

# **ALZHEIMER'S DISEASE:**

Alzheimer's disease is a **progressive neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die**. Alzheimer's disease is the most common cause of dementia — a continuous decline in thinking, behavioral and social skills that affects a person's ability to function independently.

**Atrophy:the medical condition of losing flesh, muscle, strength, etc. in a part of the body because it does not have enough blood.**

**Dementia is a term used to describe a group of symptoms affecting memory, thinking and social abilities severely enough to interfere with your daily life.** It isn't a specific disease, but several diseases can cause dementia. Though dementia generally involves memory loss, memory loss has different causes.

The early signs of the disease include forgetting recent events or conversations. As the disease progresses, a person with Alzheimer's disease will develop severe memory impairment and lose the ability to carry out everyday tasks.

## **SYMPTOMS**

**1.Memory loss is the key symptom of Alzheimer's disease.**

**2.Difficulty in**

**1)Thinking and reasoning**

(Unable to recognize and deal with numbers).It may be challenging to manage finances, balance checkbooks and pay bills on time.

**2)Making judgments and decisions**

For example, a person may make poor or uncharacteristic choices in social interactions or wear clothes that are inappropriate for the weather. It may be more difficult to respond effectively to everyday problems, such as food burning on the stove or unexpected driving situations.

**3)Planning and performing familiar tasks**

Once-routine activities that require sequential steps, such as planning and cooking a meal or playing a favorite game, become a struggle as the disease progresses. Eventually, people with advanced Alzheimer's often forget how to perform basic tasks such as dressing and bathing.

### **3.Changes in personality and behavior Depression**

- Apathy
- Social withdrawal
- Mood swings
- Distrust in others
- Irritability and aggressiveness
- Changes in sleeping habits
- Wandering
- Loss of inhibitions
- Delusions, such as believing something has been stolen

### **Preserved skills**

Many important skills are preserved for longer periods even while symptoms worsen.

**Preserved skills may include reading or listening to books, telling stories and reminiscing, singing, listening to music, dancing, drawing, or doing crafts.**

These skills may be preserved longer because they are controlled by parts of the brain affected later in the course of the disease.

### **REMEDIES**

1. There is **no treatment** that cures Alzheimer's disease or alters the disease process in the brain. In advanced stages of the disease, complications from severe loss of brain function — such as dehydration, malnutrition or infection — result in death.

2. **Medications may temporarily improve or slow progression of symptoms.** These treatments can sometimes help people with Alzheimer's disease maximize function and maintain independence for a time.

### **CAUSES**

1. **The exact causes of Alzheimer's disease aren't fully understood.**

2. **But at a basic level, brain proteins fail to function normally, which disrupts the work of brain cells (neurons) and triggers a series of toxic events.** Neurons are damaged, lose connections to each other and eventually die.

Scientists believe that for most people, Alzheimer's disease is caused by a combination of genetic, lifestyle and environmental factors that affect the brain over time.

**Researchers trying to understand the cause of Alzheimer's disease are focused on the role of two proteins:**

**Plaques.** Beta-amyloid is a fragment of a larger protein. When these fragments cluster together, they appear to have a toxic effect on neurons and to disrupt cell-to-cell communication. These clusters form larger deposits called amyloid plaques, which also include other cellular debris.

**Tangles.** Tau proteins play a part in a neuron's internal support and transport system to carry nutrients and other essential materials. In Alzheimer's disease, tau proteins change shape and organize themselves into structures called neurofibrillary tangles. The tangles disrupt the transport system and are toxic to cells.

**Research has shown that the same risk factors associated with heart disease may also increase the risk of Alzheimer's disease. These include:**

- Lack of exercise
- Obesity
- Smoking or exposure to secondhand smoke
- High blood pressure
- High cholesterol
- Poorly controlled type 2 diabetes

## **TESTS**

### **1. Physical and neurological exam**

#### **2. Lab tests:**

1) Blood tests may help your doctor rule out other potential causes of memory loss and confusion, such as a thyroid disorder or vitamin deficiencies.

2) Mental status and neuropsychological testing

#### **3) Brain imaging**

##### **1. Magnetic resonance imaging (MRI)**

##### **2. Computerized tomography (CT)**

Imaging of disease processes can be performed with positron emission tomography (PET). During a scan, a low-level radioactive tracer is injected into the blood to reveal a particular feature in the brain. imaging may include the following:

- **Fluorodeoxyglucose (FDG)** scans show areas of the brain in which nutrients are poorly metabolized. Identifying patterns of degeneration — areas of low

metabolism — can help distinguish between Alzheimer's disease and other types of dementia.

- **Amyloid imaging** can measure the burden of amyloid deposits in the brain. This imaging is primarily used in research but may be used if a person has unusual or very early onset of dementia symptoms.
- **Tau imaging**, which measures the burden of neurofibrillary tangles in the brain, is generally used in the research setting.