Parkinson's Disease

- It is a movement disorder caused by degeneration of Substantia nigra
- Usually after the 80 years of age.
- Incidence 18/100,000 people.
- First degree relatives have 2-3 times of the increased risk.

Causes

1) Idiopathic - 80%.
2) Cerebrovascular disease
3) Drugs and toxins :- MPTP, (Synthetic opioid).
   Antipsychotics (↓ Dopamine)
4) Other Degenerative disease
   - Dementia with Lewy bodies
   - Alzeimer's disease
   - Multiple System Atrophy ; Progressive Supranuclear palsy
5) Genetic
   - Huntington's disease; Fragile X syndrome,
   Wilsons disease ⇒ ↑ Copper, ↓ Ceruloplasmin.
6) Anoxic Brain Injury ; Boxers injury (Mohammed Ali).
   Trauma.

Pathophysiology

Substantia nigra (Part of Basal ganglia)
↓
Connects with Motor cortex and
Control movement
↓
Degeneration of Substantia Nigra
↓ &
↓ dopaminergic neurons (& Synuclein)
↓
Hypokinetic movement

On Microscope

Lewy Body

→ Eosinophilic, Round inclusion
→ Made up of α - synuclein protein is present in substantia nigra.
→ It is also found in Lewy body dementia, Multiple systemic atrophy.

Clinical Features (TRAP)

(1) Tremor.

① Resting → Involuntary, shaking, in arm/hand
Pill rolling tremory — Drum beating tremor
② Postural → Present after stretching out arms immediately
③ Re emergent tremors - after stretching out for sometimes
④ → Unilateral tremor usually in jaw, chin, arms but not head.

(2) Rigidity → Cog wheel Rigidity, Lead Pipe
- Stiffness,
- When moved passively the elbow, upper shoulder starts and stops. due to rigidity → Cog wheel, and entirely rigid (Lead Pip)
- Rigidity causes Stooped posture, and ↓ lower
DD/ ↓ clasp expressionless face.
knife Rigidity

(3) Bradykinesia. Hypokinesia, or Akinesia.
↓ UMN.
for Difficulty in initiating movement.
i) slow to start walking.
ii) Shuffling gait (short steps).

iii) Reduction of arm swing
iv) Impaired balance on turning.

→ Usually difficult in tying shoelaces, buttoning clothes, rolling clothes in bed. Starts with small handwriting (micrographia)

④ Postural instability: with fall and injury,
↳ Problem with Balance,

⑤ Normal finding. → Stoop and
- Deep tendon reflexes. → Multiple small step gait
- Eye Movements. ↳ Festinant gait on Parkinson gait,
- Sensory and cerebellar examination,

Non-Motor symptoms
- Dementia, Monotonous speech, Expressionless face
- Neuropsychatric (anxiety, depression, apathy).
- Sleep disturbance and hypersomnolence.
Fatigue, pain, Sexual problems,
- Loss of libido and weight loss.
⇒ Seborrhic dermatitis ⇒ associated.

Investigation
- CT/MRI
- PET Scan.
- Lewy Jet (Widroni disease,
- Genetic Testing
- Microscope (Lewy Body).

Management: paralysis agitans (Mucsal, Zinc Met
Rhystox.
- Physiotherapists.
- Speech therapy, occupational therapy.
→ Levodopa Ⓓ = Because dopamin cannot cross
+ Carbodopa