

PARKINSON'S DISEASE



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PT, DPT

WHAT IS IT?

- Parkinson's Disease (PD) is a chronic and progressive central nervous system disorder that results from death of dopamine producing cells in the substantia nigra which is part of the basal ganglia. Structures that are involved include: basal ganglia, thalamus, and ipsilateral motor complex. Basal ganglia regulates movement to control sequencing, muscle tone, muscle force, and coordination.
- Neurotransmitters involved: GABA (inhibitory), glutamate (excitatory), and dopamine (both).
- Two pathways within the basal ganglia which modulate movement: direct pathway (facilitate movement) and indirect pathway (suppresses movement).

SPECIAL TESTS



- Definitive diagnosis with autopsy
- Cardinal signs (remember TRAP)
 - Tremor
 - Rigidity
 - Akinesia/bradykinesia
 - Postural instability
- To be diagnosed with primary PD, must present with 2/4 Cardinals signs
- Motor Signs & Symptoms
 - Freezing of gait, forward flexed posture, incoordination, dysarthria, dystonia, hypomimia (decreased facial expression)
- Non-motor Signs & Symptoms
 - Loss of smell, sleep disturbances, mood disorders, orthostatic hypotension, constipation, depression, dysphagia, hypophonia (low voice), excessive drooling, micrographia (writing small), fatigue, stiffness, cognitive dysfunction
- Trial Levodopa > positive response? > useful in diagnosing PD

DIFFERENTIAL DIAGNOSIS

- Primary (idiopathic) Parkinsonism
 - Subtypes: tremor dominant, postural instability/ gait disturbance
- Secondary Parkinsonism
 - Categories: vascular, drug abuse, infection, toxins
 - Reasons why patient would present with Parkinsonism symptoms
- Parkinson Plus Syndromes
 - Progressive supranuclear palsy (PSP) - hallmark sign: PSP stare
 - Multiple system atrophy (MSA)
 - Corticobasal ganglionic degeneration
- Central tremor, dementia, Alzheimer's disease



TREATMENT EXAMPLES

- Exercise
 - Strength, ROM, endurance, fall prevention
 - LSVT BIG/LOUD
 - Boxing, dancing, tai chi
 - Balance, dual task
- Multidisciplinary approach
- Psychological support
- Surgical - brain stimulator
- Pharmacology



HOW WILL THIS LOOK ON THE NPTE?

- Hoehn and Yahr Scale Classification
- Unified Parkinson's Disease Rating Scale
- Outcome measures: BESTest, mini BESTest, freezing of gait questionnaire, Parkinson's questionnaire 39

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