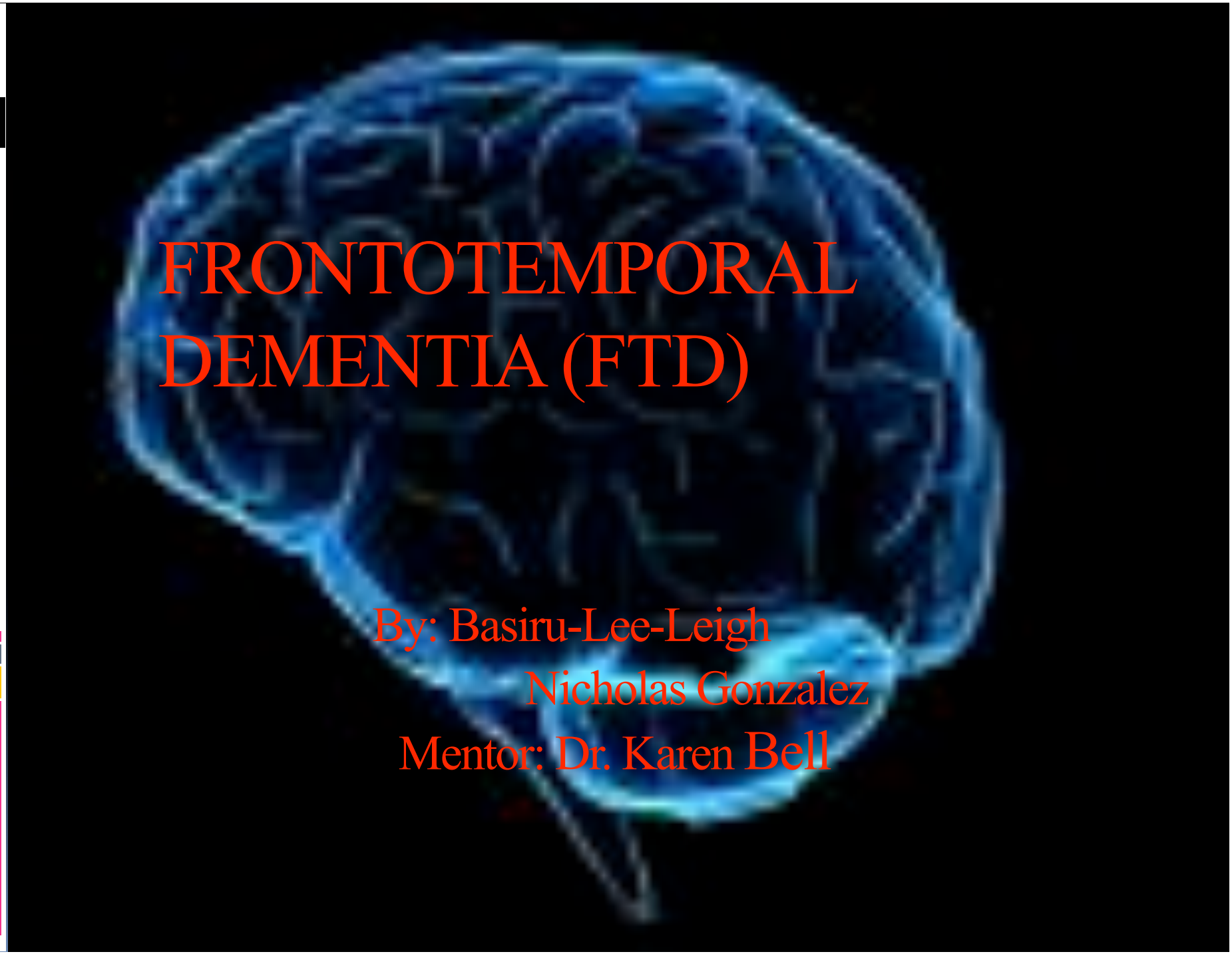

FRONTOTEMPORAL DEMENTIA (FTD)

