



**AYURVEDIC MANAGEMENT OF CERVICAL MYELOMALACIA WSR TO  
ASTHIMAJJAGATA VATA – A SINGLE CASE STUDY**

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**ABSTRACT**

Myelomalacia is a pathological term referring to the softening of the spinal cord. The commonly injured spine is cervical and lumbar spine, characterized with loss of motor functions in the extremities or paralysis, loss of pain perception. According to Ayurveda it can be considered as Sarvanga roga which was explained in the context of Pakshagata stating that Pakshagata is called Ekanga roga and the same affecting both half of the body that is, all 4 limbs as Sarvanga roga. It is a Dhatukshayajanya asthi majjagata vata vyadhi, here samprapti is at greeva pradesha i.e., spinal cord at Cervical region. In this paper a case study of Cervical Myelomalacia is discussed, which was treated under Ayurvedic principles and has proved beneficial.

**KEYWORDS:** Myelomalacia, Asthi-Majjagata Vata, Sarvanga roga.

**INTRODUCTION**

Cervical Myelomalacia<sup>[1]</sup> is a pathological term referring to the softening of the Cervical Spine. This softening is often the result of a lack of blood supply to the spine – due to an acute injury or degeneration of the spine over time. Spinal injury such as that caused by intervertebral disc extrusion (being forced or presented out) may lead to hemorrhaging within the spinal cord causing compression or improper circulation of blood to the area damaged, which results in further damage to the spinal cord producing Myelomalacia. Osteoporosis may also contribute to spinal instability and haemorrhaging. Those most at risk are the geriatric population due to weaker bone density. The human body begins to deteriorate with age and the bones in the body begin to weaken in a process known as osteopenia, making the body more vulnerable to damage. A simple fall may damage the spinal cord and myelomalacia may soon ensure.

Here is a case study of Cervical Myelomalacia, which was effectively treated under Ayurveda principles. As per Ayurvedic Classics, this condition can be correlated with Sarvanga roga<sup>[2]</sup> where samprapti is that of Asthi-Majjagata Vata<sup>[3]</sup> resulting in Dhatu Kshaya. The aim of the treatment is to manage the disease without further worsening and to provide better quality of life to the patient.

**CASE REPORT**

A 78 year old male patient, agriculturist by occupation presented with complaints of Karma Kshaya in Urdhwa

& Adhoshakhas (weakness of Upper & lower limbs) since 2 months. Onset was gradual with no h/O trauma. Weakness was initially present in the Vama Urdhwa & Adhoshakha, then gradually developed in Ubhaya Urdhwa and Adhoshakhas. Patient was unable to walk and perform activities of daily life. Patient also complained of Katishoola, Vibandha since 2 months. Patient is not a known case of Diabetes, Hypertension.

**Past History:** No h/O trauma, fever and has not undergone any surgical procedures. No h/o loss of consciousness, dysnoea. Bladder and bowel control were intact.

**Family History:** Nothing contributory.

**Personal History:** Stopped smoking and alcohol intake since 20 years.

**Physical examination**

- Built: Moderately built.
- Pallor, Icterus, Cyanosis, Lymphadenopathy and Oedema - Absent.

**Dashavidha Pariksha**

- Prakriti: Vata
- Satwa, Samhanana, Pramana, Sara, Saatmya - Madhyama
- Vyayaama shakti & Aahara shakti – Avara
- Vayas- 78years

**Systemic examination**

**Respiratory system:** B/L NVBS heard

**Cardiovascular system:** S1 S2 heard.

**Gastro-intestinal system:** Per Abdomen – Soft, non tender and bowel sounds heard.

**Central nervous system**

- Conscious and well oriented.
- Cooperative, Memory - Intact
- Speech - Slurred speech.
- Co-ordination - Intact.
- Cranial Nerves - Normal.
- Motor Nerve:
  - a. Tropical changes – No bed sores.
  - b. Atrophy – Upper Limbs ++
  - c. Contractions & Contractures – Absent
  - d. Fasciculation & Irritability – Absent
  - e. Involuntary movements - Absent.
  - f. Muscle tone - Mild increase in lower limbs. Reduced in upper limbs (flaccid)

g. Muscle Power grade		
	RT	LT
Upper limb	4/5	3/5
Lower limb	4/5	3/5

h. Reflexes:  
Visceral & Abdominal reflex - Intact

**Deep tendon reflexes**

Reflexes	Right	Left
Biceps jerk	+	-
Triceps jerk	+	-
Supinator	+	-
Knee jerk	+++	+++
Ankle jerk	++	++

- i. Clonus – Absent
- j. Babinski sign – Positive both Lower limbs.

