

MANAGEMENT OF AMYOTROPHIC LATERAL SCLEROSIS (ALS) WITH PANCHAKARMA THERAPIES AND SHAMANA DRUGS - A CASE STUDY

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<https://doi.org/10.46607/iamj4110052022>

(Published Online: May 2022)

Open Access

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Article Received: 16/04/2022 - Peer Reviewed: 27/04/2022 - Accepted for Publication: 28/04/2022



ABSTRACT

Purpose- Amyotrophic lateral sclerosis (ALS), commonly called Lou Gehrig's disease, is a fatal neurodegenerative disease characterized by rapidly progressive muscular paralysis caused by degeneration of motor neurons leads to muscle wasting (atrophy), muscle spasticity, and muscle weakness. **Method-** A male patient aged 26 years with complaints of weakness in bilateral upper limbs, muscle wasting of the bilateral forearm, unable to lift the objects, unable to perform day to day activities since 4 years back. The patient's condition was progressive day by day. The patient was treated with *Panchakarma* therapies like *Alepa* (internally), *Pizhichil*, *Rajayapana Basti (Kala)*, and *Shamana* drugs. **Results -** After a course of *Panchakarma* and *Shamana* drugs patient was able to do fine routine work, there was no weakness in bilateral upper limbs. Marked improvement was found in muscle power. **Conclusion-** *Panchakarma* therapies and *Shamana* drugs are supportive, palliative, and multi-disciplinary treatment modality which is also non-invasive and improves the quality of life.

Keywords: Amyotrophic Lateral Sclerosis, *Rajayapana Basti*, *Pizhichil*.

INTRODUCTION

Amyotrophic lateral sclerosis (ALS) is the most common form of progressive motor neuron disease. It is a prime example of neurodegenerative disease⁽¹⁾. ALS

is also known as Charcot disease and motor neuron disease (MND) as it is one of the five MNDs that affect motor neurons⁽²⁾. There are four others known MNDs:

Primary lateral sclerosis (PLS), progressive muscular atrophy (PMA), progressive bulbar palsy (PBP), and pseudobulbar palsy. It is known as Lou Gehrig's disease or motor neuron disease⁽³⁾. Most of the patients present with limb-onset ALS (70%), and the remaining ones present with bulbar-onset ALS, which usually manifests with dysarthria or dysphagia. Approximately 10% of all ALS cases are familial, and the disease may be inherited in an autosomal-dominant, recessive, or X-linked way⁽⁴⁾. With lower motor dysfunction and early denervation, typically the first evidence of the disease is insidiously developing asymmetric weakness, usually first evident distally in one of the limbs. A detailed history often discloses recent development of cramping with volitional movements, typically in the early hours of the morning (e.g., while stretching in bed). Weakness caused by denervation is associated with progressive wasting and atrophy of the muscles and particularly early in the illness, spontaneous twitching of motor units, or fasciculation⁽⁵⁾. With prominent corticospinal involvement, the muscle-stretch reflexes are hyperactive (tendon jerks) and often, spastic resistance to passive movements of the affected limbs. Degeneration of the corticobulbar projections innervating the brainstem results in dysarthria and exaggeration of the motor expressions of emotions. The latter leads to involuntary excess in weeping or laughing (so-called pseudobulbar affect)⁽⁶⁾. Even in the later stages of the illness, sensory, bowel and bladder, and cognitive functions are preserved. ALS is co-inherited with frontotemporal dementia, characterized by early behavior abnormalities with prominent behavioral features indicative of frontal lobe dysfunction⁽⁷⁾.

According to *Ayurveda*, there is no exact correlation for ALS, but the sign and symptoms are mainly of *Vatika* disorder. *Vata* is the main *Dosha* of the human body, and it regulates the remaining two *Dosha*⁽⁸⁾ and it also regulates almost all functions of the body⁽⁹⁾. *Vatika's* actions are about nervous system function, hence, symptoms of ALS much resemble symptoms of vitiated *Vata*. The patient's condition was correlated to *Kapha Avrita Udana Vata*⁽¹⁰⁾ and *Kapha Avrita Vyana*

Vata and *Ojo Visramsas*⁽¹¹⁾. In the condition of *Aavarana*, the treatment modality according to *Acharya* is *Anabhisyandi*, *Snigdha*, *Srotoshodhaka* drugs, *Kapha*, and *Pitta Avirudha* (without affecting the homeostasis of *Kapha* and *Pitta*) and *Vatanulomana Chikitsa* and *Yapana Basti*⁽¹²⁾.

