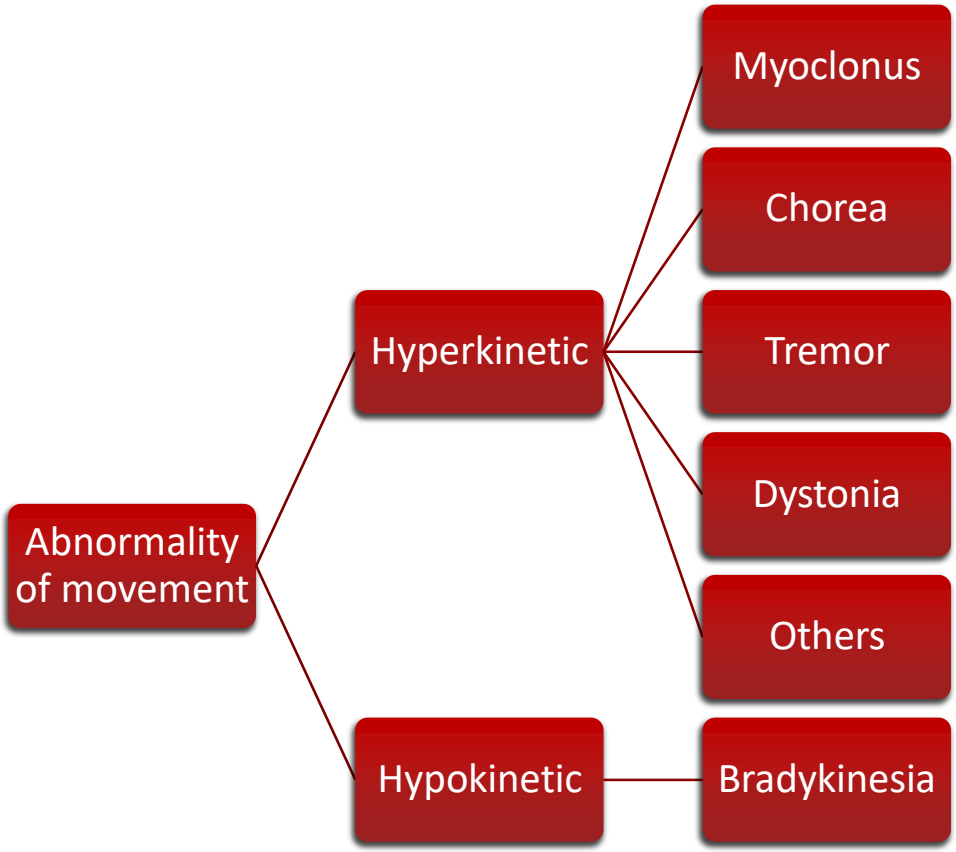
Movement Disorders


Abnormality of movement
Hyperkinetic
Hypokinetic
Myoclonus
Chorea
Tremor
Dystonia
Others
Bradykinesia

definitions

- Chorea: Involuntary movements resulting from a continuous flow of random muscle contractions.
- Dystonia: Dystonia is a movement disorder characterized by sustained or intermittent muscle contractions causing abnormal, often repetitive, movements, postures, or both.
- Myoclonus: Involuntary single quick contraction of a muscle group (or its inhibition). Can be repeated but not rhythmic.
- Tremor: Involuntary rhythmic oscillatory movement around a joint axis
- Bradykinesia: Involuntary slowness of movement

Rigidity

- Abnormally increased resistance to movement that is independent of the velocity of the movement.

Bradykinesia

- Slowness of initiation with progressive reduction in speed and amplitude of repetitive action

- Parkinsonism: Features of rigidity, bradykinesia, rest tremor
- Parkinson's Disease: The most common condition to present with parkinsonism
- Core features of Parkinsons disease: rigidity, bradykinesia, rest tremor +/- Postural instability.
- PD occurs due to the loss of substantia nigra dopamine releasing neurons.

Parkinsonian tremor

- 4-6 Hz
- Predominantly rest
- Re-emergence with maintained posture
- Increases with mental concentration

