



## AYURVEDIC MANAGEMENT OF MOTOR NEURON DISEASE: A CASE REPORT

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### ABSTRACT

Motor neuron disease (MND) is a progressive condition characterized by degeneration of upper and lower motor neurons. The term Amyotrophic lateral sclerosis (ALS) is used synonymously with MND. As there was no clarity regarding Ayurvedic aspect of MND / ALS, a major diagnostic and management dilemma exists while approaching the case of MND. The present case report deals with the case of MND and its Ayurvedic diagnosis and management. Difficulty in differential diagnosis exists between the conditions like sarvanga vata, avrita vata and saama vata. Upashaya - Anupashaya pariksha is beneficial to solve the problem in differential diagnosis. Ashwagandha preparations, swedana and matra vasti procedures are found to be beneficial in the management of MND.

**Key Words:** MND, ALS, Sarvanga vata, Avrita vata, Saama vata, Ashwagandha

### INTRODUCTION

Motor neuron disease (MND) is a progressive condition characterized by degeneration of upper and lower motor neurons. The term Amyotrophic lateral sclerosis (ALS) is used synonymously with MND<sup>1</sup>. Weakness is the primary symptom of ALS and this feature is usually first noticed in the extremities or manifested by dysarthria (slurred speech) and dysphagia (swallowing difficulties). The average age of diagnosis is around 56 years and life expectancy after diagnosis is approximately three years. The usual course of ALS is unremittingly progressive, although in some cases course of progression may be prolonged<sup>2</sup>.

There is no clarity regarding Ayurvedic aspect of MND / ALS. This creates a major diagnostic and management dilemma in clinical Ayurvedic practice while approaching the case of MND. As per Ayurveda, each patient of MND needs a different approach as the etiology and pathology are variable. Here we are reporting a case of MND, came for Ayurvedic treatment. Written informed consent was obtained from the patient for the publication of this case report and accompanying images.

### CASE DESCRIPTION

A 36 years aged female patient (figure 1), residing at vadodara, house wife, came to parul sevashram hospital, vadodara, Gujarat, India, (08.01.2014) with the complaints of, tremors, wasting of both upper and lower limbs, slurred speech and generalized weakness. Patient was unable to walk, sit and do her regular activities without support. These problems have been developed gradually and progressive in nature since 2012.

Patient had developed constipation, abdominal gaseous distension and loss of appetite initially. Late she suffered with swelling and pain at fingers of the right hand which gradually spread to total right upper limb. During this period patient took allopathic consultation and treatment but didn't get relief. Gradually the swelling, pain, spasticity and wasting were worsened and spread to all the other limbs. From June, 2013, patient had developed difficulty in speech (slurred and feeble speech) and difficulty in deglutition (especially for solid foods).

Patient was non smoker, non alcoholic and having allergy to milk. No past history of any major medical illness found. No family member had similar problem. She underwent total abdominal hysterectomy with salpingo-oophorectomy on 28.06.2011. At the time of examination, patient was found emaciated and her weight is 29 kg. She was anxious, alert and responding to vocal commands. Speech was feeble, slurred and difficult to understand without the help of patient's bystander. Higher mental functions were normal. Fasciculations of the tongue were observed. Muscle tone was increased in both upper and lower limbs. All the tendon reflexes were exaggerated and extensor plantar response was found. Spasticity of the fingers and wasting was observed (figure 2).

Hematological reports, ECG (Electrocardiogram), liver and kidney function tests were within normal limits (05.09.2013). Upper gastro intestinal endoscopy showed gastritis (16.07.2012). MRI (Magnetic resonance imaging) of cervical spine with brain revealed, desiccation in all cervical vertebral discs to a variable extent. Mild thickening of posterior longitudinal ligament from C<sub>4</sub> – C<sub>6</sub> levels is seen. C<sub>4</sub> – C<sub>5</sub> and C<sub>5</sub> – C<sub>6</sub> levels show mild diffuse posterior disc bulge causing mild narrowing of spinal canal without significant neural compression. MRI of brain showed prominence of bilateral sylvian fissures. No evidence of significant mass effect or midline shift was seen in MRI of brain (19.11.2013). Nerve conduction was eventually normal and needle EMG (Electromyography) shows chronic denervation at rectus femoris, tibialis anterior and biceps muscle (11.09.2013).

