



## Research Article

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### EFFICACY OF PANCHKARMA IN AMYOTROPHIC LATERAL SCLEROSIS: A CASE STUDY

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#### ABSTRACT

Amyotrophic lateral sclerosis (ALS) is a progressive degenerative disease of Upper and Lower Motor Neurons of corticospinal tract and is the most devastating of the neurodegenerative disorders. As the disease progresses, the patient will be paralyzed and eventually dies due to the respiratory arrest. The exact cause and mechanism for its progression is unknown, hence it is difficult to develop an effective treatment for ALS. There is no cure of this disease. A 75 years, male patient, Army veteran came to Panchkarma O.P.Dept. of Rishikul campus, Haridwar with complaints of weakness in B/L upper and lower limbs more in lower having difficulty in buttoning clothes, opening cap of pen, difficulty in walking, reduced gripping of both hands and mild slurred speech since 8-9mths. Patient underwent various Panchkarma procedures. During and after it he got mild relief in symptoms of weakness of upper limbs, improvement in gripping and speech. Panchkarma presents a unique approach of Ayurveda with specially designed five procedures of internal purification of the body through the nearest possible route. Present case study deals with the case of ALS and its ayurvedic diagnosis and management through one of the procedures known as Vasti (medicated enema therapy) and Nasya (medicated errhine therapy). As there was no clarity regarding Ayurvedic aspect of MND/ALS, a major diagnostic and management dilemma exists while approaching the case of MND. In Ayurveda, there is difficulty in diagnosis and we consider it like Avrit (obstructed) Vata.

**Keywords:** Amyotrophic Lateral Sclerosis, Panchkarma, Ayurveda, Vata vyadhi.

#### INTRODUCTION

Amyotrophic lateral sclerosis (ALS) also known as Lou Gehrig's disease, is a specific disease that causes the death of neurons which control voluntary muscles.<sup>1</sup> Disease is entirely motor as it affects voluntary muscle activity such as speaking, skeletal muscle movement, breathing and swallowing while all the sensations, bowel and the bladder remains intact. Most people who develop ALS are between the ages of 40 and 70. It is 20% more common in men than in women. 93% of patients are Caucasian. Half of all people affected with ALS live at least three or more years after diagnosis. The cause is not known in 90-95% cases. But probable Causes of ALS are Free radicals, increased levels of glutamate and autoimmune responses. 90 to 95% of all cases are sporadic forms of ALS. And 5 to 10% of all cases are familial. At its onset ALS may involve selective loss of function of only upper or lower motor neurons, but ultimately it involves both the categories of motor neurons.<sup>2</sup> Ayurveda is ancient science of life and has various treatment modalities for the ailing humanity. The signs and symptoms of ALS resemble some diseases explained in Ayurveda in Vata vyadhi. Vata is the primal constituent of the living body and is responsible for functions of central, autonomic and peripheral nervous system. It also controls the cognitive and neurocognitive functions of the brain and secretion of various chemical neurotransmitters and hormones. It is the urger of all the senses, brings about speech.

Vayuhtanrayantradarah..... sarvendriyanamudyojakah  
sarvendriyanamabhivodha pravartako vach.....||  
(Ch. Su. 12/8)<sup>3</sup>

#### Probable pathogenesis according to Ayurveda

Vitiation of Vata can occur by two types either by depletion of Dhatus (body tissue) or due to the obstruction of Vata by another Dhatu, Dosh or Mala (toxins), which will result into a disease by undergoing pathology. According to Ayurveda the present case report deals with ALS diagnosed as Kapha Avrit Udana and Kapha Avrit Vyana Vata<sup>4</sup>. That means the Udana Vata (a type of vata responsible for the vocal speech of human) and Vyana Vata (a type of Vata responsible for the movement or daily routine activities) has been occluded by Kapha Dosh which hampers the normal functioning of Vata.

#### Case Description

A 75 years, male patient, Army veteran came to Panchkarma O.P.Dept of Rishikul campus, Haridwar with complaints of weakness in B/L upper and lower limbs more in lower, and fasciculation in forearm muscles, mild difficulty in speech with generalized weakness. Patient was having difficulty in doing his regular activities like buttoning clothes, opening of cap of pen, walking and reduced gripping of both hands since 8-9 months, which was gradually worsening.

According to the Patient he was asymptomatic 8-9 months back. Gradually he developed weakness in both the arms first in the left, then right. Now he is having difficulty in holding the objects, lifting arms. Difficulty to button up shirts and even in opening the cap of pen. Later on, reduced gripping of hands and mild slurring of speech developed. He went to many higher centres like CGHS, AIIMS. There he was diagnosed with ALS with Brachial Plexopathy. Later on, he developed weakness in B/L lower limbs that causes difficulty in walking. He took various Allopath, Ayurveda, Homeopath and Acupuncture treatment for this problem but didn't get much relieved. The problem worsened,

and the patient developed stooped posture, muscle wasting, and tremors of hands. Patient is k/c/o Hypertension since 20 years and had undergone angioplasty two times also having problem of Urine incontinence since 6-7 yrs. Currently he was on medication - Starpress (telmisartan + metoprolol succinate), Urimax (tamsulosin) and Riluzox (100mg/ day). No family member has suffered with similar problem.