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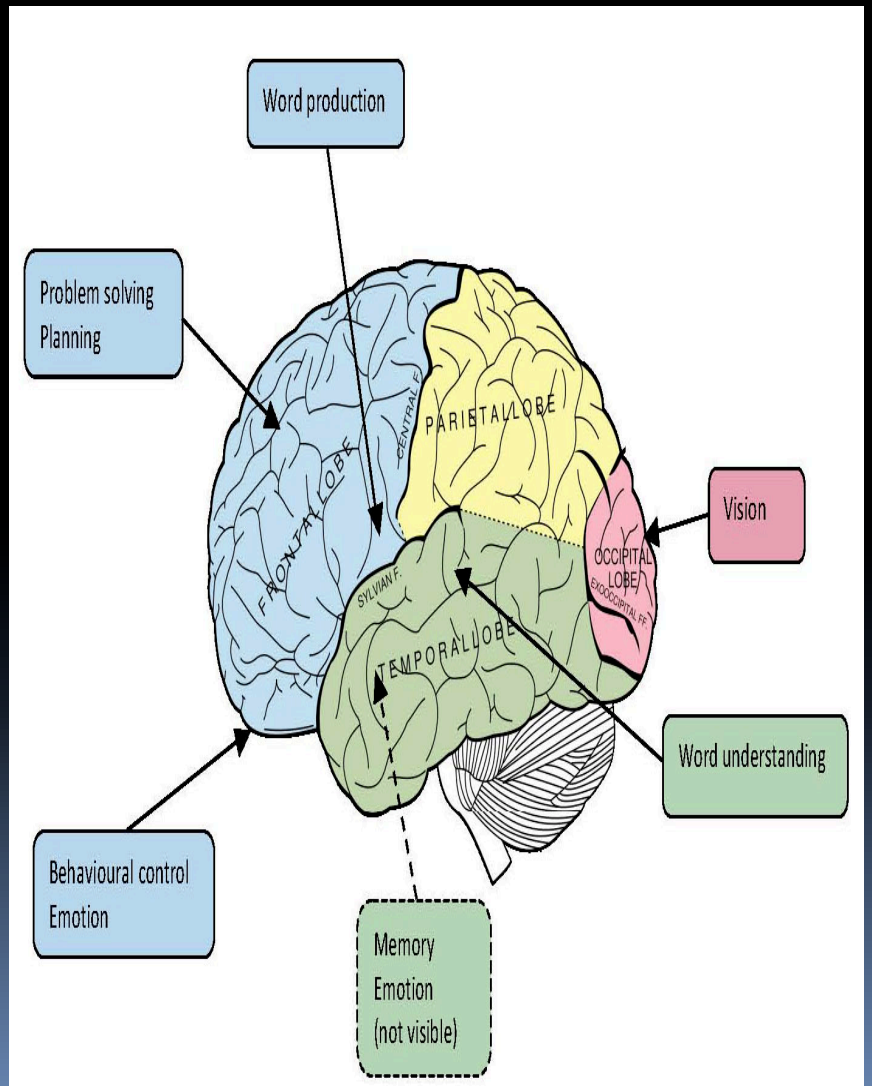
What is FTD