### Diagnosis & Assessment

Patient satisfied the diagnostic criteria for MND / ALS (EI Escorial criteria for MND/ALS – World Federation of Neurology)<sup>3</sup>. Before treatment and at the time of discharge total two assessments were carried out. A criterion of assessment was based on the scoring of Amyotrophic Lateral Sclerosis Functional Rating Scale – Revised (ALSFRS-R). This is composed of 12 Items (Questions). Each question is rated on 5 point (0-4) scale. The 12 Questions of ALSFRS-R asks about speech, swallowing difficulties, motor functions and respiratory problems<sup>4</sup>. The patient was initially

diagnosed as “saama vata”, later on it was changed to “sarvanga vata”.

### Treatment

It is primarily that of managing symptoms and supporting both patient and family as these progress and their needs

change. Treatment mainly contains snehana (bahya and abhyantara), swedana, balya and vatanulomana (Table 1) and it was revised for five times according to the condition of the patient and need.

Table 1: Intervention

Duration	Medicine	Dose	Frequency	Anupaana
08.01.2014 to 16.01.2014	1. Ashwagandha choornam	3 gm	Thrice a day	Warm water
	2. Brihat vata chintamani ras	125 mg	Once a day	water
17.01.2014 to 26.01.2014	1. Ashwagandha choornam	3 gm	Thrice a day	Warm water
	2. Panchagavya ghrutam	10 ml	Twice a day	Hot water
	3. Ashtavarga kashayam	15 ml	Twice a day	with 45ml hot water
27.01.2014 to 02.02.2014	1. Chopchini choornam + Pippalimoola choornam + Ashwagandha choornam (1: 2: 4)	3.5 gm	Thrice a day	Warm water
	2. Panchagavya ghruta	10 ml	Twice a day	Hot water
	3. Ashtavarga kashayam	15 ml	Twice a day	with 45ml hot water
	4. Kalyana avaleha choornam	5 gm	Twice a day	with honey
03.02.2014 to 10.02.2014	1. Ashwagandharishta	20 ml	Twice a day	with equal quantity of water
	2. Panchagavya ghrutam	10 ml	Twice a day	Hot water
	3. Kalyana avaleha choornam	5 gm	Twice a day	with honey
	4. Trivrit avalehyam	10 gm	Whenever necessary	Hot water
	5. Brihat vata chintamani ras	125 mg	Once a day	with water
11.02.2014 to 12.02.2014	1. Ashwagandharishta	20 ml	Twice a day	with equal quantity of water
	2. Maha kalyanaka ghrutam	10 ml	Twice a day	Hot water
	3. Kalyana avaleha choornam	5 gm	Twice a day	with honey
	4. Trivrit avalehyam	10 gm	Whenever necessary	Hot water
	5. Brihat vata chintamani ras	125 mg	Once a day	with water
<b>Panchakarma intervention</b>				
08.01.2014 to 26.01.2014	1. Sarvanga abhyanga with bala tailam			
	2. Bashpa sweda (in steam chamber)			
	3. Matra vasti with prabhanjana vimardana kuzhampu – 65 ml			
27.01.2014 to 12.02.2014	1. Sarvanga abhyanga with bala tailam			
	2. Bashpa sweda (in steam chamber)			
	3. Matra vasti with pippalyadi anuvasana tailam – 100 ml			



