

ALZHEIMER'S DISEASE



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

By
Ms. RUPALI RUPASMITA ROUT
ASSISTANT PROFESSOR

INTRODUCTION:

Alzheimer's disease is a progressive and irreversible brain disorder that slowly destroys memory and thinking skills and eventually leads to the inability to do simple daily tasks. It is the most common cause of dementia.

ETIOLOGY:

Age: Age is the greatest risk factor for developing Alzheimer's disease. The incidence of the disease increases significantly after the age of 65.

Genetics: Certain genetic mutations have been linked to an increased risk of developing Alzheimer's disease. People who have a family history of Alzheimer's disease are also at a higher risk of developing the condition.

Brain changes: Alzheimer's disease is characterized by the accumulation of two proteins in the brain: beta-amyloid and tau. These proteins cause damage to the brain cells and disrupt the communication between them, leading to the symptoms of Alzheimer's disease.

Lifestyle factors: Several lifestyle factors, such as poor diet, lack of physical activity, and chronic stress, have been associated with an increased risk of developing Alzheimer's disease.

Medical conditions: Some medical conditions, such as high blood pressure, diabetes, and heart disease, have been linked to an increased risk of developing Alzheimer's disease.

Environmental factors: Exposure to toxins, such as heavy metals, pesticides, and air pollution, may also increase the risk of developing Alzheimer's disease.

PATHOPHYSIOLOGY:

- Alzheimer's disease occurs due to a combination of genetic, environmental, and lifestyle factors that lead to changes in the brain.
- Beta-amyloid is a protein that normally present in the brain, but in Alzheimer's disease, it builds up to form clumps called amyloid plaques.

- These plaques accumulate between the brain cells, disrupting the communication between them and causing inflammation and damage in brain.
- Tau is another protein that helps to maintain the structure of brain cells.
- In Alzheimer's disease, tau proteins become abnormal and form twisted fibers called neurofibrillary tangles. These tangles accumulate inside the brain cells, disrupting their function and causing them to die.
- As the beta-amyloid plaques and tau tangles accumulate in the brain, they cause the brain cells to die.
- This process usually starts in the hippocampus, which is the area of the brain responsible for forming new memories, and gradually spreads to other parts of the brain.
- As the disease progresses, more and more brain cells are affected, and the symptoms of Alzheimer's disease become more severe.

CLINICAL MANIFESTATION:

- **Memory loss:** Memory loss is the most common and noticeable symptom of Alzheimer's disease. This includes forgetting important dates, events, names, and places.
- **Difficulty with planning and problem-solving:** People with Alzheimer's may have trouble making plans or following through with tasks that involve multiple steps.
- **Language problems:** People with Alzheimer's may have difficulty finding the right words or following a conversation.
- **Disorientation:** People with Alzheimer's may get lost in familiar places or become confused about the time or date.
- **Changes in mood and behavior:** People with Alzheimer's may experience changes in mood or behavior, such as becoming anxious, suspicious, or depressed.
- **Loss of initiative:** People with Alzheimer's may lose interest in activities they previously enjoyed, and they may become withdrawn and passive.
- **Poor judgment:** People with Alzheimer's may make poor decisions or have trouble with financial management.

DIGNOSIS:

- Medical history & physical examination
- Counselling
- Brain imaging
- MRI & CT scan
- Amyloid PET imaging
- Tau PET imaging
- Blood test

PHARM ACOLOGICAL MANAGEMENT:

- Cholinestrse inhibitors= donepezil, revastigmine.
- Memantine
- Aduhelm

NON- PHARMACOLOGICAL MANAGEMENT/PREVENTION:

- Exercise.
- Proper rest & adequate sleep.
- Maintain a healthy life style.
- Avoid the consumption of alcohol, smoking, tobacco, cocaine & any other undesirable drug.
- Take healthy diet or nutritional diet.
- Intake vegetables, fruits & dry fruits that are rich in vit-E, omega 3 fatty acid & curcumin.
- Socially active.
- Proper communication.
- Stay calm & happy