

## Alzheimer's Disease

### Overview:

- Memory loss doesn't always mean Alzheimer's. Alzheimer's is the degeneration of the parts of the brain that deal with thinking, memory and speech. It is much more than memory loss.
- Alzheimer's is not a natural part of growing old but the chances of developing the disease increase with age.
- Alzheimer's is the most common form of dementia and affects women more than men.
- Despite the fact that Alzheimer's is an incurable disease, many treatments are available to help improve the patient's quality of life.
- Patients go through several stages and symptoms rarely appear at once. The disease progresses differently for different people.

### Identifying the disease:

Alzheimer's destroys the brain's healthy cells, leading to a continuous degradation in memory and other cognitive skills. It is the most common reason for dementia that affects social and intellectual skills. It hinders daily activities and progresses over time.

### Other names:

Dementia or senile dementia

### Stages:

#### 1. Early stage (unclear symptoms):

- Difficulty finding the right word or name while talking
- Difficulty remembering the names of new people
- Difficulty completing social and professional tasks
- Forgetting what was read a few moments earlier
- Loss of valuable items and placing them in the wrong places
- Difficulty planning and organizing

## 2. Middle stage (symptoms start to show):

- Difficulty remembering important events and personal history
- Mood swings and tendency to isolate oneself
- Difficulty remembering home address, personal phone number, or alma mater
- Confusion regarding dates, the day of the week, season, place
- Needing help choosing the right clothes
- Some people face difficulty controlling their bowel movements
- Changes in sleeping habits
- The risk of getting lost in the street increases
- Changes in personality, e.g. paranoia, repeating some behavior (hands shaking or tearing napkins)

## 3. Advanced stage:

- Constant need for care and monitoring
- Low awareness of things happening around the person
- Problems with physical abilities, e.g. walking and sitting or even swallowing
- Difficulty communicating with others
- The patient may be at risk of infections at this stage, e.g. pneumonia

Alzheimer's patients exhibit changes in their personality, such as:

- Moodiness
- Distrust of others
- Increased stubbornness
- Social isolation
- Depression
- Fear
- Aggressiveness

### Causes:

Scientists believe Alzheimer's is the result of various genetic factors and other factors related to lifestyle and the surrounding environment. It is very difficult to understand the causes and factors behind Alzheimer's but its affect on brain cells is clear: it targets and destroys brain cells.

### How?

Scientists have noticed the following in Alzheimer's patients:

- Decrease in brain cells and in their communication compared with a healthy brain.
- Accumulation of beta-amyloid proteins in the brain, often called "plaques", that undermine neural connections between the cells and push the immune system to attack neurons.
- The formation of "tangles" as a protein called "tau" twists and forms an obstacle that prevents nutrients from reaching live cells until they die.

### Risk factors:

- Age: Alzheimer's usually appears after the age of 65 but may start earlier in very rare cases.
- Genetic factors: If someone in the family has Alzheimer's, there is a higher possibility that his/her first degree relatives (sons/daughters, brothers/sisters) may be affected.
- Gender: Women are more at risk than men.
- Lifestyle: Factors that increase the risk of heart disease also increase the risk of Alzheimer's.
- Educational and cultural background: Studies have found a link between low education levels and Alzheimer's but the exact cause is not yet clear.
- Head injuries.
- Learning difficulties.
- Down Syndrome.

### Symptoms:

Alzheimer's often starts manifesting itself as memory weakness, followed by a progressive difficulty in completing daily tasks. The disease continues to progress at different rates for different people until its last stages. It is scientifically known that some patients reach the last stage within 3-4 years while others take 15 years to reach the last stage.

### Complications:

During the advanced stages of Alzheimer's, the patient is no longer able to take care of himself/herself. From this, several other medical problems arise, such as:

- Respiratory infections: The difficulty swallowing food and liquids may lead to some food or drink products entering the respiratory passageways and the lungs, leading to infections.
- Urinary infections: As the patient struggles to control his/her urine, a urinary catheterization may be necessary, increasing the risks of urinary tract infections.
- Falling injuries: Falling may lead to fractures and is a common cause of serious head injuries such as brain hemorrhages.

### Diagnosis:

Doctors are able to diagnose 90% of Alzheimer's cases accurately. The condition can be confirmed after death through the microscopic testing of brain cells to identify plaques or tangles.

To differentiate between Alzheimer's and other causes of memory loss, doctors usually conduct the following tests:

- Laboratory tests
- Neuropsychological tests
- Brain scans
- MRI scans
- CT scans

### Treatment:

Alzheimer's so far: Neurologists sometimes prescribe medication to limit the symptoms that often accompany Alzheimer's, including sleeplessness, tossing, anxiety, insomnia, and depression.

### The role of the family:

- All family members should be informed about the nature of Alzheimer's and its progression.
- Roles should be assigned to care for the patient based on the individuals' situations and time.
- Patients benefit from short and repeated visits from loved ones.

### Prevention:

- Since the risk factors of Alzheimer's are similar to those of heart diseases, controlling these factors can help prevent the disease. These factors include: High blood pressure, cholesterol levels, and blood sugar levels.
- Regular physical, mental and social training can reduce the risks of Alzheimer's.
- The head should be protected from injuries or traumas by wearing a seatbelt or a helmet when playing sports.

### Frequently Asked Questions:

#### 1. Does caffeine (in tea or coffee) protect against Alzheimer's?

No studies have confirmed caffeine's effect in preventing Alzheimer's.

### **Misconceptions:**

#### **1. Memory loss (forgetfulness) is normal and is linked to aging:**

**Truth:** Forgetfulness is natural in humans. It's normal to forget a few things about some aspects of life but most people often remember them later. For Alzheimer's patients, memory loss becomes more severe because of disorders in the brain leading the person to forget the names of loved ones and daily routine events.

#### **2. Alzheimer's only affects the elderly**

**Truth:** Alzheimer's doesn't only affect the elderly. In some cases, people in their 30s, 40s or 50s can suffer from Alzheimer's. This is called Early Onset Alzheimer's.

#### **3. Alzheimer's isn't a fatal disease**

**Truth:** Alzheimer's isn't fatal in and by itself, but it does lead to death.

#### **4. Taking flu shots increases the risk of Alzheimer's**

**Truth:** The flu shot is not a risk factor for Alzheimer's and there is no link between the two.

#### **5. Some medication limits the progression of the disease**

**Truth:** No medication is available to treat Alzheimer's or limit its progression.

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