A Case Report on Alzheimers Dementia

Dharti Meshram\textsuperscript{1*}, Jaya Gawai\textsuperscript{1} and Pooja Kasturkar\textsuperscript{1}

\textsuperscript{1}DMIMSU (Deemed to be University), Smt. Radhikabai Meghe Memorial College of Nursing, Sawangi (M) Wardha, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

ABSTRACT

Background: Dementia is one of the most difficult medical and economic concerns that our society faces today. There are currently very few treatments available for those suffering with dementia. There are no medications available that can stop or reverse brain tissue deterioration. This is primarily due to a lack of understanding of how dementia develops.

Aim: To improve the individual with dementias quality of life, followed by caregiver support. To minimize burden of this disease on caregivers.

Presentation of Case: The authors present case of a 65-year-old female got admitted in female psychiatric ward AVBR Hospital Sawangi Meghe Wardha Maharashtra with chief complaint of forgetfulness, interest in environment decline, unable to communicate, poor performance at work, muttering to self, sleep disturbance, seeing people which are not seen other, fearfulness. all necessary investigation done, in mental status examination founded impairment in memory, disorientation cognitive function impairment, RBC count 3.82, WBC count 5300, Hb% 12, calcium 8.1, urea 26, creatinine 0.6, sodium 142, potassium 4.0. Alkaline phosphate 89. HIV, HBsAG non-reactive, Positron emission tomography finding that atrophy in the left temporal lobe or posterior region of the partial lobes. Positron emission tomography (PET) is a widely used imaging technique in many clinical applications including tumor detection and neurological disorder diagnosis. In particular, amyloid PET plays a significant role in dementia diagnosis.
Results: The patient was received symptomatic treatment antidepressant, antianxiety, antipsychotic drug alleviates hallucinations and delusion. severity of Symptoms was minimized.

Discussion: patient received treatment such antipsychotic drug according to symptom, not only antipsychotic drug is important but also other therapy are important to minimized symptoms such reorientation training, daily routine, occupation therapy, Nutrition and Body Weight, Mood changes are best controlled by keeping a calm environment with fixed daily routine. It is advisable to have some identification bracelet or card always in their possession. The doors of the house should be securely locked so that the patients cannot leave unnoticed.

Conclusion: Patient received symptomatically treatment benzodiazepine antidepressant, antipsychotic to alleviate hallucinations and delusions, anticonvulsant to control seizures. Donepezil, galantamine, Memantine. Patient condition improved through reorientation training, therapy other and severity of symptoms was minimized.

Keywords: Alzheimers; agnosia; anomia; apraxia; cognitive; lewy bodies.

1. INTRODUCTION

Dementia is not a specific disease, but rather a broad term encompassing cognitive, memory, and personality impairment without impairment of consciousness [1]. It is characterized by a lack of thinking ability, memory, attention, logical reasoning, and other mental abilities [2]. Prevalence rate of dementia in India is founded 2.7%. If the age increase prevalence of dementia increases [3]. There are several varieties of dementia, including cortical dementia, subcortical dementia, progressive dementia, primary dementia, and secondary dementia. cortical dementia in this the brain damage primarily affected the brain cortex or outer layer. That interrupted problem in memory language, thinking, and social behaviour [4]. Subcortical dementia in that below the cortex of the brain that part is affected. so, there is changes in emotion or emotions and movement in the problem with memory [5]. Progressive dementia gets worse over time, that interfering in cognitive abilities. Secondary dementia develops as a result of a physical illness or damage [6]. Vascular dementia in this brain vessels are damage that supply blood to brain. that caused to occurred strokes and affect damage the fibres in the white matters of the brain. Frontotemporal dementia is characterized by the breakdown of nerve cells or their connections in the brains frontal and temporal lobes [7].

Lewy body dementia is characterized by the abnormal build-up of proteins into masses known as Lewy bodies. It is the most second common type of progressive dementia after Alzheimers disease. Protein deposits, called Lewy bodies, develop in nerve cells in the brain regions involved in thinking, memory and movement. Corticobasal degeneration is a rare disease in which areas of brain shrink and nerve cells degenerate and die over time. The disease affects the area of the brain that processes information and brain structures that control movement. This degeneration results in growing difficulty in movement on one or both sides of body. Progressive supranuclear palsy is an uncommon brain disorder that causes serious problems with walking, balance and eye movements, and later with swallowing. The disorder results from deterioration of cells in areas of your brain that control body movement, coordination, thinking and other important functions. Progressive supranuclear palsy is also called Steele-Richardson-Olszewski syndrome. The condition may cause you to have poor coordination, stiffness, difficulty thinking, trouble with speech or language, or other problems.