Present study was carried out in accordance with ethical principles by following International conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP).

**Personal History**

Addiction: None, Dietary Habit: vegetarian, Sleeping Habit: Sound, Defecation: normal (2 times a day), Micturition: normal (Incontinence of bladder after episode), Thirst: normal (3 liter /day).

On examination patient found alert and responding to commands. Higher function was normal. Speech was slurred, increased tears production, unable to shrug off shoulder of both the sides, Sensory reflexes were normal. Motor reflexes - iii) Power: Lt. arm- 1/5, Rt. arm- 1/5, Lt. leg- 5/5, Rt. leg- 5/5, Superficial reflexes were normal. Deep tendon reflexes were diminished at biceps, triceps, supinator, normal at knee and ankle. Stepping gait, postural instability and urine incontinence were found. On Plantar reflexes babinski sign was found to be B/L negative. Fasciculation were found in b/l upper limbs with minipolymyoclonus. Atrophy was present in b/l shoulder, arm, hypothenar muscles. Muscle tone Shoulders (flexors, extensors and adductors – Rt (3), Lt. (3); Elbow (flexors B/L (2), extensors

B/L (4); Wrist (flexors B/L (4). Lower limbs bilateral hip movement (grade 4), knee flexors and extensors B/L (4), ankle (B/L (3). Muscle strength/gripping – 0 finger. Kyphosis of cervical spine was present.

Hematological, biochemical, serum calcium and thyroid profile reports were normal. In MRI Cervical Spine – Cervical spondylotic changes. C3/C4 & C4/C5 mild diffuse disc bulges indenting thecal sac and bilateral mild foraminal narrowing. C5/C6 osteophyte complex. In MRI BRAIN - Small old haemorrhage in left basal ganglia. Multiple focal and diffuse arteriosclerotic hyperintensities in subcortical and paraventricular white matter, bilateral basal ganglia and pons. Mild age-related cortical atrophy was present. RNS (Repetitive Nerve Stimulation) - Post synaptic NMJ disorder. NCS (Nerve Conduction Study) – mild degree of carpal tunnel syndrome on Rt. Side. EMG – F response – normal, H- reflex – absent, SSR - present

**Diagnosis According to Ayurveda**

The patient was diagnosed as Kapha Avrita Udana and Kapha Avrita Vyana Vata according to ayurveda. Treatment was aimed to remove Kapha Avarana (occlusion by Kapha Dosha) followed by Vata Shamaka Chikitsa (alleviation of vitiated vata dosha). Various Panchakarma procedures like Udwartana (herbal powder massage), Sarvaanga Abhyanga (full body oil massage), Bashpa Sweda (sudation in steam chamber), Vasti (enema procedures), Shashtika Shali Pinda Sweda (rice bolus massage) and Nasya (Erhine therapy) were implemented which are mentioned in table 2. Line of treatment was flexible and modified according to the necessity and tolerance of the patient.

**Table 1: Drug Intervention (oral)**

Medicine	Dose	Anupana	Duration
Ajmodadi churna	5gms twice a day	Lukewarm water	5 days
Ashwagandharishtha	20ml twice a day	Add equal amount of water	15 days
Ras Rajeshwar Ras	250mg twice a day	Normal water	30 days
Narsingh churna	5gm twice a day	Lukewarm milk	30 days

**Ajmodadi churna:** *Carum roxburghianum, Embelia ribes, Plumbago zeylanica, Cedrus deodara, Piper longum, Piper nigrum, Anethum sowa, Terminalia chebula, Zingiber officinale, Argyreia speciosa* and Rock Salt

**Ashwagandharishtha:** fermented decoction of *Withania somnifera*.

**Ras rajeshwar rasa:** tablet formed from *Strychnos nux vomica, Withania somnifera, Commiphora mukula* and Rasa Raja Rasa.

**Narsingh churna:** Powder of *Asparagus racemosus, Tribulus terrestris, Dioscorea bulbifera, Pueraria tuberosa, Tinospora cordifolia, Plumbago zeylanica, Semecarpus anacardiu, Piper nigrum, Sesamum indicum, Zingiber officinale, Piper longum, honey bee (Apis mellifera)* and ghee (cow’s clarified butter).

