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Review Article

AN AYURVEDIC APPROACH TO ALZHEIMER'S DISEASE

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ABSTRACT

Healthy aging is a journey and a natural process of life. The aging is inevitable, and every living organism has to go through it whether one likes it or not. The improvement of healthcare system in past few decades have contributed to increased life span of the human being but it has also resulted in increased number of neurodegenerative disorders like Alzheimer's and it is not a normal part of aging process. Many elderly individuals exhibit mild motor and cognitive alterations reminiscent of those found in neurodegeneration. This observation gave birth to the popular idea that aging might be a "benign" form of neurodegeneration. Ayurvedic classics have given great emphasis to the higher faculties dealing with memory and cognition. Even though there is no direct reference regarding Alzheimer's Disease (AD), 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, ageing, motor neuron disease, Rasayana, Satvavajaya Chikitsa, Ayurveda.

INTRODUCTION

The process of aging begins at birth or conception and continues throughout life. This process of ageing brings changes which are unsolicited, irreversible and inevitable. While many of the changes we face as we age are celebrated and embraced, not all change is desirable, and not all are pleasant. Some of the biggest changes humans experience in their lifetime occurs in late adulthood and into their senior years. It is in this period that the majority of people start to experience mild motor and cognitive alterations reminiscent of those found in neurodegeneration. This observation gave birth to the popular idea that ageing might be a "benign" form of neurodegeneration (deterioration of nerve cells)¹.

Neurodegenerative disorders are major challenges to clinicians all the time. Neurodegenerative diseases as diverse as Alzheimer's, Parkinson's, and Motor neuron disease share a common pathological mechanism involving aggregation and deposition of misfolded proteins, which leads to progressive central nervous system disease. 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 percent of all cases². 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. Since it is a degenerative disease, patients develop it with few symptoms at an earlier stage, but then it gradually becomes more predominant in how the patient lives his or her life, developing into dementia. Living with Alzheimer's disease can be saddening for both the sufferer and the family. Highly sophisticated medical technology and pharmacological advances unfortunately failed to meet the needs of the Neurodegenerative patients. As a strong alternative system patient are approaching Ayurveda clinicians most of the time and due to that it becomes important for us to understand it based on Ayurvedic principles and manage the condition effectively.

Nidana and Samprapti:

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 transport⁹7. Cytotoxicity¹⁰

From the Ayurvedic perspective this condition can be termed as Smritibhramsha, resulted due to depletion of Dhatus or tissue elements and imbalance of VataDosha. Genetic causes can also be understood here with the concept of Beeja dosha described by Maharshi Charaka¹¹. 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 development of disease. Along with genetic, lifestyle related factors may also play a role in manifestation of Alzheimer's disease. In Ayurveda it is said that Smritibhramsha can develop due to consumption of unwholesome diet (dominant in Tamas & Rajas) and irregular physical activities which causes vitiation of Dosha affects the mind and body both and leads to Smritibhramsha^{12,13}.

Modern medical science explains Alzheimer's disease (AD) is neurodegenerative disease and characterized by the progressive accumulation of amyloid β -protein (A β) in brain, a process that is considered to play an important and potentially causal role in the pathogenesis of AD¹⁴. Dhatukshaya and Margavarodha are the cardinal aetiologies for the vitiation of Vata Dosha¹⁵. 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. Kaayagni is the end process of metabolism occurring in tissue level involving bio enzymes which determines the proper formation of Saara (nourishment) and Kitta (waste) in that level. 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 logically by an intelligent physician, while also keeping in mind the condition of the patient and disease. In Pranaavrita Samana there will be difficulty in speech, slurring speech and even dumbness¹⁶. If Vyana Vata is occluded by Prana Vata, then there will be loss of functions of all the senses and there will be loss of memory as well as strength¹⁷.

Alzheimer's disease AD is a progressive disease which shows these different types of manifestation in different patients depending upon the Samprapti present. A good physician should always analyse the condition of the patient and very diligently arrive at the Dosha-Dushya and Samprapti involved at any given stage of the disease.

DIAGNOSIS OF ALZHEIMER'S DISEASE (AD)

Alzheimer's disease can be definitively diagnosed only after death, by linking clinical measures with an examination of brain tissue and pathology in an autopsy. Scientists are exploring ways to help physicians diagnose Alzheimer's disease earlier and more accurately. Alzheimer's Disease can be diagnosed clinically by physical and psychological

examinations. 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. People often are diagnosed in this stage. 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 care¹⁸. From the Ayurvedic point of view in a nutshell these symptoms can be correlated with the vitiated Prana, Udana, Vyana, Sadhaka pitta, Avalambaka and Tarpaka Kapha, Rajas and Tamo Dosas which are involved in the different stages of pathogenesis of Smritibhramsha. All these symptoms are produced due to above mentioned factors.

MANAGEMENT

Alzheimer's disease is life-changing for both the diagnosed individual and those close to him or her. While there is currently no cure, treatments are available that may help relieve some symptoms. A wise Ayurveda physician must have specific logic about where to start and how to progress the treatment while treating AD. We cannot say 'completion of treatment' as this may be considered as a Yapyaroga. Ayurved can provide a better relief if diagnosed and treated in the early stages of AD.

The first stage of treatment involves Rookshana and intake of Amapachana medicines. Udwartana, Dhanyamlakizhi/Dhanyamldhara and intake of medicines like Shadangam kashaya, Saddharanam churna may be useful. We do Rookshana and Amapachana to make the Srotas ready for Snehana and Shodhana procedure. In most patients we can see that there is some relief by these processes itself as the Srotas may become slightly conducive to circulations. We can remember here Langhana (lightening therapy) is advised even before going for Brihana (nourishing)¹⁹. Properly administered Langhana itself bring about the clarity of senses, expulsion of wastes and lightness in body²⁰. But one must never overdo the process as it may very much aggravate the Vatadosha. Then we must selectively do Snehana. If the progression is not rapid it must be predominantly Vatikam. In Vatika we can introduce Taila both internally and externally. Especially in PranaavrutaSamana, Chatushprakarasnehana (four types of unctuous substances that is Ghee, oil, fat and bone marrow) is being indicated. Medicines which are Brimhana (nourishing) and Vatanulomana (downward movement of Vata) should be selected like Kshirabala, Vatasini, Dhanwantaram, Narayana, or Lakshaditaila. Murdhatailam with Balalakshadi, Kshirabala or Vatasini can be also done for Snehana. After proper Snehana (oilation), Swedana (Sudation), Shodhana should be done in the form of Vasti or Virechana, while the latter is found to be more effective in Pittanubandha condition.

Vasti is said to be the best in Vata Vyadhi, moreover it is said to be Ardchakitsa²¹. Yapanavastis are indicated in Avarana and also in Manovikara (psychological disturbances)²² and we can select Rajayapanavasti for the treatment of AD.

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)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 Ayurveda²⁴ are best to prevent and manage the Neurodegenerative diseases in general and Alzheimer's Disease (AD) in particular.

CONCLUSION

Alzheimer's disease is an irreversible, progressive brain disease that slowly destroys the memory and thinking skills, and eventually even the ability to carry out the simplest tasks. The prevalence of Alzheimer's disease is increasing rapidly and in spite of various medical advancement the exact pathogenesis and management is not known. System of Ayurveda with its longest clinical experiences can do a lot for preventing and management of AD and other neurodegenerative disorders. Ayurveda treatments like Shodhana Karma, Medhya Rasayana, Achara Rasayana, Satvavajaya Chikitsa etc. can effectively reduce the progression of disease and provide a better quality of life to patients of AD.

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