Parkinsons disease dementia is a decline in thinking and reasoning that develops in many people living with Parkinsons at least a year after diagnosis. The brain changes caused by Parkinsons disease begin in a region that plays a key role in movement, leading to early symptoms that include tremors and shakiness, muscle stiffness, a shuffling step, stooped posture, difficulty initiating movement and lack of facial expression. As brain changes caused by Parkinsons gradually spread, they often begin to affect mental functions, including memory and the ability to pay attention, make sound judgments and plan the steps needed to complete a task. The key brain changes linked to Parkinsons disease and Parkinsons disease dementia are abnormal microscopic deposits composed chiefly of alpha-synuclein, a protein found widely in the brain with a normal function not fully known.
Multiple system atrophy is a rare neurodegenerative disorder characterized by autonomic dysfunction, tremors, slow movement, muscle rigidity, and postural instability and ataxia. A modified form of the alpha-synuclein protein within affected neurons may cause MSA. Motor impairments (loss of or limited muscle control or movement, or limited mobility) may include tremor, rigidity, and/or loss of muscle coordination as well as difficulties with speech and gait (the way a person walks). Some of these features are similar to those seen in Parkinson's disease, and early in the disease course it often may be difficult to distinguish these disorders.

Dementia is produced by brain injury or loss of nerve cells and their connections [8]. Dementia is frequently classified based on what they have in common, such as the protein or proteins deposited in the brain or the portion of the brain affected, side effect of drug or vitamin deficiency [9]. Dementia is caused by a range of diseases and accidents that damage the brain, either directly or indirectly, like Alzheimer's disease and stroke [10]. It is one of the major reasons of incapacity or dependency between elder persons worldwide [11]. Degenerative neurological diseases, such as Parkinson's disease, Huntington's disease, or multiple sclerosis, brain tumor, vascular disorder are the root causes of dementia [12]. Infection such as CNS, HIV, or neurosyphilis, use of substance, depression, vitamin B12 and E deficiency, nicotine, thyroid problems [13].

The risk factor of dementia is Age, family history, diseases associated with diabetes, down syndrome, multiple sclerosis, heart disease, and depression, smoke, used alcohol, poor diet and nonexistence of exercise, brain damage, strokes, or infections in the brain like syphilis or meningitis [14].

Dementia has three stages: early stages (two to four year) in that most affected in memory loss, linguistic difficulties, mood swings, personality changes, impaired judgment, apathy. Mild stage (Two to Twelve year) in that period (2 to 12 years) characterized by symptoms such as inability to retain new information, behavioural and change in personality, increasing long-term memory loss, wandering, restlessness, anger, bewilderment, need for assistance, social isolation, and hesitancy in responding to questions and final stage (up to a year) it involves gait and motor disturbances, does not recognized family, cant perform daily living activity, urinary incontinence, needs long term care placement, dies due to aspiration pneumonia [15].

Clinical features of dementia dependent on the causes but common features include changes in cognitive include memory loss, difficulties in finding the words and communicating, difficulties thru visual or spatial capacities, such as getting lost while driving, problem solving difficulties, confusion or disorientation, unable in motor or coordination functions or unable to planning or organizing, changes in psychological, changes in personality, anxiety, depression, agitation, inappropriate behaviour, paranoia, hallucination [16].

Diagnosing dementia and its type can be challenging. To diagnose the cause of the dementia, the doctor must recognize the pattern of the loss of skills and function and determine what a person is still able to do [17]. No single test diagnosed dementia. Diagnosed by evaluating thinking skills, such as memory, orientation reasoning and judgment attention, language skills, neurological examination in that evaluating memory language, visual perception, attention problem solving movement, senses, reflexes, and other area. Brain scans CT and MRI its checked to any stroke or bleeding tumour or hydrocephalus. PET Scans show activity of brain that amyloid or tau protein, hallmarks of Alzheimer disease had deposited in brain [18]. Blood test help to find out physical problems that can affect brain function, like vit. B-12 and thyroid gland underactive. Spinal fluid test does for examine infection, inflammation or markers of degenerative disease [19].

2. PRESENTATION OF CASE

This case selected from AVBR Hospital Sawangi Meghe Wardha.

2.1 Patient Information

The authors present case of a 65-year-old female patient referred to female psychiatric ward AVBR Hospital Sawangi Meghe Wardha Maharashtra with chief complaint memory loss, of forgetfulness, interest in environment decline, unable to communicate, poor performance at work, muttering to self, sleep disturbance, seeing people which are not seen other, fearfulness in the last 2 year, all necessary investigation done, such as history collection, mental status
examination founded impairment in memory, disorientation, cognitive function impairment, mini mental status examination score of 13/30, verbal fluency poor, her general physical examination was unremarkable without evidence of cataracts. RBC count 3.82, WBC count 5300, Hb% 12, calcium 8.1, urea 26, creatinine 0.6, sodium 142, potassium 4.0. Alkaline phosphate 89. HIV, HBSAG non-reactive, Positron emission tomography finding was that atrophy in the left temporal lobe or posterior region of the partial lobes. Positron emission tomography (PET) is a widely used imaging technique in many clinical applications including tumor detection and neurological disorder diagnosis. In particular, amyloid PET plays a significant role in dementia diagnosis. Her past medical history was relevant for vitamin B OR D deficiency. There was no any past or present surgical history. She had no history of smoking, alcohol, or other drug misuse. Laboratory screening was normal.

