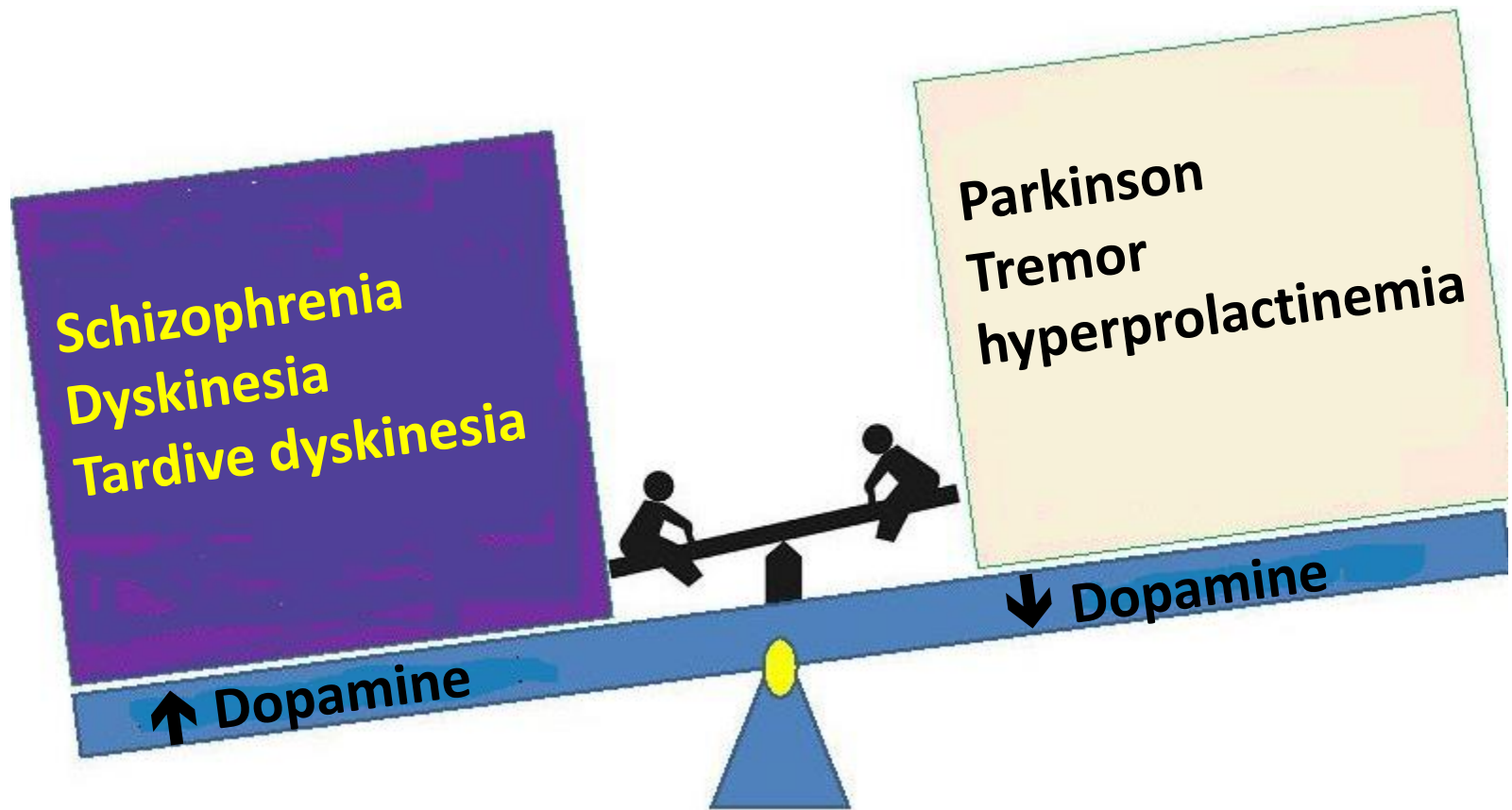


Anti Parkinsonism



Dopamine in brain



Parkinson

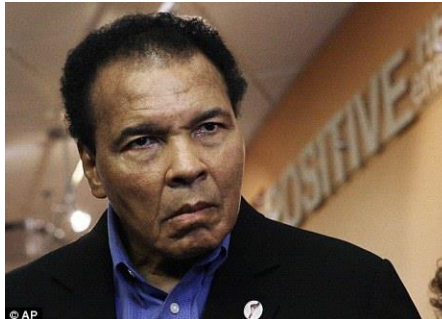
مرض الشلل الرعاش او يسمى مرض
المشاهير لكثرة اصابة مشاهير السياسة
والرياضه والفن به حيث اصيب به كل
من هاري ترومان ، هتلر ، محمد علي
كلاي ، البابا يوحنا الثاني ، الرئيس
الامريكي ريكن

Parkinson

Chronic and progressive movement disorder

Clinical symptoms

- **Resting tremor**
- **Bradykinesia** or slowness of movement
- **Rigidity** or stiffness of the limbs and trunk
- **Postural instability** or impaired balance and coordination
- **masked face**
- **Drooling**

