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ROLE OF *PANCHTIKTA KSHEERA BASTI* IN THE MANAGEMENT OF MOTOR NEURON DISEASE (MND) – A CASE STUDY

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ABSTRACT

A Motor Neuron Disease (MND) is any of several neurological disorders that selectively affect motor neurons, the cells that control voluntary muscles of body. They include Amyotrophic lateral sclerosis, Progressive muscular atrophy, hereditary spastic paraplegia, and Progressive bulbar palsy and Pseudo bulbar palsy. They are neurodegenerative in nature and cause increasing disability and eventually death. It can affect any adult at any age but mostly seen above the age of forty. As modern medicine has limited disease modifying treatment, Ayurveda plays an important role in improving the condition of the patient. *Tikta ksheer basti* is one such treatment. As *basti* works through the nerve innervation theory and the intestines are highly innervated, *tikta ksheer basti* helps in sending signals to the brain. It innervates the nerve endings of the rectum and colon and activates the Autonomic nervous system and thus performs the act of excretion of vitiated *doshas* and *malas,* enhancing the patient's condition. As Motor Neuron Disease can be correlated to *Vata vyadhi, Tikta ksheer basti* helps in *srotoshodhana* as well as it is *Brimhana.* A case study was conducted in which a patient with motor neuron disease was administered with *tikta ksheer basti* and showed significant improvement in symptoms.

KEYWORDS: Motor neuron disease, *Tikta ksheer basti*, *doshas*, *malas.*

INTRODUCTION

Motor neuron diseases (MND) are a group of neurodegenerative disorders of unknown etiology, characterized by the selective death of upper and lower motor neurons in the central

nervous system.[1] Reported incidence rates of MND varies between 0.6 and 2.4 per 100,000 persons per year in different populations, without displaying a clear geographical pattern.[2] Discrepant rates across studies could be the consequence of different methodological approaches, including variations in case ascertainment and the use of diverse diagnostic criteria.[3] In fact, several population-based studies conducted in Europe using similar methodology have consistently provided incidence rates around 2 cases per 100,000 persons per year.[4,5,6,7,8] Still, significant controversies remain about the epidemiology of MND. Although most studies suggest that MND incidence peaks around age 75–79, decreasing afterwards.[9] Motor neuron disease (MND) can appear at any age, but most patients are over 40 years old at diagnosis. It affects men more than women.[10]

Amyotrophic lateral sclerosis, the most common motor neuron disease, is clinically characterised by extensive paralysis leading to death generally by respiratory failure, with 50% of patients dying within 15–20 months after diagnosis.[11, 12]

Although spinal muscular atrophy and hereditary spastic paraplegia are known to have a genetic basis, the causes of other motor neuron diseases remain unknown, but are postulated to combine environmental and genetic factors.[13,14] Genetic variants have been associated with amyotrophic lateral sclerosis[15],whereas the contribution of environmental factors, with the possible exception of smoking[16,17], is still not clear because of the difficulties in assessment of potential risk factors retrospectively in case-control studies.

Patients with UMN pathology often complain of loss of dexterity or a feeling of stiffness in the limbs. They might note weakness, which is caused by spasticity resulting from disinhibition of brain stem control of the vestibulospinal and reticulospinal tracts. Patients with LMN pathology usually present complaining of muscle weakness. In addition, they might note muscle atrophy, fasciculations, and muscle cramping. Cramping can occur anywhere in the body, including the thighs, arms, and abdomen. Cramping of abdominal or other trunk muscles raises a red flag urging the clinician to consider a diagnosis of ALS.

Signs and symptoms suggesting bulbar muscle weakness include dysarthria, dysphagia, drooling, and aspiration. These signs and symptoms might be caused by UMN and/or LMN dysfunction involving the bulbar muscles. Signs of spastic dysarthria, indicating UMN pathology, include a strained and strangled quality of speech, reduced rate, low pitch, imprecise consonant pronunciation, vowel distortion, and breaks in pitch. LMN dysfunction

creates flaccid dysarthria in which speech has a nasal and/or wet quality, pitch and intensity are monotone, phrases abnormally short, and inspiration audible. Patients might complain of intermittent gagging sensations caused by muscle weakness with drooping of the soft palate. Complaints of difficulty chewing and swallowing, nasal regurgitation, or coughing when drinking liquids can all indicate dysphagia.

Other signs and symptoms frequently associated with ALS are cachexia, fatigue, and musculoskeletal complaints. The term ALS cachexia refers to a phenomenon experienced by some patients in which weight loss occurs in excess of that caused by muscle atrophy and reduced caloric intake. Both subcutaneous fat and peritoneal fat are lost, presumably because of acceleration of the basal metabolic rate.[18]

In Ayurveda Motor Neuron Disease can be correlated to *Vatavyadhi.*

Vitiated *vata* causes various symptoms like contraction, joint stiffness, splitting of bones and joints, horripilation, delirium, spasticity of hands, back and neck; limping, paraplegia, hunch back; organ atrophy, insomnia, intrauterine death of embryo and fetus, diminishing sperms and menstruation fasciculation, generalized numbness, twitches of head, nose, eyes, supraclavicular part and neck; splitting, pricking or aching type of pains; convulsions, loss of consciousness, fatigue etc.[19] As modern medicine has limited disease modifying treatment, Ayurveda plays an important role in improving the condition of the patient. *Tikta ksheer basti* is one such treatment. Different specific diseases of *vata* are caused by specificity in etiological factors and site of affliction. Acharya Charaka has mentioned the use of Basti using Tikta rasatmaka aushadhi dravya along with ghrut (Ghee) and Ksheer (milk).[20]

MATRIAL AND METHODS

PATIENT'S PROFILE	
Name	Snehlata
Age	53 years
Sex	female
Marital status	married
Religion	hindu
Occupation	House wife
Address	Shamli

CHIEF COMPLAINTS WITH DURATION

Generalized body weakness since 3 months.