CASE REPORT

A 26-year male patient with the complaints of being unable to do fine works like buttoning, writing, etc., unable to lift the weight, multiple joint pain, stiffness in fingers, interphalangeal joint pain, muscular wasting of bilateral forearms, tremors of bilateral hands, mainly fingers, difficulty in speech, tingling and numbness in bilateral upper and lower limbs, weight loss [2010-wt.-54 kg., 2018-wt.-35 kg., 2021-48 kg, wt-52 kg.] Also complaining of generalized weakness since 2018.

History of present illness

A male patient aged 26 years was normal 3 years back. Later he gradually developed difficulty in doing fine work and then unable to do fine work, difficulty in speech and unable to lift a heavy weight, gradually wasting of the forearm, tingling, and numbness in bilateral upper and lower limbs, and generalized weakness. He took allopathic medicines but did not find any relief and came to our hospital.

Past History: No relevant history.

Personal History:

Appetite- Reduced

Bowel- Irregular (once in 2-3 days)

Micturition-Normal

Sleep-Disturbed

Examination:

General Examination:

Pallor, icterus, clubbing, cyanosis, lymphadenopathy, Oedema- absent.

Tongue-not coated,

Vital Signs:

Pulse rate-78/min. Blood Pressure- 120/80 mmHg

Respiratory rate- 20/Min Temperature- 98 F

Systemic Examination:

RS- Normal vesicular breath sound heard, No added sounds.

CVS- S₁, S₂ heard, No added sounds.

P/A- Soft, non-tender.

CNS-

HMF- Alert, oriented to time, place, and person.

Speech- Slurred,

Cranial nerve examination- 1-10 and 12- Intact

11th (Accessory) - Bilateral shrugging of shoulder-not possible.

NCV, both upper limbs did on 22/2/2018-Anterior Horn Cell Disorder.

MRI Cervical Spine (22/2/2018)- Mild Spondylosis.

Small-sized Postero central, bilateral, paracentral protrusion of C3-4, C6-7 discs, indenting thecal sac, compromising spinal canal, indenting bilateral C4, C7 transversing nerve roots respectively at these levels.

Dashavidha Rogi Pareeksha:

- Prakriti: -Vata-Pitta
- Vikruti, Samhanana- Madhyama
- Pramana, Satmya, Satva- Madhyama

- Aharashakti- Abhyavarana Shakti- Madhyama

- Jarana Shakti- Avara

- Sara- Asthi Sara

- Vyayamashakti- Madhyama

- Vaya- Madhyama

- Agni- Manda

- Koshta- Madhyama

- Bala- Avara

Samprapti Ghataka:

- Dosha – Tridosha

- Dushya-Rasa, Rakta, Mamsa, Asthi, Majja

- Srotas – Rasavaha, Raktavaha, Mamsavaha, Asthivaha, Majjavaha

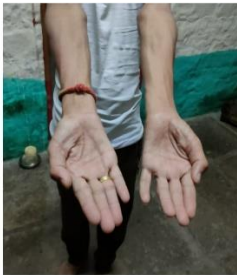
- Adhithana-Uttamanga

- Samutthana- Ashaya Samutthana

- Vyaktisthana- Urdhwa Shareera

- Rogmarga- Madhyama

BT



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Intervention: 6 sittings in IPD and 4 OPD levels sittings of follow up.

Table 1: Panchakarma therapy and Shamana dravya:

