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Ayurvedic Management of Dementia : A Case Report

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Abstract: *Dementia refers to a disease process marked by progressive cognitive impairment in the clear consciousness. Dementia involves multiple cognitive domains and cognitive deficits leading to significant impairment in social as well as occupational functioning. There are several types of dementias based on the aetiology: Alzheimer's disease, dementia of lewy bodies, vascular dementia, frontotemporal dementia, dementia resulting from traumatic brain injury, Parkinson's disease and Huntington's disease. The disorder can be progressive or static; permanent or reversible. Dementia manifesting after the age of 65 years, referred to as senile dementia. The most common cause in the senile age group has been Alzheimer's disease, so the disorder has been designated as Senile dementia of Alzheimer's type. The case of an 84 year old female hailing from Malappuram district attended the Manassanthi OPD of our institute, 5 months back. She had reduced memory, irrelevant self-talking, sleeplessness, childish behaviour, wandering and was unable to identify her bedroom. The condition was diagnosed as Dementia of Alzheimer's disease. Among the eight features ie. the Aṣtavibhramās mentioned in the context of Unmāda, vibrama of Mana, buddhi, samjajñāna, smṛti, bhakti, śila, ceṣta and acāra were eminent in the patient. Considering the presenting complaints, doṣa predominance and the age of the patient, a protocol with special preference to murdhnitaila and śamana drugs were performed. Abhyanga, śiropichu, śirovasthi were given due importance in the management. While assessing with the Dementia Severity Rating Scale, the score was reduced from 36 to 27 after the intervention. The selected protocol was found to be effective in managing the Dementia in Alzheimer's disease.*

Key Words*: Dementia in Alzheimer's disease, Unmāda, Murdhnitaila, DSRS.*

1. INTRODUCTION:

Dementia refers to a disease process marked by progressive cognitive impairment in the clear consciousness.[1] Dementia was renamed as a major neurocognitive disorder in the DSM 5 which also recognises the earlier stages of cognitive decline as mild neurocognitive disorder.[2] The two terms are essentially different labels for the same condition; major neuro cognitive disorder is equivalent to dementia.[3] ICD 11 adopted the terminology neurodevelopment disorder and adopts very similar diagnostic criteria to those of the DSM 5.[4]

Dementia involves multiple cognitive domains and cognitive deficits leading to significant impairment in the social and occupational functioning of the individual.[5] As per DSM 5, there is clear evidence of decline in memory and learning and at least one other cognitive domain.[6] Dementia is a syndrome due to disease of brain, usually of a chronic or progressive nature, in which there is disturbance of multiple higher cortical functions, including memory, thinking, orientation, comprehension, calculation, learning capacity, language and judgement.[7] Dementia produces an appreciable decline in the intellectual functioning, and usually a quantity of interference with personal activities of daily living, such as washing, dressing, eating, personal hygiene, excretory and toilet activities.[8] Changes in personality of a person with dementia are especially distressing for their families. An estimated 20-30 percent of patients with dementia have hallucinations and 30-40 percent have delusions, primarily of a paranoid or persecutory and unsystematised nature, although complex, sustained and well systematized delusions are also reported in many of the patients.[9] Anxiety and depression can intensify and aggravate the symptoms.[10] There are several types of dementias based on the aetiology: Alzheimer's disease, Dementia of lewy bodies, vascular dementia, Parkinson's disease and Huntington's disease.[11] The classic gross neuro-anatomical observation of a brain from a patient with Alzheimer's disease is diffuse atrophy with flattened cortical sulci and enlarged cerebral ventricles.[12] Vascular dementia is the impairment of memory and cognitive functioning resulting from any of the cerebrovascular disease.[13] Dementia of Lewy bodies characterised by mild cognitive impairment, delirium-onset and psychiatric-onset presentations.[14] An appraised 20-30 percent of patients with Parkinson's disease have dementia and the slow movements of persons with this disease are paralleled with the slow thinking.[15] The dementia of Huntington disease exhibits psychomotor slowing and difficulty with the complex tasks.[16]

Dementia of Alzheimer's type increases in prevalence with increasing of the age. The rate of prevalence (men to women) are 11 and 14 % at age 85, 21 and 24% at age 90 years and 36 and 41% at age 95 years.[17] The neurotransmitters that are most often implicated in the pathophysiological condition of Alzheimer's disease are acetyl choline and norepinephrine, both of which are hypothesized to be hypoactive in Alzheimer's disease.[18]

