

Alzheimer's disease

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Alzheimer's disease: Alzheimer's disease is a progressive neurodegenerative disorder affecting 5 million Americans. The economic burden of Alzheimer's disease worldwide is greater than 150 billion dollars. Only half of the patients with Alzheimer's disease are actually diagnosed, and only half of those diagnosed are treated with medication. Currently, there is no cure for Alzheimer's disease. However, there are pharmacological agents to help the symptoms associated with this problem. The incidence of Alzheimer's disease is approximately 5% for patients between the ages of 64 and 75, but almost 50% in people over the age of 85. Age is a clear risk factor for Alzheimer's disease. Alzheimer's disease, which is one of several causes of dementia, involves a severe loss of cognitive function. The progression rate varies from person to person. The course of the illness is usually anywhere from three to twenty years. The average life expectancy is eight to ten years after the patient has been diagnosed. There is a genetic predisposition to Alzheimer's disease. There are associations made with apolipoprotein E being a significant gene involved with the development of Alzheimer's disease. New biological markers for Alzheimer's disease and spinal fluid neuroimaging characteristics such as changes on PET (Positive Emissions Tomography) may allow for earlier diagnosis in patients with mild cognitive impairment or asymptomatic disease.

Alzheimer's disease is characterized by global cognitive decline. This means there is a marked decline in several areas that are functioning. The most common and noticeable abnormality is memory loss. In addition, the patients have difficulty doing functional everyday tasks.

There are problems with language function such as forgetting simple words. The patient also complains of disorientation and being unsure of where they are at times. This can be manifested by problems with driving and not being able to follow directions.

In addition, the patients have poor judgment such as disregard for the weather when they are getting dressed or the value of money when they purchase items and misplace or lose items.

Behavioral problems such as mood swings and agitation may also be a part of the progression of Alzheimer's disease. For patients who have signs of dementia, a complete diagnostic workup is necessary to evaluate for other comorbid conditions, which may worsen this process.

Alzheimer's disease is the most common form of dementia. Other causes of dementia include; dementia from strokes (vascular dementia), Parkinson's disease-associated dementia, (Lewy body dementia), and normal pressure hydrocephalus. Certain treatable forms of dementia include the patients who have vitamin B12 deficiencies, thyroid disease and kidney disease. Extensive blood work and image of the brain such as a CAT scan or MRI are necessary to evaluate the patients for non-Alzheimer's type of dementia. Most recently, PET (positive emission tomography) scans may show early signs of dementia prior to any other diagnostic test. The pharmacological intervention for Alzheimer's disease involves augmenting the neurotransmitters or chemicals in the brain that are depleted. We now have medications that would increase the amount of acetylcholine by enzymatic ally blocking the breakdown of acetylcholine. These medications include' Aricept, Exelon, and Reminyl.

Another type of medication called Namenda works by blocking a receptor for amino acid "glutamate" which may be involved in cell death. New treatments for Alzheimer's disease include treating a sticky nerve toxic substance called "amyloid". Amyloid deposits are seen in large amounts in the brains of people with Alzheimer's disease. Scientists are now using antibodies and vaccines to treat excessive amyloid, and evaluating if clinical benefits is noted.

Over the last two years, five new agents have failed to show clinical benefits. More new medications are being tested this year. These agents target different pathways and genetic abnormalities in Alzheimer's disease patients. Research in brain growth factors and stem cells continue to proceed and show promise for treatment in the future.

Managing the behavioral activity of daily living problems is crucial in patients. Medications to help agitation, delusion and "sundowning" (when the patient becomes very confused toward the end of the day) are critical in order for patients to function at home. Non-

pharmacological treatments for agitation in patients need to be recognized. Support groups such as the Alzheimer's Foundation of Staten Island will help both the caregiver and the patients with such assistance as respite care in day centers where the patients can spend hours with supervision doing functional activities. This enables the caregivers to function better and take care of themselves. Alzheimer's disease received much publicity with the diagnosis in former president Ronald Reagan. We are getting closer to a better understanding and subsequently better treatments and hopefully a cure for this disabling and devastating illness.

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