

- Take deep breath to increase vital capacity,
- Vocalize for 5 minutes to improve control of facial muscles and expression,
- Read loudly to help patients listen to their tone of vocalization in order to adjust their vocal tones,
- Sing musical scales to improve their tones,
- Protrude their tongue to nose, chin, and both sides of the mouth to control their tongues.
- Continuously exercise on a daily basis to strengthen muscle power, reduce rigidity of limbs and maintain normal range of motion of joints.

Conclusion

Parkinson' s disease occurs more frequently to elder people; the prolonged life span and growth of elderly population increase the prevalence of the disease. This disease affects not only the patients' life of quality but family loading as well as burden of the society; therefore, we should get to know this disease better.