**Table 2: Panchakarma Intervention**

S. No.	Panchakarma therapy	Drug	Duration
1.	Udwartana	Ashwagandha churna , Shunthi churna	5 days
2.	Sarvanga Abhyanga	Mahanarayana taila	15 days
	Bashpa sweda	Dashamoola kashayam	15 days
	Matra vasti	Mahanarayana taila (50ml)	15 days
3.	Nasya	Ksheerabala 101 taila	10 days
	Shashtika Shali Pinda Sweda	Shashti rice, Godugdha, Balamula kashaya	10 days
4.	Sarvanga Abhyanga	Mahanarayana taila	15 days
	Bashpa sweda	Dashamoola kashayam	15 days
	Matra vasti	Mahanarayana taila (50ml)	15 days

**RESULTS**

Before starting treatment, total score of ALSFRS-R was 20, at the time of discharge the score was 25. Patient showed good improvement in items like speech, holding objects, walking and generalized weakness. Patient felt good relief in generalized weakness with Ksheerabala – 101 and other Panchkarma

therapies. At the time of discharge, the patient’s gait was improved; felt energetic, spasticity of both upper and lower limbs decreased with overall improvement in general condition. There was no improvement in fine motor movements of both hands.

## DISCUSSION

Although there is no precise equivalent for MND in Ayurveda, MND can be considered as 'VATA' predominant disease. Most of the signs & symptoms of MND like fasciculations (Gaatra kampa), cramps (Bheda, Toda), wasting, weakness (balopghata), spasticity (Parvanam Stambha) etc. match that of the classical signs & symptoms of Vata derangement described in Ayurveda.<sup>5</sup> Here in this case shows predominant involvement of both Vata and Kapha in Samprapti (pathogenesis). The aggravated Kapha causes Avarana (obstruction), leads to Vata Prakopa (aggravation of Vata) and produces MND. The clinical picture of MND resembles with 'Kapha Avrita Udana and Vyana Vata'<sup>6</sup>. The line of treatment was planned according to that.

Patient's complaints like, Kaarshya (emaciation), Gaatra kampa (tremors), Sphurana (fasciculations) and Balopaghata (fatigue) symptoms are similar to Vata Prakopa (vitiation) Lakshana's<sup>7</sup> and symptoms like, Gaatra Guruta (heaviness of body) are the Kapha Prakopa Lakshana's<sup>8</sup>; Stabdhata (rigidity/spasticity), Swara Bhedha/Vaakgraha (speech difficulties), Gati Vaishmya (difficulty in walking or movements) etc. Avrita Vata Lakshana's<sup>9</sup> were also seen in the patient.

Initially to remove Kapha Avarana, Rukshan swedan (Udwartanam) with Ashwagandha churna and Shunthi churna was done along with internal medicines like Ajmodadi churna were administered to remove Ama (obstructions due to toxins). Ashwagandha churna has balya property and Shunthi Churna was added due to its irritant property, it stimulates the dermatomes and the nerve endings in the periphery. After 5 days of Udwartana (dry powder massage), patient felt lightness in body and appetite improved. Then pure Vata Chikitsa like Sarvanga Snehana by Mahanarayana taila and Bashpa Swedana (steaming) by Dashamoola kashayam was done along with Matra Vasti (rectal enema) with Mahanarayana taila for 15 days. Both the internal as well as external application of Sneha will do the Vata Shamana (pacification). Internal medicine like Ashwagandharishtha was administered as appetizer and for strengthening. After which there was small improvement in weakness of hands and power was 2.5/5 bilaterally. After that Shashtika Shali Pinda Sweda and Nasya was administered for 10 days, mild improvement in speech was observed. Shashtika Shali Pinda Sweda gives strength to the muscles and improves the peripheral vascular circulation, while Nasya increases the blood circulation and stimulates the nervous system. At last Sarvanga Abhyanga (massage) by Mahanarayana taila and Bashpa Swedana by Dashamoola kashayam was done along with Matra Vasti (rectal enema) with Mahanarayana taila for 15 days.

To tackle speech difficulty, Nasya was administered with Ksheerabala 101 Taila. Ras Rajeshwar Ras and Narsingh churna were prescribed to deals with muscle wasting, fasciculations, tremors and generalized weakness. At the time of discharge internal medicines were prescribed to tackle Vata Dosha were Ras Rajeshwar Ras 250mg twice a day, Narsingh churna<sup>10</sup> 5gm twice a day and Ashwagandharishtha 20ml twice a day.

## CONCLUSION

The Ayurvedic diagnosis of this case, Motor Neuron Disease can be as Kaphavrita Udana and Vyana Vata. Here foremost treatment plan was to remove the Avarana of Kapha and Ama internally by Ajmodadi Churna and externally by Udwartanam (dry powder massage). There after Vata pacifying and Balya Chikitsa (strengthening treatment) were implemented by Abhyanga, Swedana and Nasya therapies which were found to be beneficial in improving speech difficulties and tackling muscle weakness. Panchakarma procedures like Sarvanga Abhyanga, Bashpa Sweda and Vasti are found to tackle with spasticity of limbs and to arrest the progression of ALS. Further long term follows up studies on large sample are required to substantiate the above claims. Hence, more research is needed in this aspect.

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