Nextillo
THE WONDER HAS A NAME

NEXTILLO_

#MADEEASY

NERUODEGENERATIVE DISEASES

Nextillo
THE WONDER HAS A NAME

Nextillo
THE WONDER HAS A NAME

What are Neurodegenerative Diseases?

- ***As the name suggests, in neurodegenerative diseases, there is progressive degeneration of neurons and nervous tissue.***
- ***Some common examples are:***
  - Alzheimer's Disease
  - Parkinson's Disease
  - Huntington's Disease

Nextillo
THE WONDER HAS A NAME

Can you please explain Alzheimer's Disease?

Etiology

- *Increasing age*
- *Down's syndrome (as gene for beta amyloid present on chromosome 21)*
- *Deficiency of acetylcholine (neurotransmitter)*

Pathophysiology:

- *Misfolding of beta amyloid proteins, leads to their extracellular accumulation, forming beta amyloid plaques.*
- *Tau protein is hyperphosphorylated and starts accumulating, forming Neurofibrillary tangles.*
- *Hippocampus and cerebral cortex also exhibit loss of neurons, presenting as cerebral atrophy.*

Clinical presentation:

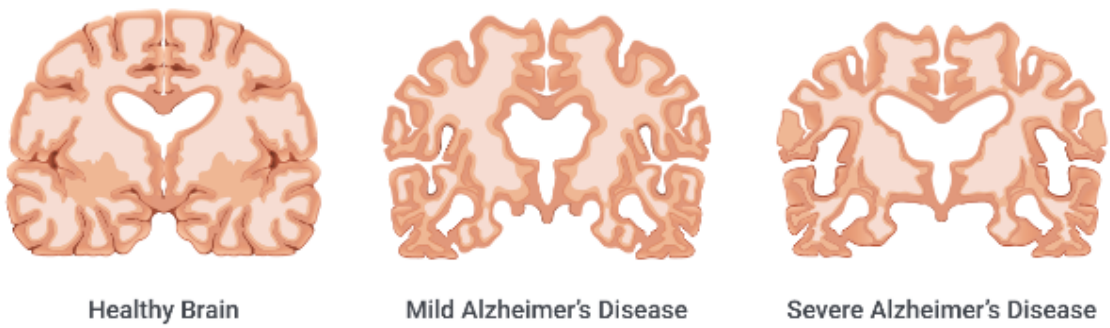
- *Progressive memory loss*
- *Decline in cognitive function*

Imagine an old man forgetting everything, sometimes even his family members, and finds it difficult to carry out daily activities like putting on his shirt.

Nextillo
THE WONDER HAS A NAME

Can you please explain its progression visually?

Sure, take a look at this :



Nextillo
THE WONDER HAS A NAME

Can you please explain Parkinson's Disease?

Etiology:
- *Deficiency of dopamine*
- *Idiopathic*
- *Age-related*

Drugs:
- *Too much of antipsychotics cause Parkinson's*
- *Too much of anti-Parkinson's drugs cause psychosis*
- *Parkinson's (dopamine deficiency) and psychosis (dopamine excess) are two ends of the spectrum.*

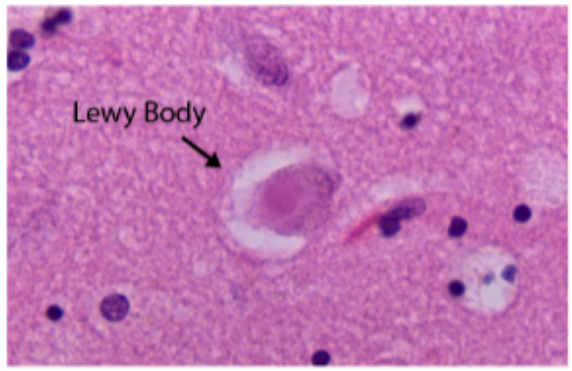
Pathophysiology
- *Degeneration of dopaminergic neurons in substantia nigra*
- *Formation of Lewy bodies: alpha-synuclein containing eosinophilic inclusions in neurons of substantia nigra.*

Clinical presentation (mnemonic: RBC)
- *Resting tremor (pin-rolling, coin-counting)*
- *Bradykinesia*
- *Cog-wheel rigidity*
- *Mask- like face*
- *Postural instability*

Nextillo
THE WONDER HAS A NAME

Can you please explain how to visually remember it?

Imagine a stooping old man with very shaky hands and emotionless face.



Nextillo
THE WONDER HAS A NAME

Can you please explain Huntington's Disease?

Etiology
- *Autosomal dominant*
- *CAG trinucleotide repeats in huntingtin gene.*

Pathophysiology
- *Aggregates of huntingtin gene*
- *Atrophy of caudate nucleus*

Clinical presentation
- *Chorea: involuntary rapid (jerky) movements*
- *Decline in cognitive function*
- *Psychiatric symptoms*