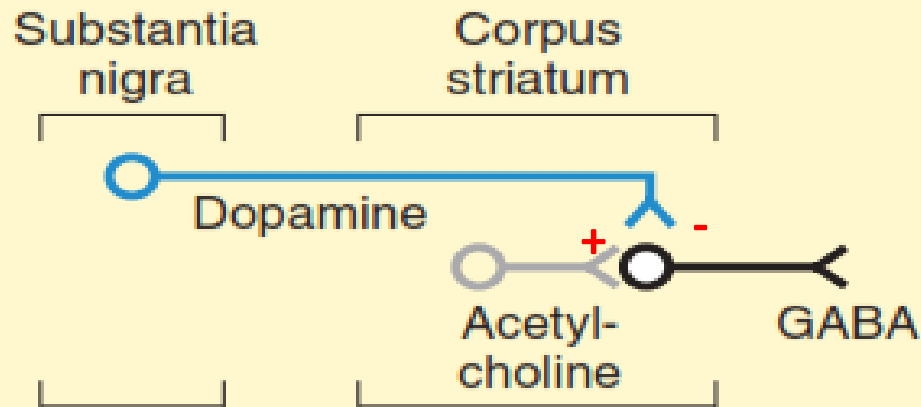


Pathophysiology

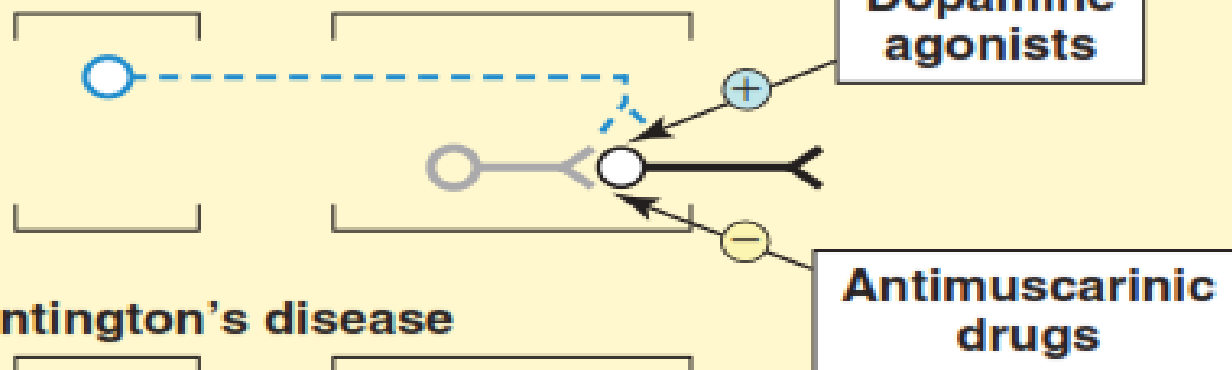
- Degeneration of dopaminergic neurons in the **nigrostriatal tract** that normally inhibit the activity of **striatal GABAergic** neurons leads to excessive excitatory actions of cholinergic neurons

DA and Ach activities are out of balance in parkinsonism

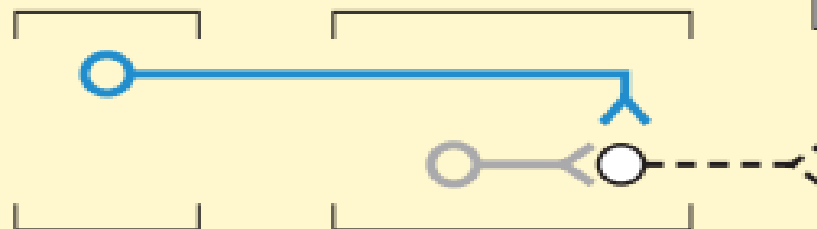
Normal



Parkinsonism



Huntington's disease



Therapeutic target

↑ Dopamine and/ or ↓ Ach

- Ptn has tremor & Drooling (excessive salivation) prefer anticholinergic drug.
- Ptn has rigidity & hypokinesia prefer DA agonist.

Anti Parkinson Drugs

① Levodopa + Carbidopa

- **L-Dopa + Carbidopa** **acute adverse effects**

Postural hypotension ()

Nausea (since L.Dopa → DA on CTZ → vomiting)

Agitation & hallucination

L-Dopa + Carbidopa long term adverse effects

Dyskinesia, Chorea (extra movement appeared at peak dose) [video](#)



