

2.3.4 Dementia (*Smṛti nāśa*)

Introduction

Dementia is characterized by progressive loss of memory and other cognitive domains, affecting an individual's ability to maintain normal social or occupational function¹³. It is far more common in the geriatric population. In dementia, higher mental functions are affected first in the process. In later stages, affected persons may be disoriented in time, place and person. Dementia is not a normal part of ageing. It affects about 5% of people aged over 65 and 20 percent to those over 80. All statistics show a sharp rise in the prevalence of dementia with age. Between 1990 and 2010 the number of dementia cases in the developed countries will project to increase from 7.4 million to 10.2 million¹⁴. This predicted data shows that it affects the individual as well as economy of the country.

Aetiology

Common causes of dementia are

1. Degenerative disorder such as Alzheimer's disease, Parkinson disease
2. Vascular disease (Multi infarct dementia)
3. Traumatic brain injury
4. Metabolic and endocrine disorder (Hypothyroidism, Renal failure)
5. Brain tumor
6. Vitamin B deficiency
7. Drug or alcohol abuse, medication or exposure to toxic substances
8. Infectious diseases: AIDS, Syphilis, etc.

Pathogenesis

Impairment of the cholinergic system in the brain particularly those areas involved in learning and memory, decrease in level of choline acetyltransferase and degeneration of cholinergic neurons in basal forebrain leads to decrease production of acetylcholine and other neurotransmitters (involved in cognitive dysfunction) resulting in dementia.

Risk factors

1. Increasing age



2. Female gender
3. Genetic factors
4. Head trauma
5. Toxins
6. Diabetes mellitus

Clinical features

1. Memory impairment
2. Difficulty in conversation
3. Motor skills impairment (Balance and walking)
4. Impaired ability to recognize objects
5. Inability to think
6. Depression and suicidal behaviour
7. Anxiety , mood and sleep problems
8. Hallucinations

Investigations

1. Complete neurological examination
2. Mini mental status examination
3. Abbreviated mental test score
4. Clock drawing test
5. Thyroid function test
6. Serum Vit B₁₂
7. Serum electrolytes
8. Kidney function test
9. Liver function test
10. CT scan (may suggest normal pressure hydrocephalus) or MRI of the brain
11. SPECT - To differentiate the vascular cause from the Alzheimer's disease cause



dementia appears to be superior to differentiation by clinical exam

Management approaches

a. Prevention

1. Use of *śāli* variety of rice, *mudga* (phaseolus bean), *dhāroṣṇa godugdha* (freshly milched cow's milk), leaves of *brāhmī* (indian pennywort), *tanḍulīya* (a variety of amaranth) and *vāstuka* (a variety of chenopodium), leaf and fruit of *paṭola* (a variety of small cucumber), fruit of *kūṣmāṇḍa* (a variety of pumpkin gourd) and *drākṣa* (grape fruit)
2. Use of green vegetables and yellow fruits (apple, papaya, guava, mango, banana etc.)
3. To live an active life mentally and physically
4. Consume low fat and rich antioxidant diet
5. Correction of hypertension and diabetes mellitus
6. Avoid incompatible and hot spicy food articles
7. Avoid suppression of natural urges like sleep, hunger and thirst

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Exposure to toxic substances, excessive consumption of alcohol should be avoided and metabolic, endocrine disorder and vascular diseases, if any should be managed first.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.
 - i. *Snehapāna* - *Kalyāṇaka gḥṛta* 50 ml with 2 gm *saindhava lavaṇa* for 3 - 7 days (for *Sadya snehana*)
 - ii. *Virecana* (*Purgation*) with *Eraṇḍa taila* 10-20 ml with half glass of milk at night
 - iii. *Nasya karma/ Bṛṃhaṇa nasya* with *Purāṇa gḥṛta* (old ghee) 8-8 drops in both nostrils for 7 days
 - iv. *Śiro vasti* with *Nārāyaṇa taila* daily 45 min for 7 days
 - v. *Takra dhārā* daily 45 minutes for 7 days



- vi. *Śirodhārā* with medicated oils (*Candanādi taila/ Himasāgara taila*) / cold milk daily 30-90 min for 7-14 days
- vii. *Śiro abhyaṅga* (head massage) with medicated oils (*Brāhmī taila*) etc.

Duration of the process depending upon nature of the illness and physical condition of the patient.

