Pick's Disease (Frontotemporal Dementia)

PLAY PICMONIC

Epidemiology

Affects People Aged 45 to 65.
Colt (45) and (65) Social-security-card
Frontotemporal dementia, or Pick's disease, is a neurodegenerative disorder that usually affects people between the ages of 45 and 65.

Pathophysiology

Frontal and Temporal Lobes
Captain at the Front and Temple
It is implied by the name that the frontal and temporal lobes are affected by Pick's disease.

Occipital and Parietal Lobes are Spared
Octopus and Pirate Safe Inside Spare-tire
The frontal and temporal lobes are the only parts of the brain that are affected by this condition; the occipital and parietal lobes remain unaffected.

Tauopathy
Towel-path
Regarding pathophysiology, Pick's disease is considered a Tauopathy. Tauopathy means that its mechanism is related to the hyperphosphorylation of the protein Tau inside the neurons.

Tau is a protein in the cytoskeleton that helps to hold microtubules together, thereby maintaining cell's internal infrastructure.

In contrast to Alzheimer's disease, which is also a Tauopathy, in Pick's disease, there are no neurofibrillary tangles; instead, there are Tau protein tangles called Pick bodies. The difference is that the Tau proteins phosphorylated in Pick's disease are the 3R isoforms, as opposed to the 3R and 4R isoforms in Alzheimer's.

Neuronal Apoptosis
Neuron-guy With A-popping-cells
As hyperphosphorylated Tau disentangles from the microtubules inside the neurons, these microtubules get disassembled, causing the neuron to undergo apoptosis.

Clinical Features

Dementia
Demented-D-man
As atrophy progresses, both variants evolve, and the patient begins to exhibit symptoms of dementia, such as difficulty with memory, concentration, and learning new things.

Personality Changes, Impaired Judgment, Apathy, and Disinhibition

Three-faced-mask and Impaired Judge on A-path breaking Inhibiting-chains

At the beginning of the disease, there is relative sparing of memory, with symptoms related to the atrophy in the frontal and temporal lobes. These symptoms include personality changes, impaired judgment, apathy, and disinhibition. Other symptoms include perceptual-motor function loss, which reflects the patient's inability to handle hand-eye and body-eye coordination.

Behavioral Variant

Inappropriate Behavior

Frontotemporal dementia is classified into two types: behavioral variant and primary progressive aphasia. The pattern of brain atrophy in each patient determines the type that is displayed.
If the patient has frontal lobe atrophy, they will display the behavioral variant of the disease.

Patients with the behavioral variant display a decrease in social cognition or executive abilities, plus 3 or more of the following:

- Disinhibition
- Apathy or inertia
- Loss of sympathy or empathy
- Stereotyped, compulsive, or ritualistic behavior
- Hyperorality
- Dysexecutive syndrome

Primary Progressive Aphasia

Broken Speech-bubble

Frontotemporal dementia is classified into two types: behavioral variant and primary progressive aphasia. The type that is displayed is determined by the pattern of brain atrophy in each patient. Primary progressive aphasia is seen in patients who have temporal lobe atrophy.

Patients with this type have a significant decline in language skills, aphasia, speech production, and difficulty with word finding, object naming, grammar, and word comprehension.

Diagnosis Based on Clinical Features and Imaging

Diagnostic-computer With Clinical Features and Images

Diagnosis of Pick's disease is based on mental status changes, imaging studies that show changes in the frontal and temporal lobes, and post-mortem brain biopsy.

Management

Supportive Care

Supportive IV-bags

There is currently no curative treatment available for Pick's disease. Medications that are used aim to manage behavioral symptoms. SSRIs and atypical antipsychotics are used to achieve this.