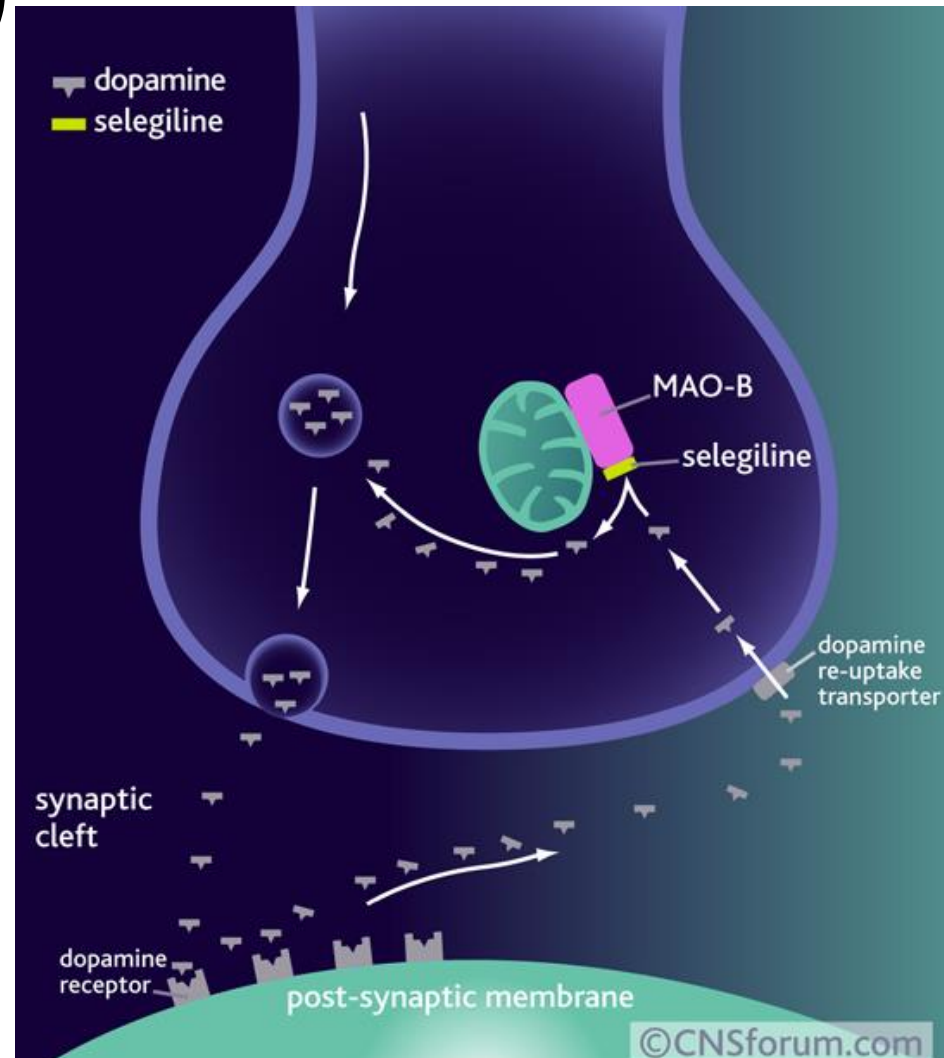
Wearing-off (A dose of levodopa initially removed symptoms for 4 hours may not provide enough dopamine & symptoms re-emerge before the next dose is due))

On-Off (swing from extramovement to akinesia)

② MAOB inhibitor

- **Selegiline (Deprenyl)**

- ✦ metabolized to amphetamine
- ✦ Contraindicated with Meperidine.
- ✦ s/e: hallucination; nausea; postural hypotension.



③ Direct DA agonist

- **Bromocriptine (Parlodel)**
 - ★ s/e: hallucination; nausea; postural hypotension.

⑤ Anticholinergic

- **Trihexyphenidyl** (parkizol); **Benztropine**
 - ★ most useful for tremor
 - ★ Initial dosing
 - a) **Trihexyphenidyl** 0.5 mg 1 tab orally 2 times/day
 - b) **Benztropine** 0.5 mg 1 tab orally 2 times/day
 - ★ s/e: dry mouth. urinary retention, dry eyes, constipation. confusion and cognitive dysfunction
 - Hallucination → Drug abuse**

⑥ Amantadine

- ✦ Antiviral by chance ↑ DA in synapse.
- ✦ Symptomatic benefit and reduce dyskinesia caused by levodopa.

✦ s/e: dizziness, insomnia, **livedo-reticulars** & nightmares



⑦ Catechol-O-methyl transferase inhibitor

Entacapone (Comtan)

✦ Prevent breakdown of dopamine, more levodopa available to cross blood-brain barrier

a) **Dosing**: 1 tablet with each Levodopa-carbidopa dose

b) **Must use** with levodopa-carbidopa

c) **s/e**: dyskinesia. nausea, diarrhea

(may be delayed for up to 2 weeks after initiation or dose increase), hallucinations; vivid dreams

Important
Notice!

- antipsychotic drugs (has anti DA effect) produce **restraining effect** as local effect due to anti DA in basal ganglia
 - * **acute dystonia** **hrs** spasm of tongue, face
 - * **parkinsonism** **30 days** tremor, stooped posture
 - * **akathesia** **60 days** repetitive motion
 - * **tardive dyskinesia** **yrs** lip smaking

THANK YOU

FOR

YOUR

ATTENTION!

ANY QUESTIONS?