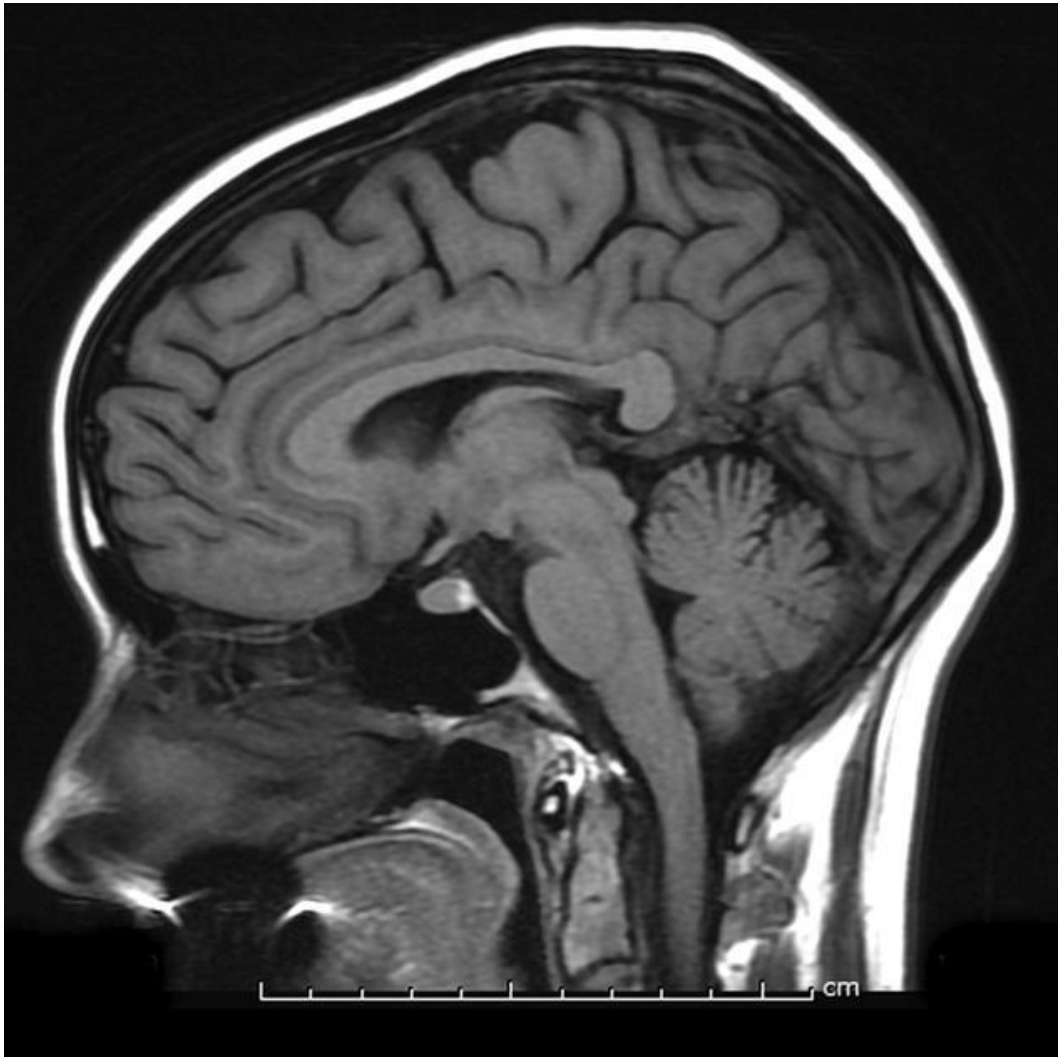
Non-motor symptoms Seen in Parkinson's Disease

- REMBD
- Anosmia
- Depression/anxiety
- Autonomic dysfunction
- Hallucinations
- Cognitive impairment

Parkinsonism and ……

- Impaired vertical gaze→ Progressive Supranuclear Gaze Palsy
- Involvement of other neurological systems (cerebellar signs and severe autonomic dysfunction) →Multiple System Atrophy
- Cortical impairments (Sensory: Astereognosis, agraphesthesia, apraxia) →Corticobasal degeneration
- Upper motor neuron signs → Vascular Parkinsonism
- Drug induced Parkinsonism (**ALWAYS** ask about medication history, eg: *metoclopramide and neuroleptics*)

Investigations



Investigations and Imaging is normal in typical PD
Diagnosis is clinical

Management of PD

- Levodopa/Carbidopa (LD/CD)
- Dopamine agonists (Pramipexole, rotigotine)
- MAO B inhibitor (Selegeline, rasagaline)
- COMT inhibitors (Entacapone)-Prolongs activity of LD in blood
- Deep brain Stimulation-Used in (LD/CD responsive patients)

Red Flags

If present, suspect conditions other than PD:

- Neuroleptic/anti-emetic drug use
- Early/prominent autonomic dysfunction
- Limited eye movements
- Pyramidal, cerebellar or sensory symptoms
- Cognitive impairment or signs of higher cortical dysfunction

Essential tremor

- Most common movement disorder
- Slowly progressive action tremor, disappears at rest
- Worse with physical activity, caffeine, stress
- May temporarily improve after alcoholic beverages
- Hereditary, autosomal dominant
- Responds well to propranolol

Other disorders

- Chorea can occur in “Sydenham’s Chorea” and in Huntington's disease (HD). HD is an autosomal dominant disorder with progressive chorea, cognitive impairment and psychiatric features develop.
- Dystonia, could be generalized or focal, could be lesional, drug or idiopathic
- Ballismus, a large amplitude choreaform movement, seen after subthalamic strokes usually
- Myoclonus, seen during encephalopathies or drug related, hereditary disorders