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International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A Review Article on Alzheimer Disease Case Study

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ABSTRACT:

Alzheimer disease is the neurodegenerative disorder. It is the sensible type of dementia. Alzheimer disease is discovered by Dr. Alois Alzheimer. In Alzheimer disease condition memory loss situation is occurred. Main cause of Alzheimer disease is plaque formation in cortex region in brain and cholinesterase enzyme. In treatment of Alzheimer disease Cholinesterase inhibitors are mostly used it stopped the breakdown of Acetylcholine.[1]

INTRODUCTION:

Alzheimer disease is the neurodegenerative disorder. It is the one of the type dementia. It is firstly observed in 1907 Alzheimer disease is described by Alzheimer. Alzheimer disease is firstly observed in 51 year old woman the Alzheimer name is indicated senile dementia, dementia means loss of memory, functioning , thinking as well as remembering when Dr. Alois Alzheimer is analyse the Alzheimer disease in 51 year old woman that time this woman is suffering from mental illness also he was analysed changes in brain tissue at cerebral cortex region , In woman memory loss unreliable behaviour as well as language problems these symptoms are observed after four year latter she was died . Dr. Alois Alzheimer examined or observed tangled bundles of fibers. mostly plaques and tangle or bundles of fibers are affect the brain and disturb the brain function these plaques destroys the neuron communication and stop the neuron function and occur Alzheimer disease.[1] [2]

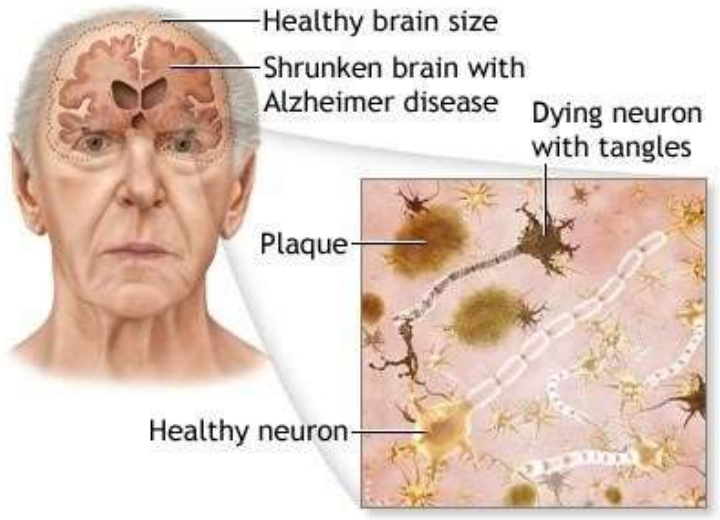

Fig. no.1.

SIGNS AND SYMPTOMS:

- Memory loss is a main symptom
- Movement difficulties
- Problem with sense and smell
- Changes in behaviour and personality

- Mood swings
- Anger
- Wondering [6]

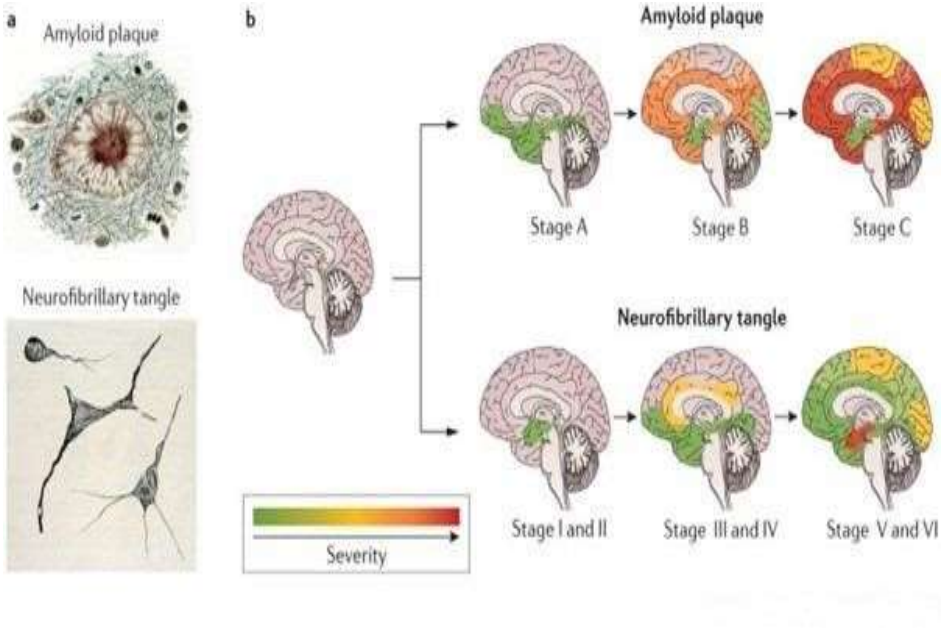

Fig. no.2

CAUSES:

The exact causes are not understood but basic causes this is formed due to formation of plaque in brain and tangled of bundle of fibre in brain mostly in cortex region.