Figure 1: Case of MND



Figure 2: Wasting and spasticity of hands

### DISCUSSION

Patient had the vata prakopa lakshana's<sup>5</sup> like, kaarshya (emaciation), gaatra kampa (tremors), sphurana (fasciculations), ushnakaamita (likes hot things), nidra nasha (sleeplessness), balopaghata (fatigue), mala sanga (constipation), aadhmana (abdominal bloating), aatopa (borborygmi), dainya (depression), shoka (weeping) and bhaya (fear) etc; based on these lakshana's initial diagnosis of 'vata vyadhi' was made. There was diagnostic dilemma while making the differential diagnosis between the conditions like, saama vata, sarvaanga vata and avrita vata. Saama vata lakshana's<sup>6</sup> like, vibandha (constipation), agni saada (loss of digestive capacity), aantra kujana (borborygmi), vedana (pain) and aggravation during the time

of cloudy weather and at night were present in the patient. Stabdhata (rigidity/spasticity), agni maandya (loss of digestive capacity), vibandha, ajeerna (indigestion), aadhmana, swara bhedha / vaakgraha / vaak pravritti abhaava (speech difficulties), gamana kricchrata / gati vaishamya (difficulty in walking or movements) etc; avrita vata lakshana's<sup>7</sup> were also seen in the patient. As patient had the vataja lakshana's like rigidity / spasticity, pain in all four limbs, the diagnosis of 'sarvaanga vata'<sup>8</sup> is also possible. Thus there was confusion regarding the diagnosis.

For differential diagnosis, upashaya – anupashaya pariksha (therapeutic – adverse therapeutic diagnosis of illness) was done with bahya (external) and abhyantara (internal) snehana (unctuousness). For bahya snehana, abhyanga was started

with bala tailam and for abhyantara snehana, panchagavya ghrutam was given. Patient got relief with snehana procedures. Based on this, the conditions like, saama vata and avrita vata were excluded and saravanga vata was finally diagnosed.

Patients felt better and energetic with Ashwagandha preparations (Ashwagandha choornam / Ashwagandharishta). Ashwagandha causes significant regeneration of the axons and dendrites of nerve cells. Furthermore, it reconstructs the synapses and helps to promote the growth of both normal and damaged nerve cells, suggesting that the herb may boost healthy brain cell function as well as benefit diseased nerve cells. Ashwagandha proved to be a potential treatment for neurodegenerative diseases such as Alzheimer's dementia as well as other dementia's<sup>9</sup>. The withanolides in Ashwagandha are having antioxidant activity and a corresponding protective effect on neuronal tissue.<sup>10</sup>

Trivrit avalehyam was prescribed for vatanulomana / mridu virechana purpose to tackle mala sanga, aadhmaana and aatopa like vata pratiloma lakshana's. Trivrit avalehyam was given whenever necessary (during constipation episodes), patient felt better with this medicine. Brihat vata chintamani ras, Ashtavarga kashayam were given to pacify vata dosha. Kalyana avaleha choornam was prescribed for speech difficulties. No improvement in speech and deglutition was observed during the stay at hospital and at the time of discharge. For abhyantara snehapaana, panchagavya ghruta / maha kalyanaka ghruta and for bahya snehana (abhyanga) with bala tailam was done. Patient got relief in spasticity, pain and tremors with bashpa sweda (steam in chamber) procedure and matra vasti (oil enema) with prabhanjana vimardana / pippalyadi anuvasana tailam.

Before treatment, total score of ALSFRS-R was 23, at the time of discharge the score was 24. Patient showed improvement in items like 'hand writing' and 'walking'. Patient got improvement from 'unable to grip pen' to 'able to grip pen but unable to write' in the item 'hand writing of the scale. In walking, patient improved from 'non ambulatory functional movement' to 'walks with assistance' on scale. During the course of treatment patient once developed shortness of breath and it was managed by ventilator

assistance. No change was observed on the other items of the ALSFRS-R.

## CONCLUSION

The Ayurvedic diagnosis of MND may vary from patient to patient and at different stages in same patient. Difficulty in differential diagnosis exists between the conditions like sarvanga vata, avrita vata and saama vata. Upashaya - Anupashaya pariksha is beneficial to solve the problem in differential diagnosis. Ashwagandha preparations swedana, matra vasti procedures are found to be beneficial for symptomatic management of MND patients.


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