MANAGEMENT OF ALZHEIMER'S DISEASE THROUGH AYURVEDA

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ABSTRACT
Neurodegenerative disorders are major challenges to clinicians. Alzheimer’s is a disease of the brain that causes problems with memory, thinking and behaviour. It is the most common form of dementia and accounting for 60 to 80 per cent of all cases. Alzheimer's disease, or AD, is a progressive, incurable disease of the brain caused by the degeneration and eventual death of neurons (nerve cells) in several areas of the brain. Approximately 36 million people worldwide are having AD. By 2050, 115 million older are expected to have AD if the current numbers hold and no preventive treatments become available. Mostly it begins in people over 65 years of age; Living with Alzheimer’s disease can be saddening for both the sufferer and the family. AD is financially one of the most costly diseases. The national cost of caring for people with AD is about $100 billion every year. Highly sophisticated medical technology and pharmacological advances unfortunately failed to meet the needs of the Neurodegenerative patients. Even though there is no direct reference regarding Alzheimer’s disease (AD) in Ayurvedic classics, scattered references are available regarding the symptoms as well as treatment such as Rasayana etc. A judicious application of Ayurvedic principles could go a long way in the management and care of AD, which is going to be an alarming sign in the future.

Keywords: Alzheimer’s disease, Neurodegeneration, Rasayana, Ayurveda.

INTRODUCTION
Neurodegenerative disorders are major challenges to clinicians all the time. Approximately 10% of all persons over the age of 70 years have significant memory loss, and in more than half, the cause is Alzheimer’s disease¹. AD can manifest in third decade of life also but it is most common cause of dementia in elderly.² Alzheimer’s is a disease of the brain that causes problems with memory, thinking and behaviour. Alzheimer's disease, or AD, is a progressive, incurable disease of the brain caused by the degeneration and eventual death of neurons (nerve cells) in several areas of the brain³. The exact cause and mechanism by which Alzheimer’s disease develops is still unknown. But the main postulates are:
1. Genetic causes/gene mutations⁴
2. Oxidative damage to the nerve cells⁵
3. Aggregated protein’s in the nerve bodies⁶
4. Mitochondrial abnormalities⁷.
5. Abnormal neuronal cell death⁸
6. Impairment in axonal transport⁹

INTRODUCTION
The cognitive changes of AD tend to follow a characteristic pattern begins with impairment of memory and progress to language and visuospatial deficits. Memory problems are typically one of the first warning signs of cognitive loss, possibly due to the development of Alzheimer’s disease. A decline in other aspects of cognition, such as word-finding vision/spatial issues, and impaired reasoning or judgment, may also signal the very early stages of Alzheimer’s disease. As Alzheimer’s disease progresses, memory loss worsens, and changes in other cognitive abilities are evident. Problems can include, for example, getting lost, trouble handling money and paying bills, repeating questions, taking longer to complete normal daily tasks, using poor judgment, and having some mood and personality changes. Later stage there will be hallucinations, delusions, and paranoia, and may behave impulsively. People with severe Alzheimer’s cannot communicate and are completely dependent on others for their care.

From the Ayurvedic perspective this condition can be termed as Smritibhramsha, resulted due to depletion of Dhatus or tissue elements and imbalance of Vata Dosha. Genetic causes can also be understood here with the concept of Beeja dosha described by Charaka. It is mentioned that whichever Avayava of Beejabhaga (genes) is affected by the vitiated Doshas the respective Avayava will present with a disease. So a particular Beejabhagaavayava (Part of the genes) may be responsible for changes in the neurons for the occurrence of disease. Along with genetic, environmental and lifestyle related factors may be responsible for manifestation of the disease. In Ayurveda it is said that Smritibhramsha can develop due to consumption of unwholesome diet (dominant in Tamas & Rajas) and lack of physical activities which causes vitiation of Doshas affects the mind and body both and leads to Smritibhramsha. Modern medical science explains Alzheimer’s disease (AD) is neurodegenerative disease and characterized by the progressive accumulation of amyloid β-protein (Aβ) in brain, a process that is considered to play an important and potentially causal role in the pathogenesis of AD. In the similar way Dhatukshaya and Margavarodha are the cardinal aetiologies for the vitiation of Vata Dosha. The accumulation of protein can be understood as collection of Aama at the cellular level. Margavarodha may be caused of the formation of Aama precipitated by Vishamagni which was formed due to Vatadushti. The proper functioning of Vata in cellular level will make use of nutrients for building tissues and removing wastes from the system. Vikruti of Kaayagni and Vata at the level of neurons is the cause of production of Aama which leads to AD. This accumulation of waste as Aama which can be correlated with protein aggregation can disturbs the equilibrium and leads to degenerative changes. This degeneration further vitiates Vata and it goes on in a vicious circle. The possibility of Avarana of Vata should also be considered, while also keeping in mind the condition of the patient and disease.