In brain build up of abnormal proteins are help to formation of amyloid plaques and tangles. These plaques and tangles leads to destroy the communication between two neuron and stop its working and action.

Some time its leads to stopping the function as well as it destroy the whole neuron. Also leads to entorhinal damage to the cortex which is the main region used for the formation of essential memory.[2]

TREATMENT :

Many drugs has been approved by the FDA (Food Drug Administration) for the purpose of treatment of Alzheimer Disease.

In treatment of Alzheimer Disease Cholinesterase Inhibitor, Nontropic agents as well as NMDA receptors antagonist are used.[14]

CHOLINESTERASE INHIBHITOR:

The function of cholinesterase enzyme is breakdown of the acetylcholine. Acetylcholine is a neurotransmitter. The function of Acetylcholine is transfer of the signals from one cell to another cell. When increase the level of cholinesterase in brain then this excess amount of cholinesterase affect on the acetylcholine and breakdown it. That Time decrease level of acetylcholine in Brain after it affect the signal transferring process and stop the action and form the Alzheimer Disease. In treatment of Alzheimer disease mostly Cholinesterase inhibitors are stop the breakdown of acetylcholine and helps to normal Acetylcholine Function.

Donepezil, Galantamine, rivastigmine as well as dual Acetylcholine and butyrylcholinesterase inhibitor are used to treatment the Alzheimer disease Donepezil, Galantamine and rivastigmine is cholinesterase inhibitor. These drugs are inhibit the breakdown of cholinesterase enzyme.[14]

GENERAL MECHANISM OF ACTION:

Types of drugs are present in cholinesterase inhibiters. The parasympathomimetic agents types are direct acting, indirect acting or cholinesterase inhibitor and cholinesterase reactivator.

Direct acting drugs are directly binds to the receptors and show the Ach action. There are the drugs that are not affect the cholinesterase enzyme. But indirect acting drugs are affect on the cholinesterase enzyme and stops its action means active form of cholinesterase it transfers the inactive forms. Sometimes these cholinesterase enzyme has permanently transfer in inactive form but sometime this enzyme temporarily transfer in inactive form this situation depends on the type of drug like reversible type of drug and irreversible type of drug.

Table.no.1

Place	**Year**	**Age**	**Percentage**	**Area**
Mumbai	2001	60+	6. 5%	Urban
Pune	2010	60+	4. 1%	Urban
Kochi	2008	68+	3. 36%	Urban
Kolkata	2017	68+	1. 83%	Urban
Madras	1996	68+	2. 7%	Urban
Chennai	2008	66+	0. 9%	Urban
Trivendrum	2010	65+	4. 86%	Urban

For countries with a population of 10,000 or more age 60s or older, the highest Alzheimer's prevalence rates were in:

Table.no.2

Country	**Patient**
Miami- Dade County	16. 6%
Baltimore City, MD	16. 6%
Prince Geaorge County	16. 1%
Hinds County , MS	15. 5%
Orleans Parioh , LA	15. 4%
Dougherty county GA	15. 3%
Orangeburg County , CA	15%
Imperial County , CA	15. 2%
EI Pase County , TX	15%

RIVASTIGMINE:

Rivastigmine is the carbonate inhibitor, it inhibit the both AChE and BuChE rivastigmine has low protein binding which is not metabolised by hepatic microsomal cytochrome.

Rivastigmine is used in treatment of mild to moderate stages of Alzheimer disease. It is used to treat the behavioural and psychological symptoms of Alzheimer. [4] [14]

TOLERANCE:

When patients receiving rivastigmine 6 to 12 mg/day then rivastigmine not show a proper action it show side effect like nausea, diarrhoea, vomiting, somnolence, dyspepsia, malaise, fatigue, headache, dizziness.

DONEPEZIL:

Donepezil is used to treat the symptoms. It is used to treat the mild to moderate Type of Alzheimer Disease. It is reversible type of cholinesterase inhibitor, Donepezil is used in united states, Japan, Canada, and several other countries for treatment of Alzheimer disease.

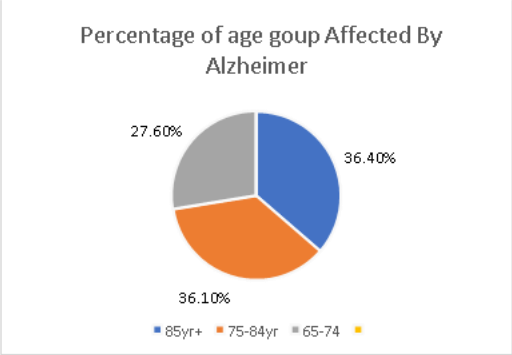

Fig. no. 3

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