Clinicians prescribe benzodiazepines for insomnia and anxiety, antidepressants for depression and antipsychotics for delusions and hallucinations, on a conditional basis. Donepezil, Rivastigmine, Galantamine and tacrine are cholinesterase inhibition used to treat mild to moderate cognitive impairment in Alzheimer's disease. They reduced the inactivation of the neurotransmitter acetyl choline and thus potentiate the cholinergic neurotransmitter. General cerebral metabolic enhancers, calcium channel inhibitors and seratonergic agents are also prescribed in Alzheimer's disease.[19]None of these medications is reported to prevent the progressive neuronal degeneration of the disorder.[20] Psychiatry in Ayurveda is reflected under the main caption *Bhutavidya* or *graham cikitsa* which is one among the *Ashtangā*s or eight domain branches of *Āyurveda*.[21] *Āyurveda* explains the broad spectrum of psychiatric disorders under the context of *unmāda*. *Unmāda* is characterized by *vibhramśa* (distortion) of *Mana*, *buddhi*, *samjajñāna*, *smṛti*, *bhakti*, *śīla*, *ceṣta*, and *acāra*.[22] In the early stages of Alzheimer's disease, *smṛti bhramśa* (memory loss) is the main presentation. As the disease progresses, cognitive function interface with daily activities due to *vibhramśa* of other mental faculties.[23] *Manovibhrama* is manifested as impairment in thought process; *buddhi vibhrama* is demonstrated as impairment in intelligence and judgement. Impairment in perception is included in *samjajñāna vibhrama.* Disinterest towards previously desired things is comprised in *bhakti vibhrama.* Changes in manners is incorporated in *śīla vibhrama* and it stated as the lability of mood, frustration and anxiety.

In *ceṣta vibhrama* the patient indulges in undesirable activities and gradually the patient is in need of assistance for the simplest tasks such as eating, dressing, toileting etc. *Acāra vibhrama* is exhibited as impairment in personality, conduct and activities against the rules prescribed in religious works.[24] It is described as the changes in personality especially troubling their families. Alzheimer's disease generally presents with a gradual decline initially in memory; after the initial presentation, a gradual progressive decline in cognitive domains including motor functioning and perception manifests. As the illness progresses, there will be greater functional impairment and greater dependency needs.[25]So the Alzheimer's disease is to be discussed under the condition of *Unmāda.* The case was managed with an Ayurveda treatment protocol including *Rūkṣana, Abhyanga, Śiropichu, Śirovasthi, Prathimarśa nasya* etc. after considering the age and *bala* of the individual.

2. PRESENTING CONCERN:

An 84 year old female hailing from Malappuram district attended the Manassanthi OPD of our hospital 8 months back. As per the patient, there was no complaints. As per the informant the individual had reduced memory, irrelevant self-talking, sleeplessness, childish behaviour, wandering and unable to identify her bedroom, since the last 6 months. On recording the detailed history, it was noticed that the problem started as reduced memory which initially commenced with minor issues in daily activities, since almost 6 years. These problems gradually aggravated. 2 years back the condition got worsened and she began to forgot the names of her son, daughter in law, grandchildren etc. She took Ayurveda treatment for the same which provided temporary relief.

6 months back, one day her daughter noticed that the patient was not having her food, not talking to any one, almost always in bed and had frequent crying spells. When enquired about this, she said that her sister in law died who was actually still alive. Gradually her daughter noticed that she was unable to identify her bedroom, toilet and she was trying to go out of her home. She had unhygienic activity while using the toilet and inappropriate dressing style at home. She reported the presence of her brothers whom were no more. She had irrelevant self-talk, self-laugh, reduced sleep and occasionally increased bouts of anger. She lost her orientation especially her bedroom, kitchen and all places around the home. She could only recognise her younger daughter and had difficulty in understanding other family members. Occasionally she used to hear the voices of children crying and insisted her daughter to calm them. She even forgets about the number of Namas, she had. During bathing she used soap repeatedly on the same body parts. She was not under any psychiatric medications till the time of admission.