Date	OPD	IPD	SHAMANA	DISCHARGE MEDICINES
04/2/2019	--	<i>Alepa</i> <i>Dashamula Parisheka</i> <i>Tailadhara</i> <i>Rajayapana Basti (Kala)</i> -14 days	<i>Nuro XT</i> 1 BD <i>DDN Qwatha</i> 3 tsp. TDS <i>Kooshmanda Rasayana</i> 2 tsp OD	<i>Nuro XT</i> 1 BD <i>DDN Qwatha</i> 3 tsp TDS <i>Kooshmanda Rasayana</i> 2 tsp OD
12/6/2019	<i>Nuro XT</i> 1 BD <i>DDN Qwatha</i> 3 tsp TDS <i>Kooshmanda Rasayana</i> 2 tsp OD <i>Manibhadra Guda</i> 1 tsp BD	--	--	--
07/12/2019	--	<i>Alepa</i> <i>Pizhichil</i> <i>Rajayapana Basti (Kala)</i> - 7 days	<i>DDN Kwatha</i> 3 tsp TDS <i>Kooshmanda Rasayana</i> 2 tsp OD <i>Manibhadra Guda</i> 1 tsp BD	<i>BVC</i> with gold (<i>DKS</i>) 1 OD <i>G.H. Erandam</i> 15 ml. HS with milk
10/2/2020	--	<i>Alepa</i> (Internally) <i>Pizhichil</i> <i>Rajayapana Basti (Kala)</i> - 7 days	<i>BVC</i> with gold (<i>DKS</i>) 1 OD	<i>BVC</i> with gold (<i>DKS</i>) 1 Od <i>G.H. Erandam</i> 15 ml HS with milk <i>Kooshmanda Rasayana</i> 3 tsp OD
12/8/2020	<i>G.H. Erandam</i> 15 ml HS with milk <i>Palsineuron</i> 1 TDS	--	--	--
02/11/2020	--	<i>Alepa</i> (Internally) <i>Pizhichil</i> <i>Rajayapana Basti (Kala)</i> - 7 days	<i>BVC</i> with gold (<i>DKS</i>) 1 BD <i>Saddharana Yoga</i> 2 TDS	<i>Nuro XT</i> 1 BD <i>Saddharana Yoga</i> 1 TDS <i>Indukantha Ghrita</i> 10 ml BD
16/12/2020	<i>Palsineuron</i> 1 TDS <i>Saddharana Yoga</i> 1 TDS <i>Panchagavya Ghrita</i> 10 ml BD	--	--	--
25/12/2020	--	<i>Alepa</i> (Internally) <i>Abhyanga</i> <i>Rajayapana Basti (Kala)</i>	--	<i>BVC</i> with gold (<i>DKS</i>) 1 OD <i>Saddharana Yoga</i> 1 TDS <i>Palsineuron</i> 1TDS

27/9/2021	--	-21 days <i>Alepa</i> <i>Dashamula Parisheka</i> <i>Taladharana</i> with <i>Madhuyasti</i> <i>Dashamula Niruha Basti</i> + <i>Rajayapana Basti (Kala)</i> - 7 days	--	<i>Neurim</i> 1 TDS <i>Indukantha Ghrita</i> 10 ml OD <i>Balamula Qwatha Churna</i> 50 ml TDS
2/2/2022	<i>Neurim</i> 1 TDS <i>Indukantha Ghrita</i> 10 ml OD <i>Balamula Qwatha Churna</i> 50 ml TDS <i>Saddharana Yoga</i> 1 TDS	--	--	--

Table 2: Before Treatment and After Treatment

	Before Treatment				After Treatment			
	Upper Limbs		Lower Limbs		Upper Limbs		Lower Limbs	
	Right	Left	Right	Left	Right	Left	Right	Left
Bulk	22/18 cm	20/16 cm	40/25 cm	40/25 cm	24/20 cm	23/18 cm	42/27 cm	42/27 cm
Power	1/5	1/5	5/5	5/5	5/5	5/5	5/5	5/5
Fasciculation with mini Polymyoclonus	+	+	Absent	Absent	Absent	Absent	Absent	Absent
Atrophy (Arm, Forearm, Hypothenar Muscles)	+	+	Absent	Absent	Absent	Absent	Absent	Absent
Tone	Spasticity	Spasticity	Normal	Normal	Normal	Normal	Normal	Normal

Superficial Reflex		
	BT	AT
Plantar Reflex	Negative	Negative
Scapular Reflex	Negative	Negative
Abdominal Reflex	Negative	Negative
Cremasteric Reflex	Negative	Negative
Deep Tendon Reflex		
	BT	AT
Biceps Reflex(B/L)	3+	2+
Triceps Reflex(B/L)	3+	2+
Patellar Reflex(B/L)	2+	2+
Achilles Tendon(B/L)	2+	2+

RESULT

Before starting the treatment, the total score of ALS-FRS-R was 19, after 6 months of treatment, symptoms got slightly reduced and in 2022 the score was 40. The patient showed good improvement in speech, walking, no generalized weakness, ability to lift a weight, no tingling, numbness, and tremors got reduced. Now, the patient felt energetic, stiffness of bilateral upper limbs got decreased with an overall improvement in general conditions.

DISCUSSION

Probable mode of action of *Rajayapana Basti*

Rajayapana Basti acts as *Mamsa Agnibala Shukra Vivardhana*. The *Basti* which promotes the longevity of life is *Yapana Basti*. All *Yapana Basti* have the quality of both *Niruha* and *Anuvasana Basti*, so all *Yapana Basti* perform the dual function as *Brimhana* and *Srotoshodhana*. *Rajayapana Basti* is said to be superior among them. It is also called King of all *Yapana Basti*. In this condition, there is *Avarana* of *Vata* by *Kapha Dosha*. Here, *Rajayapana Basti* alleviates the *Avarana* of *Vata* by reduction of *Kapha* and bringing back the *Vata* to normalcy. By normalization of *Vata*, *Yapana Basti* maintains the homeostasis in the body constituents which in turn alleviates the disease.

