

Dementia

- Loss of previously acquired intellectual function in the absence of impairment of arousal.
- Defined as a global impairment of cognitive function and it is totally progressive and irreversible.

Subtypes and Causes:-

Type	Cause
1) Vascular	- Diffuse small vessel disease
2) Inherited	- Alzheimer's disease Fronto-Temporal dementia Lewy Body Dementia Wilson's Disease Huntington's Disease
3) Inflammatory	- Multiple Sclerosis Sarcoidosis
4) Infective	- Syphilis, HIV, Whipple disease, Subacute sclerosing panencephalitis
5) Traumatic	- Post-Traumatic, Subdural Hematoma
6) Neoplastic	→ Secondary deposits
7) Nutritional	- Alcohol, Thiamine deficiency Vitamin B ₁₂ deficiency

Types = $\begin{cases} \text{Cortical} \\ \text{Subcortical} \end{cases}$

Vascular dementia

Atherosclerosis in Brain artery (Carotid)

↓
Ischemic stroke → Dead tissue liquefies

↓
Functional disability.

C/F: Depending of damage area.

1) Frontal lobe → Movement, Personality, Counting, Spelling, Decision making.

2) Parietal lobe → Sensory info, location.

Movement in 3D space.

3) Temporal lobe → Hearing, Smell, Memory.

Recognition of Faces.

4) Occipital lobe → Processing Visual Information.

Alzheimer's Disease

- Inherited - neurodegenerative disease. > 45 years

Causes: - 1) Sporadic → Genetic, Environmental, Age.

2) Familial → Inherited associated with Down Syndrome (Trisomy 21).

Pathogenesis

Autosomal dominant

Plaques & Tangles (Neurofibrillary)

Deposits

↓
Blocks the neurotransmitters

↓
Atrophy of the Brain

C/F: - Inability to remember new information

- They deny there is nothing wrong (anosognosia)

Asymptomatic → Short time memory loss

↓
Loss of motor skills & language

↓
Long term memory loss

↓
Disoriented → Bedridden

Fronto - Temporal dementia (Pick's Disease)

- Degeneration of Nerve fibres in the Frontal and Temporal region by presence of Pick Bodies → Inclusion with age.
- Frontal lobe → Personality and behavioural changes.
- Temporal lobe → Difficulty in finding words
↳ Aphasia.
- Dementia, Memory, Concentration.

Lewy Body Dementia

- Neurodegenerative disease presence of Lewy Body inside the neuron.

Early (Alzheimer's Disease)

Later (Motor)

Symptoms

(Parkinson's)

- Difficulty in Focusing.
- Poor memory but preserved somatic.
- Visual Hallucination.
- Disorganized speech.
- Depression.
- Resting tremors.
- Stiff & slow movement.
- Reduced facial expression.

Investigation of Dementia

* Imaging - CT & MRI

* Blood → CBC, ESR, Urea, Electrolyte, glucose, Calcium, liver Function, Thyroid function, Vitamin B₁₂, Syphilis serology.

Anti N.A.

* Chest X-ray. Electroencephalography.

* Lumbar Puncture & Brain Biopsy

* HIV Serology.