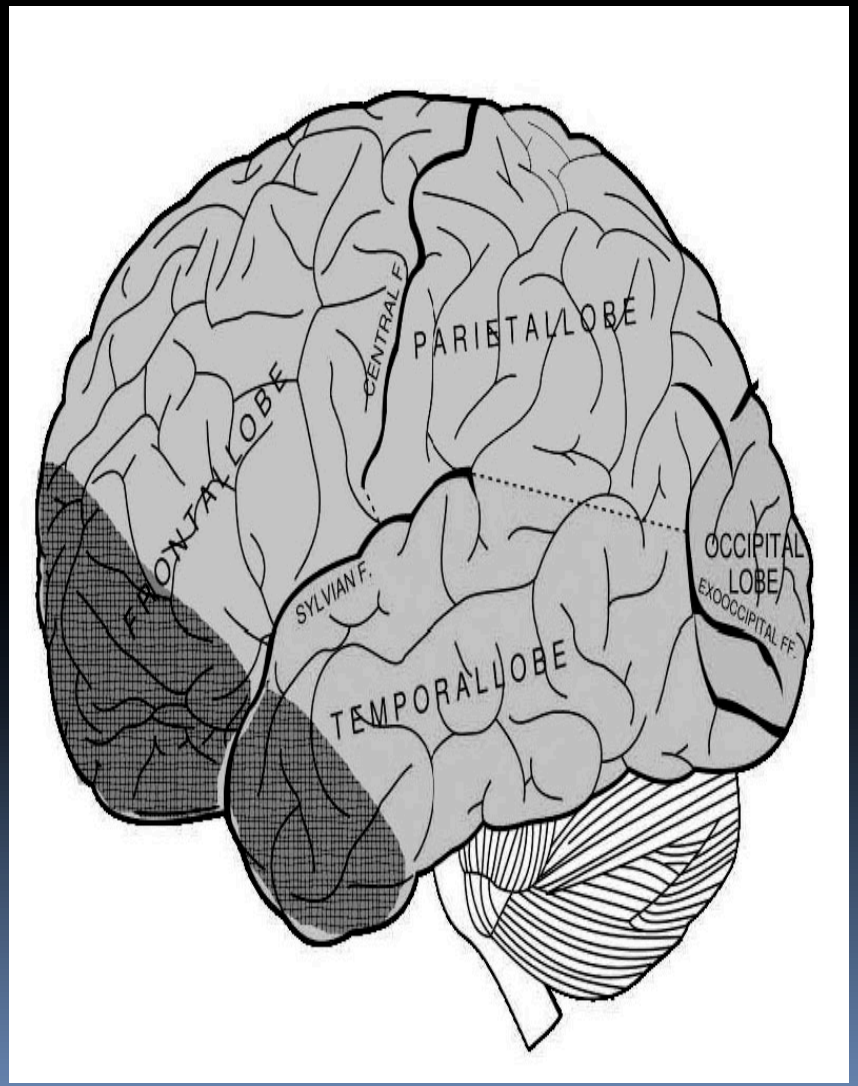
- A subtype of Frontotemporal Lobar Degeneration.
- A degenerative condition of the anterior part of the brain.
- FTD involves a disturbance of behavior and personality such that patients suffer a change in their character from previous selves.
- FTD differs from other degenerative conditions like Alzheimer's and CJD.
- FTD is marked by dramatic changes in personality, behavior and some thought processes.
  - Insidious onset, slow progression
  - Deficits in behavior, judgment, language, social conduct

Cause

- A variety of mutations on several different genes have been linked to specific subtypes of FTD. But more than half the people who develop FTD have no family history of dementia.
- In some cases of FTD, the affected parts of the brain contain microscopic Pick bodies — abnormal protein-filled structures that develop within brain cells.