2.2 Precipitating Factor

Her mother had history of forgetfulness, memory loss at the age of 56, she died due to stoke.

2.3 Diagnostic Assessment

History collection done her mother had history of dementia forgetfulness, loss of memory at the age of 56 she died due to stroke.

2.4 Physical Examination

Her general physical examination was unremarkable without evidence of cataracts.

2.5 Blood Investigation

HB%- 12mg/dl, RBC count 3.82, WBC count 5300, Hb% 12, calcium 8.1, urea 26, creatinine 0.6, sodium 142, potassium 4.0. Alkaline phosphate 89. HIV, HBSAG non-reactive, PET-CT finding that atrophy in the left temporal lobe or posterior region of the partial lobes.

2.6 Mental Status Examination

Impairment in memory, disorientation, cognitive function impairment, mini mental status examination score of 13/30, verbal fluency poor, auditory hallucination present.

2.7 Data Extraction

Sources of data are libraries, hand book, PubMed, Cochran, Medline.

3. THERAPEUTIC MANAGEMENT

Still now no specific medicine is available to treat Alzheimers disease. Most type of dementia cant be cured. In western countries used Tacrine drug. It is long-acting inhibitor of acetylcholine and also delays the progression of the illness [20].

Patient received symptomatic treatment to relief causing symptoms such as benzodiazepine for insomnia and anxiety antidepressant for depression, antipsychotic to alleviate hallucinations and delusions, anticonvulsant to control seizures, along with some Cholinesterase inhibitors. Donepezil, galantamine It helps boosting levels of a chemical messenger involved in memory and judgment side effect are nausea, diarrhoea and vomiting. Memantine, it regulating activity other chemical messenger involved in brain function like learning and memory most side effect are dizziness [21]. Along with some psychotherapy also help such as occupational therapy the main purpose of this to prevent accidents such as falls down, manage behaviour or prepared for dementia progression. modifying the environment reducing clutter and noise can make it easier for someone with dementia to focus and function. simplifying the task Structure and routine also help reduce confusion in people with dementia. caregiver try to following suggestion such as enhance communication, encourage exercises, engage in activity, establishing in night time ritual. Try to establish going-to-bed rituals that are calming and away from the noise of television, meal clean-up and active family members., Keep a calendar. A calendar might help loved one remember upcoming events, daily activities and medication schedules. Developed a plan with one while he or she is able to participate that identifies goals for future care. Other therapy is music therapy, light exercise, watching videos all members, pet therapy, Aromatherapy, massage therapy art therapy [22].

4. DISCUSSION

Patient received treatment according to symptoms such as antipsychotic drug for hallucination and delusion and severity of patient were minimized. antidepressant for depression. along with patient received therapy. Nursing care for patients of Alzheimers disease is most important. Whether at home, in an acute hospital environment, a day-care canter or in a long-term stay institution. Care givers must be trained to
promote the patients remaining intellectual abilities; help them maintain their independence in attending to their usual functions and avoid injuries; and provide for a good quality of life.

Family caregivers of people with dementia, often called the invisible second patients, are critical to the quality of life of the care recipients. The effects of being a family caregiver, though sometimes positive, are generally negative, with high rates of burden and psychological morbidity as well as social isolation, physical ill-health, and financial hardship. Caregivers vulnerable to adverse effects can be identified, as can factors which ameliorate or exacerbate burden and strain. Caregiver interventions have been successful at increasing caregiver knowledge, improving mood, reducing stress and depression levels. Stress of family care giver minimized through increasing knowledge of carer about illness.

Alzheimer disease is the most common causes of dementia in the elderly. Alzheimer disease is progressive, incurable, terminal cognitive decline that can occur in middle or old age and where symptoms gradually worsen over a number of years. Its the 6th leading causes of death of year the US [23]. The most common cause of dementia is Alzheimer disease which leads to a physiological impairment in the functioning of neurons in the cerebral cortex and hippocampus. Vascular dementia is usually caused by a series of small strokes, resulting in inadequate blood supply to the barrier of memory and thinking [24]. Dementia is frequently treatable, although it is rarely curable or reversible. Somewhere between 1.5 percent of all dementia cases are completely recoverable [25].

5. CONCLUSION

Patient received symptomatically treatment benzodiazepine antidepressant, antipsychotic to alleviate hallucinations and delusions, anticonvulsant to control seizures. Donepezil, galantamine, Memantine. Patient condition improved through reorientation training and severity of symptoms was minimized.

CONSENT

As per international standard or university standard, patient written consent had been taken.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

3. Falkingham J, Evandrou M, McGowan T, Bell D, Bowes A. Demographic issues, projections and trends: older people with high support needs in the UK.
9. Mohajeri MH, Troesch B, Weber P. Inadequate supply of vitamins and DHA in the elderly: implications for brain aging and...


15. Harmon B. Effect of song rendition on participation and behavior states of older adults with alzheimer's disease.


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