**DIAGNOSIS OF ALZHEIMER’S DISEASE (AD)**

The diagnosis can be confirmed with very high accuracy post-mortem when brain material is available and can be examined histologically. The earliest and most severe degeneration is usually found in the medial temporal lobe, lateral temporal cortex and nucleus basalis of Meynert. The microscopic findings are neuritic plaque and NFTs. Alzheimer’s Disease can be diagnosed clinically by physical and psychological examinations. Collateral history from relatives, Lab tests: rule out vit. B12 and folate deficiency, CBC, LFT, CT, MRI, and with single photon emission computer tomography (SPECT) or positron emission tomography (PET). Neuropsychological tests such as the mini-mental state examination.
Management:
The management of AD is challenging & gratifying despite the absence of a cure\textsuperscript{20}. At present, no treatment is available to alter the relentless deterioration of the disease. A number of attempts have been made for neurotransmitter replacement therapy in Alzheimer's disease but these drugs cause hepatotoxicity. The overall management is very difficult and frustrating as there is no specific treatment and the primary focus is on long term amelioration of associated behavioural and neurologic problems. Building rapport with the patient's family members and other caregivers is very essential for successful management but is found to be very difficult. Ayurved can provide a better relief if diagnosed and treated in the early stage of disease. Smritibhramsha occurs mainly due to old age and due to impairment of Buddhi. The first stage of treatment involves Rookshana and intake of Amapachana medicines. Rookshana and Amapachana to make the Srotas ready for Snehana and Shodhana procedure. After proper Snehana (oilation), Swedana (Sudation), Shodhana should be done in the form of Vasti or Virechana and Nasya . Vasti is said to be the best in Vata Vyadhi, moreover it is said to be Ardhachikitsa\textsuperscript{21}. Yapanaavastis are indicated in Avarana and also in Manovikara (psychological disturbances)\textsuperscript{22} and we can select Rajayapanavasti for the treatment of AD. Also, as Smritibhramsha can be considered as an Urdbhajatrugata Vikara, Nasya Karma can be performed. Hence, the line of treatment comprises of Nasya and administration of Rasayana and Medhya drugs orally. The ancient scholars of Ayurveda have considered 'Nasa' as the passage to the head i.e. cranial organs. The drug given through nose as Nasya, reaches the brain and eliminates only the morbid Doshas responsible for producing the disease. The patient should be given proper counselling and mental support i.e. nothing but the Satvavajaya Chikitsa as it is the best in management of Manovikara (psychological disturbances)\textsuperscript{23} This will be very helpful to manage the behavioural symptoms of patient of Alzheimer’s disease like agitation, wandering, anxiety, anger, and depression. Rasayana therapy including Medhya Rasayan and Achara Rasayana must be planned for the AD because it helps us in strengthening the host- defence mechanisms. It is very beautifully says about right mental and physical conduct, which when followed lead to a disease free life. A regulated lifestyle, wholesome diet, appropriate behaviour, and following ideal code of conduct as quoted in Ayurveda\textsuperscript{24} are best to prevent and manage the Neurodegenerative diseases in general and Alzheimer’s Disease (AD) in particular.

Conclusion
Alzheimer’s is a disease of the brain that causes problems with memory, thinking and behaviour. Living with Alzheimer’s disease can be saddening for both the sufferer and the family. The prevalence of Alzheimer’s disease is increasing rapidly and in spite of various medical advancement the exact pathogenesis and management is not known. Ayurveda treatments like Shodhana Karma, Medhya Rasayana, Achara Rasayana, Satavavajaya Chikitsa etc. can effectively reduce the progression of disease and provide a better quality of life to patients of AD.

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