Areas of brain affected

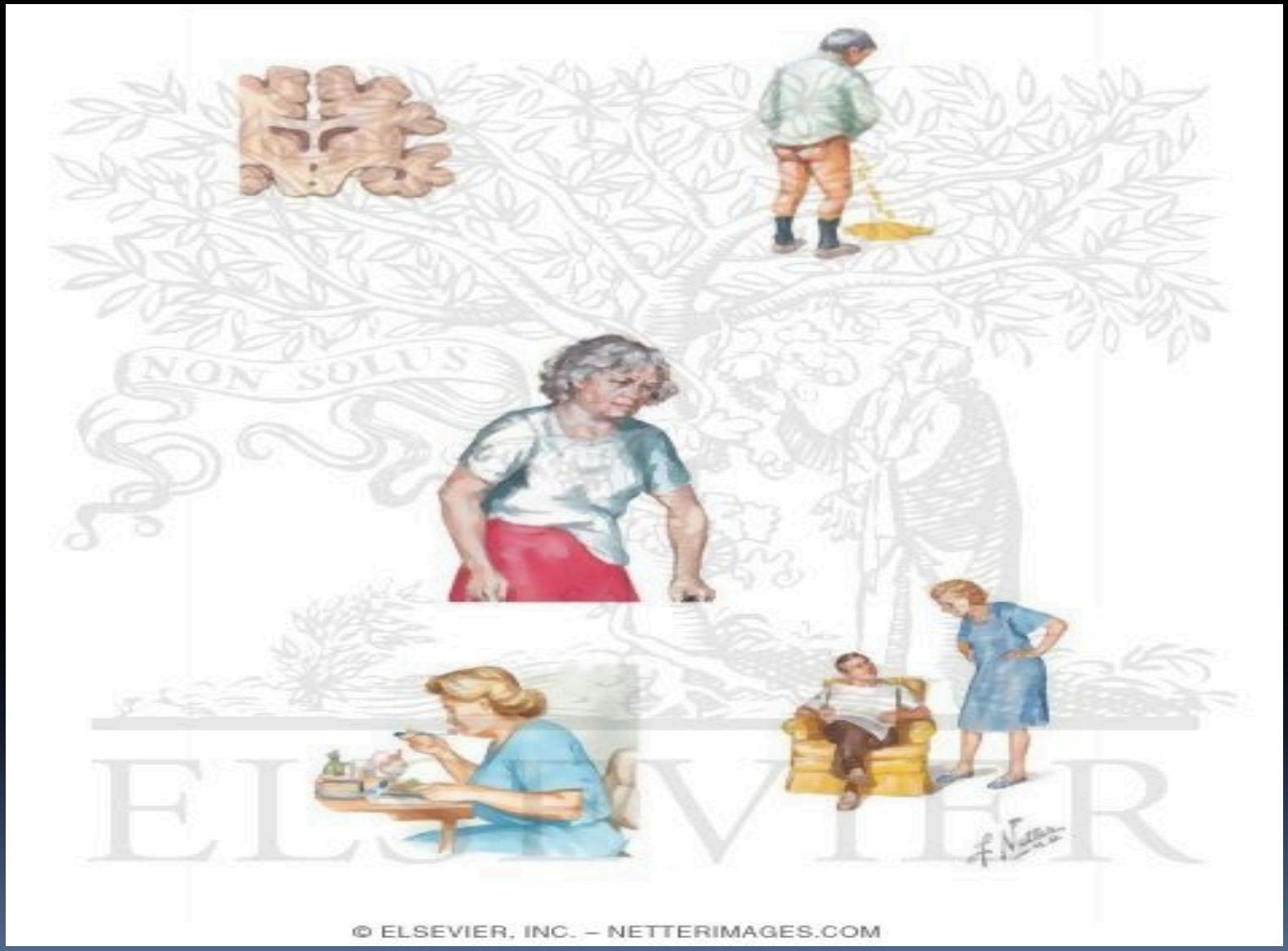





Healthy
FTD

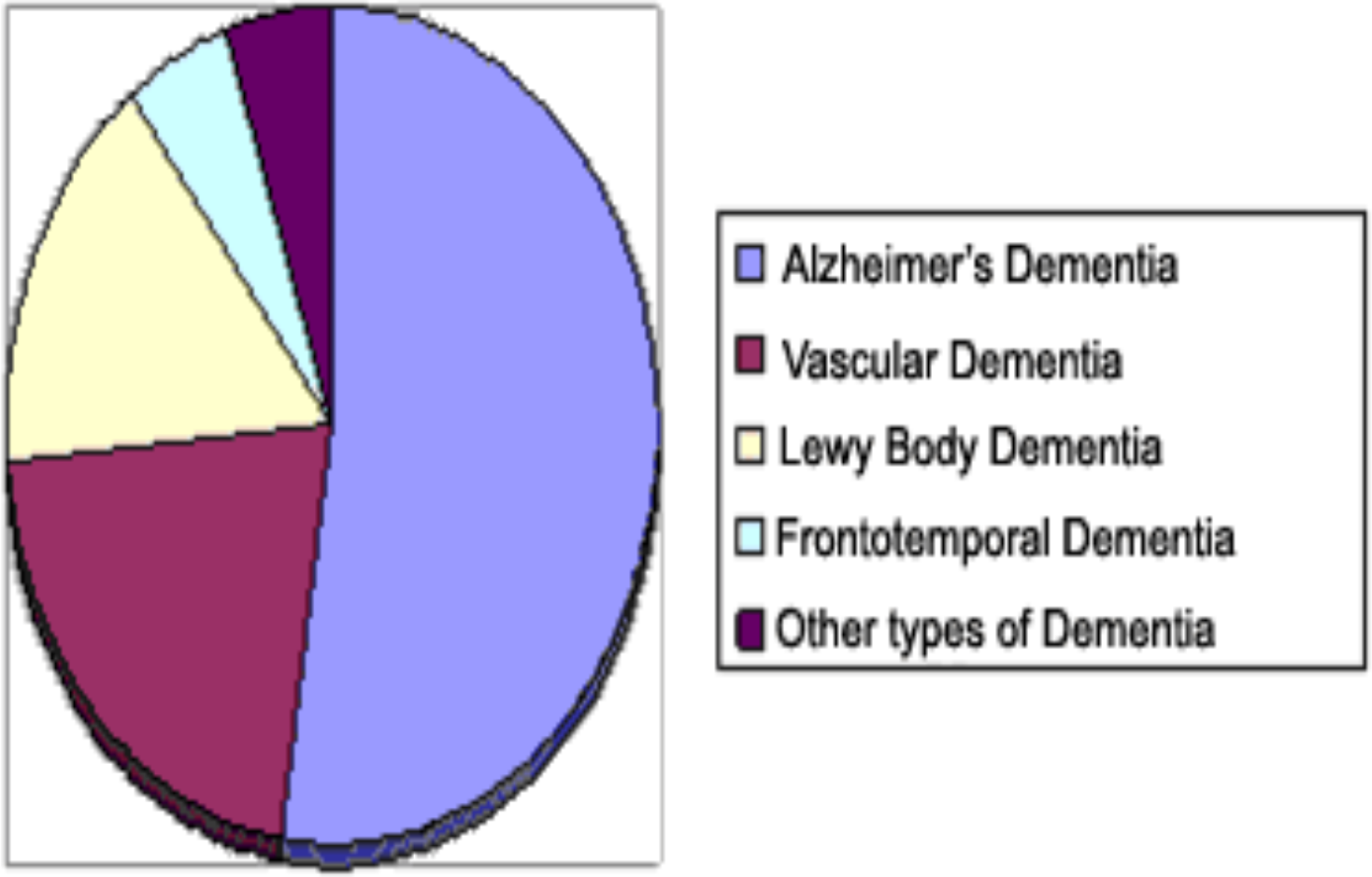
Symptoms

- Impairment in social skill
- Change in activity level
- Decreased Judgment
- Changes in personal habits
- Alterations in personality and mood
- Akinesia
- Failure or inability to make motor responses to verbal commands



Statistics

- Seven million Americans may be affiliated with a form of dementia
- FTD may account for 2-5% or 140,000 – 350,000 cases of dementia
- Occurs predominantly after age 40 and usually before age 65
- FTD have an equal chance of striking both men and women


Alzheimer's Dementia
Vascular Dementia
Lewy Body Dementia
Frontotemporal Dementia
Other types of Dementia

Comparison

Both FTD and Alzheimer disease (AD) are characterized by atrophy of the brain, and a gradual, progressive loss of brain function

FTD