Probable mode of action of *Shirodhara*

Shirodhara is a procedure that is a fruitful treatment for neuromuscular relaxation and nourishment. In *Shirodhara* there is continuous pouring of fluid over a frontal area of the head which increases local circulation and may help the absorption of active principles of the drug. *Shirodhara* is a relaxation therapy that pacifies the aggravated *Vata Dosha* and relieves mental exhaustion and helps in the normalization of functions of the nervous system.

Probable Mode of action of *Pizhichil*

Sarvangadhara or *Pizhichil* is an important part of *Swedana* procedure. It is mentioned under the variety of *Drava Sweda*. Based on the liquid media used, it can be of *Ruksha* and *Snigdha* nature. When the liquid media has *Snigdha* properties, it does both *Snehana* and *Swedana* whereas on having *Ruksha* properties, it

does *Swedana* along with *Rukshana*. As per *Dhara-kalpa*, it is mentioned that *Sarvangadhara* brings *Dridta* (firmness) and *Vrishta* (vigour) in the body. It increases the *Agni* (digestive fire), *Oja* (immunity) and enhances the complexion of the body. It results in stability of *Indriya* and boosts its function. When the *Sarvangadhara* is done with lukewarm medicated liquid, it pacifies all the aggravated *Dosha* ^[13]. *Sarvangadhara* acts due to its *Ushna* and *Teekshna* properties. The application of lukewarm/ mild hot medicated liquid increases the metabolic rate which causes vasodilation of the blood vessels. This vasodilation opens the smaller channels and increases the peripheral circulation. The pores in the skin open leading to an elimination of waste products through sweat. The increased circulation promotes better absorption of medicated liquid into the body.

Probable Mode of action of *Kooshmanda Rasayana*

Kooshmanda Rasayana provides strength and reduces vitiated *Pitta* and *Vata*. It provides nourishment, improves appetite, and increases strength. *Kooshmanda* is described in *Ayurveda* as a *Medhya* drug, *Kooshmanda* controls *Vata*, *Pitta Dosha* and its *Prabhava* are *Medhya*. *Kooshmanda Avaleha* is very useful in the treatment of nervous system disorders due to its *Medhya* property.

Dhanadanayanadi Kashayam is indicated in the *Akshepa Vata*. It has the action of *Kapha-Vata Shamana* and is *Deepana*, *Pachana*, *Lekhana*, *Ruksha*, and *Ushna*. *Dhanadanayanadi* helps in removing the *Kapha Avarana*.

Saddharana Yoga acted as *Ama Pachaka*, *Srotoshodhaka*, and *Dosha Shamaka*.

CONCLUSION

ALS is a rapidly progressive neurodegenerative disorder disturbing both upper and lower motor neuron functions. Sometimes, it is life-threatening and difficult to manage, but appropriate early diagnoses and *Ayurvedic* treatment which is the safest, cost-effective, simply available, effective, and quick responses. So *Ayurvedic* modality of treatment can be the best option for the management of ALS. The incidence of ALS is

increasing every year so efforts must be taken to promote awareness of the disease and encourage the research for ALS management.

Although there is no precise equivalent correlation for MND in *Ayurveda*, MND can be considered a 'Vata' predominant disease. Most of the signs & symptoms of MND like fasciculation (*Gaatra kampa*), cramps (*Bheda, Toda*), wasting, weakness (*balopaghata*), and spasticity (*Parvanam Stambha*), etc. match that of the classical signs & symptoms of derangement of *Vata* described in *Ayurveda*. This case showed the 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 '*Kapha Avrita Udaana* and *Vyaana Vata*'. The line of treatment was planned according to that. Patient's complaints like *Karshya* (emaciation), *Gaatra Kampa* (tremors), *Sphurana* (fasciculations), and *Balopaghata* (fatigue) symptoms are similar to *Vata Prakopa Lakshana* and symptoms like *Gatra Guruta* (heaviness of body) are the *Kapha Prakopa Lakshanas*, *Stabdhatta* (rigidity/spasticity), *Swara Bhedha / Vaakgraha* (speech difficulties), *Gati Vaishamya*¹⁴ (difficulty in walking or movements), etc. *Avrita Vata Lakshana* was also seen in the patient.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Kavitha Venu Chavan et al: Management Of Amyotrophic Lateral Sclerosis (Als) With Panchakarma Therapies And Shamana Drugs - A Case Study. International Ayurvedic Medical Journal {online} 2022 {cited May 2022} Available from: http://www.iamj.in/posts/images/upload/1356_1362.pdf