2.1. Personal history and present living condition

She had discontinued her education at 5th standard and got married at the age of only 15. Nowadays she is living with a disabled daughter. Adequate social support was present but she had stress thinking about her disabled daughter. Her future was always been a concern to her throughout.

Premorbid personality- She was an extrovert 10 years back.

2.2. Mental status examination – The patient was moderate built and she was cooperative. Comprehension was occasionally present and had decreased motor activity. She had impaired social deeds and manners. Considering the speech, it was irrelevant with decreased rate, volume and time. Mood was depressed and anxious, but affect was happy and anxious, but there was lability of mood. Considering the perception, there was auditory hallucination and history of visual hallucination as well. In view of thought, stream and form of thought was not goal oriented and there were no delusions and obsessions.

2.3. Mini mental status examination - Attention and concentration were impaired. She lost her orientation of time, place and person. Regarding the memory, immediate recent and remote memory was impaired. Her intelligence and abstract thinking were impaired; insight was graded as 4. Judgement and writing capacity were impaired. Reading capacity was maintained.

2.4. General physical examination: Pulse - 70/minute, Blood pressure - 130/90 mm Hg, Respiratory rate - 14/ minute, weight - 62 Kg

2.5. Investigations: MRI Brain was indicative of age related cerebral and cerebellar atrophy.

2.6. Diagnostic focus and assessment: Taking into account the presenting complaints, detailed history and MRI findings, the case was diagnosed as Dementia with Alzheimer's type as per WHO's International Classification Disease 10 criteria of mental and behavioural disorders. It is included in F 01.1[26] Assessment was done by Dementia Severity Rating Scale[27] and Mini Mental Status Examination[28] before and after the treatment.

3. AYURVEDIC CLINICAL EXAMINATION:

Table 1: *Daśavidha parīkṣa*[29]

Dūṣya	*Dōṣa*	*Vāta Pitta,*
	Dhātu	*Rasa*
Dēśa	*Deha*	*Śiras, Hṛdaya*
	Bhūmi	*Sādārana*
Bala	*Rōgi*	*Avara*
	Rōga	*Madhyama*
Kāla	*Kṣanādi*	*Hemantha*
	Vyādi avasta	*Purāna*
Anala	*Jarana śakti*	*Madhyama*
	Abhyvaharana śakti	*Avara*
Prakṛti	*Śarīra*	*Kaphavāta*
	Mānasa	*Tamasa*
Vaya	*Vārdhakya*	
Satva	*Avara*	
Sātmya	*Madhura*	
Āhāra	*Abhiṣyandi, snigdha*	

3.1. Diagnosis:

Among the *Aṣta vibhramās* mentioned in *Unmāda, Mana, buddhi, samjajñāna, smṛti, bhakti, sīla, ceṣta and acāra vibhrama* were noted in the patient. Irrelevant self-talk, self-laugh can be included in *manovibhrama*. She was seeing her deceased relatives which is *buddhi vibhrama.* Failure to recognise or to identify object and impairment in orientation to time, place and person were encompassed in *samjajñāna vibhrama.* Forgetting the names of her son, daughter in law, grandchildren etc were comprised in *smṛti vibhrama.* Impaired desire in relation to dress is *bhaktivibhrama*, emotional lability is *śīla vibhrama.* Childish behaviour and wandering as *ceṣta vibhrama.* Unhygienic activity while using toilet, and repeated use of soap on the same body parts were enlisted in *acāra vibhrama.* So this case was described under *Unmāda.* Considering the features wandering, irrelevant self-talk, self-laugh are the symptoms of *Vātikonmāda.* Going out of her home, anger are the symptoms of *Paithikonmāda*. So based on the involvement of *doṣās*, the case was approached as *Vatapaithika unmāda*[30]

3.2. Management:

Treatment plan was formulated after thorough initial assessments. Internal medication were started from the first day itself:

Brahmidrākṣadi kaṣāya[31] 15ml+45 ml lukewarm water twice daily 1 hour before food