- FTD is distinguished by cerebral atrophy in the frontal and anterior temporal lobes of the brain
- Patients exhibit memory disturbances remain oriented to time and place and recall information about the present and past.
- Even in late stages of the disease, patients retain visuo-spatial orientation, and they negotiate and locate their surroundings accurately
- Life expectancy is slightly longer for FTD.
- Onset after 40, but mainly before 65
- It has no amyloid plaques or tau tangles that infect the brain.

Alzheimer's Disease (AD)

- Alzheimer's affects the hippocampal, posterior temporal and parietal regions.
- patients experience severe memory loss and have an inability to learn new information.
- Onset at about 65.
- Has loss of nerve cells and contains tau tangles and amyloid plaques.

3 Pathological Subtypes

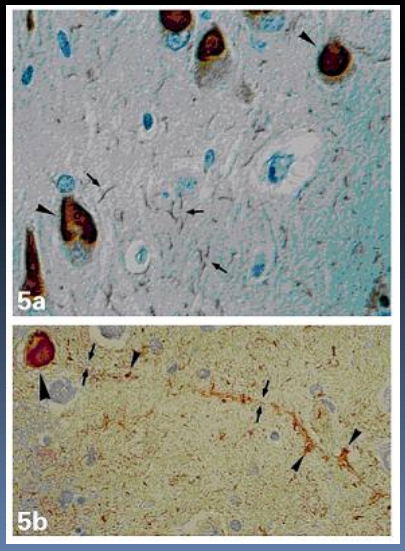
bvFTD

Progressive nonfluent aphasia (PNFA)