Unable to stand and walk without support since 3 months.

Numbness in B/L upper limbs specially palms since 3 months.

Reduced grip in B/L hands since 3 months.

H/O PRESENT ILLNESS

According to patient she was asymptomatic 3 months ago. Suddenly she developed pain in mid of back region while doing household work. She ignored it and after few days felt weakness in whole body and later developed numbness in B/L upper limbs. Gradually she found difficulty in changing posture and doing daily routine work. She took allopathic treatment with not much relief. She was admitted in Rishikul Campus, Panchakarma Ward for further treatment.

PERSONAL HISTORY

Addiction	Not any
Appetite	normal
Thirst	normal
Bowel	clear
Micturition	normal
Diet	vegetarian
Sleep	sound
Menstruation	menopause
Socioeconomic history	Middle class

EXAMINATION

General condition	**Average**	**Cyanosis**	**not present**
BP	130/80 mm/Hg	Clubbing	not present
Pulse rate	80/min	J.V.P	Not raised
Temp	98°F	Lymph nodes	not palpable
Respiratory rate	18/min	Thyroid	not enlarged
Pallor	not present	Skin	normal texture
Icterus	not present	Tongue	white coated

CNS EXAMINATION BEFORE TREATMENT

Higher functions – intact

Sensory examination – pain, temperature, pressure sensations intact

Motor examination:-Y

Bulk- normal

Tone – slightly rigid

POWER

	Upper limb	Lower limb
Left	3/5	4/5
Right	3/5	4/5

SUPERFICIAL REFLEXES

Plantar: extensor

Abdominal: normal

DEEP TENDON REFLEXES

	Biceps	Triceps	Supinator	Knee	Ankle
LEFT	+++	+++	++	+++	++
RIGHT	+++	+++	++	+++	++

Cranial nerve examination – intact

Grip- Hands reduced

TREATMENT GIVEN

Tikta ksheer basti (60 ml) was given for 15 days in 2 sittings.

Samshamana chikitsa was also given after 30 days of total study.

CONTENTS OF *TIKTA KSHEER BASTI*

Milk	**60 ml**
Water	60 ml
Vasa churna	1 gm
Punarnava churna	1 gm
Nimba churna	1 gm
Patol churna	1 gm
Guduchi churna	1gm
Devdaru churna	1 gm
Kantakari churna	1 gm

PROCEDURE

60 ml of water is added to 60 ml milk and then the above *churna* mixture approximately 6 gm to 7 gm is added. It is boiled till water evaporates. Then this preparation is administered 60ml in the form of *basti*.

RESULT

	Before Treatment		After treatment	
	Left upper limb	**Right upper limb**	**Left upper limb**	**Right upper limb**
Tone	Slightly rigid	Slightly rigid	normal	Normal
Numbness	++	++	+	+
Grip	reduced	reduced	normal	Normal

Power

	Before treatment		After treatment	
	Upper limb	**Lower limb**	**Upper limb**	**Lower limb**
Left	3/5	4/5	4/5	5/5
Right	3/5	4/5	4/5	5/5

Deep tendon reflexes

		Biceps	**Triceps**	**Supinator**	**Knee**	**Ankle**
Before T/T	Left	+++	+++	++	+++	++
	Right	+++	+++	++	+++	++
After T/T	Left	+++	++	++	++	++
	Right	+++	++	++	++	++

DISCUSSION

Motor neuron diseases is a congregation of *vata roga* and *kshaya roga*. It is a *Vata* predominant disease. In Ayurveda it can be correlated to *Vata Vyadhi*. *Vata* controls the respiratory, blood, lymphatic, excretory, and reproductive systems. It is responsible for the cognitive and neo-cognitive functions of the brain and secretion of various chemical neurotransmitters and hormones. *Vata prakopa* is mainly due to *marga avarna* and *strotavrodh.*[21] For *Strotavrodha, strotoshodhana* should be done, which can be done with *Tikta rasa.* The body is so weak that we cannot perform the classical sodhana procedures, as they will further raise the level of vikrit vata. So, we can easily administer basti. We can say that *Tikta ksheer basti* is a type of *Yapana basti* and is *Balya* and *brimhan.* So *Tikta ksheer basti* is used to pacify *vata dosha* and to eliminate *kshaya.*

RESULT

The patient had significant relief in weakness and numbness in upper and lower limbs. Although it is a single case study but it is a ray of hope for motor neuron disease. We should try the above treatment on large number of samples so as to proof its efficacy.

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