3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3 gm	Water	15 days
<i>Jaṭāmāmsī</i> (<i>Nardostachys jatamansi</i> DC.) <i>cūrṇa</i>	1-2gm	Milk	15 days
<i>Vacā</i> (<i>Acorus calamus</i> Linn.) <i>cūrṇa</i>	250-500 mg	Water	15 days
<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Maṇḍūkarnī</i> (<i>Centella asiatica</i> (Linn.) Urban.) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Willd) Miers) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Śaikhapuṣpī</i> (<i>Convolvulus pleuricaulis</i> Choisy) <i>kalka</i>	2-4 gm	Water	15 days
<i>Tagara</i> (<i>Valeriana wallichii</i> DC.) <i>cūrṇa</i>	2-4gm	Water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Brāhmī vaṭī</i>	250-500 mg	Honey	15 days
<i>Śivā guṭikā</i>	6 gm	Milk	15 days



<i>Cyavanaprāśāvaleha</i>	15-30 gm	Milk	15 days
<i>Sarpagandhādi vaṭī</i>	250 mg	Butter Milk	15 days
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	15 days
<i>Kalyāṇa ghr̥ta</i>	6 gm	Luke warm water	15 days
<i>Mahākalyāṇaka ghr̥ta</i>	6 gm	Luke warm water	15 days
<i>Brāhmī ghūta</i>	6-12 gm	Luke warm water	15 days
<i>Sārasvatāriṣṭa</i>	10-20 ml	Water	15 days
<i>Aśvagandhāriṣṭa</i>	10-20 ml	Water	15 days
<i>Kumāryāsava</i>	10-20 ml	Water	15 days
<i>Brāhma rasāyana</i>	10 gm thrice daily	Milk	15 days
<i>Candanādi taila</i>	for Śirodhārā/ Śirovasti	-	15 days
<i>Himasāgara taila</i>	for Śirodhārā/ Śirovasti	-	15 days
<i>Brāhmī taila</i>	for head massage	-	15 days
<i>Nārāyaṇa taila</i>	for Śirovasti		15 days

^s MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Brāhmī (Bacopa monnieri)*¹⁵ has shown improvement in senile dementia.

c. Yogic Practices- The following *yogic* practices are beneficial in Dementia; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Śavāsana, Viparīta karaṇī, Sarvāṅgāsana, Matsyāsana
2. Practice of Prāṇāyāma (*Anuloma viloma, Kapālabhāti, Bhastrikā, Ujjai, Bhrāmarī*)
3. Meditation - *Nādī anusandhāna, Bhrūmadhya dṛṣṭi, Nāsikāgra dṛṣṭi, Trāṭaka*



Counselling - Advice the patient to

1. Take diet rich in antioxidants, calcium, magnesium and zinc
2. Take vitamin B₁, B₂, B₁₂ and biotin in sufficient quantity
3. Add ginger and *haridrā* (*curcuma longa* Linn.) powder in diet
4. Practice *yoga*, meditation and exercise regularly
5. Take low fat diet
6. Be active and happy always
7. Avoid driving lonely

In addition, reassurance may also be beneficial in dementia patients.

Indications for referral

1. Complete dementia
2. Hydrocephalic dementia+

COSTING DETAILS**Approximate Costing of Dementia Management**

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	150	gm	0.48	72
2.	<i>Jaṭāmāṃsī cūrṇa</i>	30-60	gm	1.0	30-60
3.	<i>Vacā cūrṇa</i>	30-60	gm	1.0	30-60
4.	<i>Brāhmī svarasa</i>	150-300	ml	0.75	112.5-225
5.	<i>Mandūkarnī svarasa</i>	150-300	ml	0.75	112.5-225
6.	<i>Guḍūcī svarasa</i>	150-300	ml	0.75	112.5-225
7.	<i>Śāṅkhaṇṇī kalka</i>	60-120	gm	0.75	45-90
8.	<i>Tagara cūrṇa</i>	60-120	gm	1.2	72-144
9.	<i>Brāhmī vaṭī</i>	7.5-15	gm	4.4	33-66



10.	<i>Sarpagandhādi vaṭī</i>	3.75	gm	5.2	19.5
11.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
12.	<i>Śivā guṭikā</i>	1080	gm	4.4	2376
13.	<i>Cyavanaprāśāvaleha</i>	180-360	gm	0.25	47-94
14.	<i>Kalyāṇa ghṛta</i>	180	gm	0.46	83
15.	<i>Mahākalyāṇaka ghṛta</i>	180	gm	0.67	121
16.	<i>Brāhmī ghṛta</i>	180-360	gm	0.45	81-162
17.	<i>Sārasvatāriṣṭa</i>	300-600	ml	0.28	84-168
18.	<i>Aśvagandhāriṣṭa</i>	300-600	ml	0.15	45-90
19.	<i>Kumāryāsava</i>	300-600	ml	0.1	30-60
20.	<i>Brāhma rasāyana</i>	450	gm	0.197	89
21.	<i>Candanādi taila</i>	1200-1500	ml	0.32	384-480
22.	<i>Himasāgara taila</i>	1200-1500	ml	0.55	660-825
23.	<i>Nārāyaṇa taia</i>	1200-1500	ml	0.51	612-765

Approx. costing of Pañcakarma procedures in Dementia **

S.No.	Pañcakarma procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Nasya karma</i>	7	100	700
2.	<i>Śiro vasti</i>	7	300	2100
3.	<i>Śirodhārā (with taila)</i>	7	300	2100
4.	<i>Śirodhārā (with milk)</i>	7	150	1050
5.	<i>Takra dhārā</i>	7	150	1050