Semantic dementia

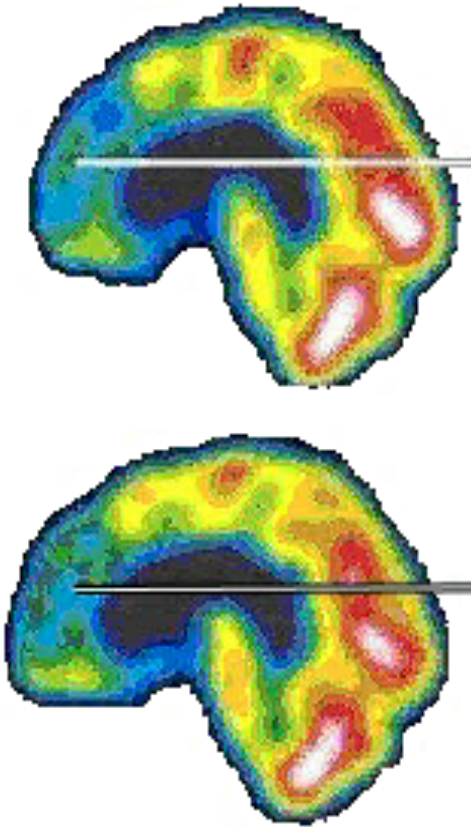
bvFTD (Behavioral Variant FTD)

- Also referred to as Pick's disease.
- Patients with Pick's disease have an abnormal protein, pick bodies, inside nerve cells in the damaged areas of the brain.
- characterized by early and progressive changes in personality, emotional blunting and/or loss of empathy.
- Impairment of language may also occur, but is less prominent and would appear as a word-finding problem.
- It is the third most common dementia, Alzheimer's being the first.
- It is most commonly found in people of Scandinavian descent.
- Symptoms:
  - Hyperoral
  - Stereotyped and/or repetitive
  - Hypersexual
  - Impulsive acts
  - Apathy
  - Mood changes



Pick bodies

PET Scan - Pick's Disease



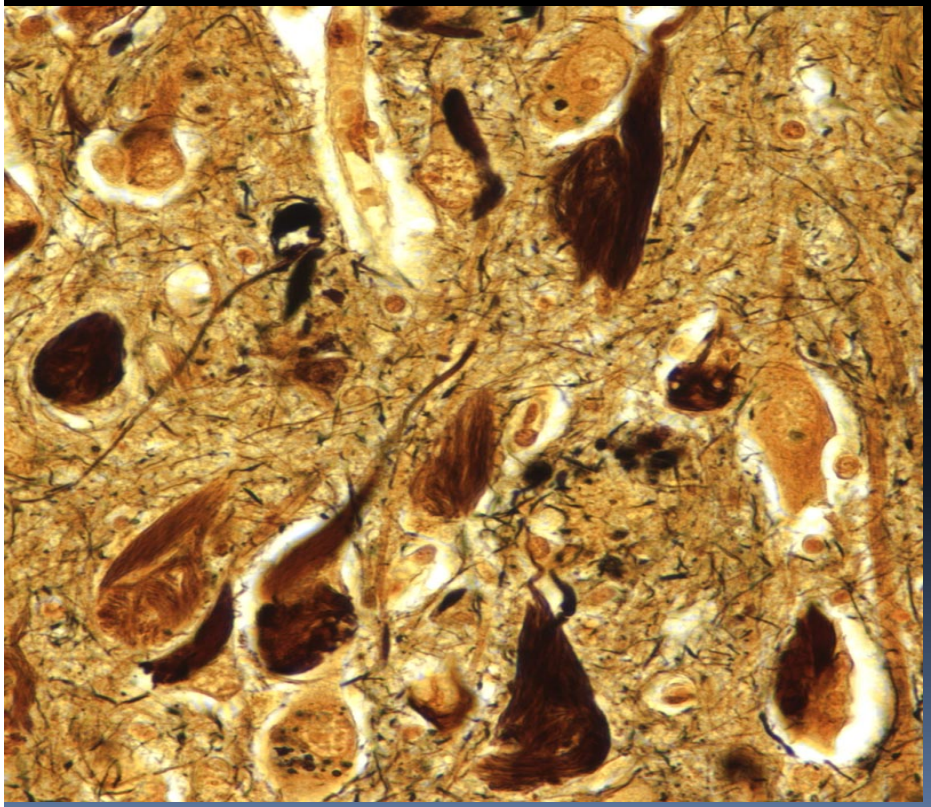
- Severely decreased brain activity in the Frontal Lobes resulting in signigicant cognitive, emotional, and behavioral disturbances.