Aśwagandhacūrnam 3 gm with hot water at bed time

Table 2- Procedure with rationale

Procedure	Days	Medicine	Rationale	Observations if any
Udwarthana	2 (45 mts)	*Kolakulathādi cūrna*	*Rūkṣana*	Comfortable, but irrelevant self-talk increased
Abhyanga	7 (45 mts)	*Dhānwanthara kuzhampu*	*Vātaśamana*	Slight relief for sleeplessness
Śiropicu	7 (45 mts)	*Kṣīrabalataila*	*Vātaśamana*	Slight relief for childish behaviour
Śirovasthi	5 (45 mts)	*Dhānwanthara taila* & *Kṣīrabalataila*	*Vātapitta śamana*	Marked improvement in sleep, childish behaviour and irrelevant self-talk

Prathimarśan asya	7 (evening)	*Kṣīrabala* 101 A (2 drops each nostril)	*Vātapitta śamana*	Decreased wandering and sound sleep.

Table 3- Scores before and after treatment

Scale	BT Score	AT Score
Dementia severity rating scale	36	27
Mini mental status examination	8	12

4. DISCUSSION:

Unmāda involves *vibhrama* of any or all of these factors - *mana, buddhi, samjajñāna, smṛti, bhakti, sīla, ceṣta and acāra*. A diagnosed case of Dementia in Alzheimer's disease with late onset having the symptoms of *Vātapitta unmāda* was managed with an Ayurveda treatment protocol. *Śodhana cikitsa*[32] is the potential treatment for *unmāda*. But in this case *Śamana cikitsa* was preferred than *Śodhana* considering the age and strength of patient.

Initial approach was aimed at *pācana* and *rūkṣana.* So *udwarthana* was done with *kolakulathādi cūrna*. *Udwarthana*[33] is a procedure in which medicated powder is being massaged on body. It was followed by *Abhyanga*[34] with *Dhānwanthara kuzhampu*[35] for 7 days. It causes *vāta śamana* and is also indicated for *unmāda*. After that she was subjected to *śiropicu* with *kṣīrabala taila* for 7 days[36]. *Mūrdhni taila* such as *Śiropicu* with *Kṣīrabala taila* when applied on the head, is capable of providing clarity to sense organs[37]. It serves to rejuvenate the body and eliminate the *dōṣa*. *Sirovasthi* was followed with *Dhānwanthara taila* and *Kṣīrabala taila* for 5 days. It was found to be very effective in inducing good sleep, controlling *vayu* and relaxing and revitalizing the central nervous system. During the course of *śirovasthi*, there was marked improvement in sleep, childish behaviour and irrelevant self-talk. Then she was subjected to *prathimarśa nasya* with *Kṣīrabala101 avarti* for 7 days. It is explained that *nāsa* being the doorway to the *śiras*, the drugs administered through the nostrils reaches *śringataka* by *nāsaśrota* and spreads in the *mūrdha* scrapes the morbid *doṣa* and extract them from the *uthamānga*[38]. Oil being lipophilic in nature has the capacity to cross the blood brain barrier and can exert its direct neurosupportive role to the central nervous system. As a result of all these modalities, there was symptomatic relief with irrelevant self-talk reduced, childish behaviour decreased, sleep improved and wandering decreased. While assessing with the Dementia Severity Rating Scale the score was reduced from 36 to 27 after 28 days. On discharge, she was advised to continue the medication *Brahmidrākṣadi kaṣāya* and *Aśwagandha cūrna* for 2 weeks. During follow up after 2 weeks, she had the same condition during the discharge but there was slight disturbance in the sleep. So she was adviced to take *Aśwagandhacūrna* along with *Somalathacūrna*[39] and continue the *Brahmidrākṣadi kaṣāya* in the same dose.

5. CONCLUSION:

There is often lack of awareness and understanding of dementia, resulting in barrier to diagnose and cure. But early diagnosis is very essential in the present scenario as the early intervention can prevent the progression of the disease. In dementia changes in the personality of a person are especially distressing for their families. Behavioural and psychological symptoms are too challenging while treating dementia. The present case was diagnosed as Dementia in Alzheimer's disease with late onset. While considering the symptoms it can be correlated with *vata pitta unmāda.* So treatment was performed based on this *vatapitta* line and she got symptomatic relief after 17 days of the protocol. While considering the memory problems, psychological issues and behavioural issues, *murdhni taila* and *medhya rasayana* were given due importance in the management. The case highlights the role of Ayurveda treatment in the management of Dementia in Alzheimer's disease and there is scope for further studies in this regard.

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