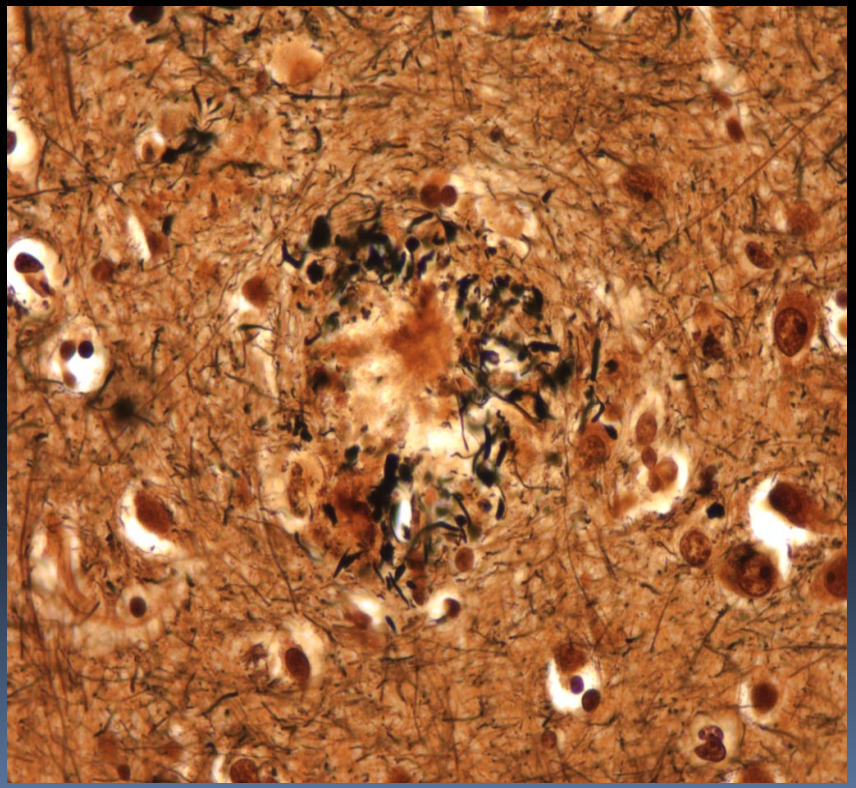
Semantic dementia (SD)

- SD accounts for 20% of all FTD cases.
- Difficulty with language is the key function problem experienced with patients with SD.
- A person with SD would substitute a complex word like “salmon” and use the word “thingy” many times since they cannot form the word.
  - It will eventually progress to a worsen state to where they lose the concept of a word and ask “ What is a fish?”
- Memory, however, tends to stay intact as it always has.
  - So they are fully aware of the time and place.
- Signs:
- Early loss of word and object knowledge
- SD patients eventually develop bvFTD behaviors such as:
  - Apathy and loss of empathy.

Progressive nonfluent aphasia (PNFA)

- PNFA accounts for 20% of all cases of FTD.
- Unlike SD, people with PNFA have problems pronouncing language rather than losing the meaning of words.
  - They would have problems in groups of friends or understanding complex words or sentences.
- Some signs of PNFA are:
  - Slurred speech
  - Breathiness
  - Deficits in comprehension of syntactically complex sentences
  - Sound distortions or hesitancies in initiation
  - And Grammatical deficits in language production





Treatments

- Currently, there are no specific treatment or cure for FTD, but the are treatments for symptomatic relief.
- **Antidepressants**
- **Antipsychotics**
- **Anticonvulsants**
- **Medroxyprogestrone**

Clinical Trials

- Conducted to allow safety and efficacy data to be collected for new drugs or devices
- Depending on the kind of product and the phase of its development, investigators register patients into small pilot studies
- Followed by bigger scale studies in patients that often compare to the new product with the presently prescribed treatment
- Safety and efficacy data are collected, the number of patients is typically increased.

Clinical Trials On **Memantine for FTD Treatment**

- The purpose of the study is designed to determine whether Memantine is effective in slowing the rate of behavioral decline in FTD.
- The study will also assess the safety and tolerability of long-term treatment with Memantine in patients with FTD or semantic dementia (SD);
  - whether Memantine is effective in slowing the rate of cognitive decline FTD;
  - and evaluate whether Memantine delays or decreases the emergence of parkinsonism in FTD.

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THANK
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