**Intervention**

**Table no 1: Showing the treatment.**

Sl no	Treatment	Duration
1	Sarvanga Shastika Shali Pinda Sweda <sup>[4]</sup> (Maha Masha taila for abhyanga)	15 days
2	60ml Matra Basthi with Mahanarayana Taila <sup>[5]</sup> 30ml +Dhanwantara Taila <sup>[6]</sup> 30ml.	15 days
3	Prathimarsha Nasya with Ksheerabalataila 101 <sup>[7]</sup> 2 drops to each nostril	15 days
4	Physiotherapy -Gait training, Balancing exercise, Strengthening exercise for upper and lower limbs, Co-ordination exercise	15 days
<b>Shamanoushadhis</b>		
5	Ashtavarga Kashaya <sup>[8]</sup> 10ml-0-10ml with equal quantity of water after food.	30 days
6	Dhanadanayanadi Kashaya <sup>[9]</sup> 10ml-0-10ml with equal quqntity of water after food.	30 days
7	Brihat Vata Chintamani Rasa <sup>[10]</sup> with Gold 0-0-1	48 days
8	Ashwagndha Choorna <sup>[11]</sup> 5g +Abhraka bhasma <sup>[12]</sup> 125mg	45 days

• **Sensory Nerves**

- a. Superficial : Temperature, pain, touch sense- intact
- b. Deep pain perception: Reduced in Left upper & Lower Limbs.
- c. One point localization, Two point discrimination – Intact
- d. Graphesthesia & Stereognosis – Intact.

• **Gait and Posture:** Instability while walking with a fear of fall.

**Musculo-skeletal system**

Janu sandhi: Crepitus - ++ on both knees.

Deformity – genu varum

**Investigation**

Routine studies of blood and urine were within normal limits.

**MRI – CERVICAL SPINE**

**IMPRESSION**

1. Osteophytes with Posterior Central and Bilateral Paracentral Disc Protrusion Lesion At C4-C5 And C5-C6 Levels
2. Osteophytes with Posterior Mild Disc Lesion At C3-C4 And C6 – C7 Levels No obvious Neural Compression.
3. Myelomalacic Changes Of The Cord From C3 – C5 level.

	twice daily with milk.	
9	Shamanasneha with Maha Masha Taila <sup>[13]</sup> 10ml at 8.30am on empty stomach with hot water	45 days

These Choornas & Mahamasha Taila Shamana Sneha were started once the kashayas were stopped.

improvement with muscle bulk in the upper limbs. Katishoola and vibanda also reduced.

**OBSERVATION AND RESULT**

There was no much change for a week at the beginning of the treatment. Later muscle tone was improved in the upper limbs and rigidity got reduced a little in the lower limbs. Muscle power of upper limbs and lower limbs improved. By the end of 15 days patient could able to walk without the fear of falling. There was no much

As patient continued with the shamanoushadhis along with shaman sneha ie, Maha masha taila 10ml on empty stomach at 8.30 am with hot water there was over all improvement in the neurological deficits in both upper and lower limbs including the muscle bulk of upper limbs.

**Table no 2.**

Symptoms	BT			7 days of treatment		15 days of treatment		30 days of treatment		45 days		60 days		75 days	
Atrophy in upper limbs	++			++		++		+		+		---		---	
Muscle power	UL	Rt	Lt	4/5	3/5	4/5	3/5	5/5	4/5	5/5	4/5	5/5	5/5	5/5	5/5
		4/5	3/5	4/5	3/5	5/5	4/5	5/5	4/5	5/5	5/5	5/5	5/5	5/5	5/5
Muscle tone	LL	4/5 3/5		4/5	3/5	5/5	4/5	5/5	4/5	5/5	5/5	5/5	5/5	5/5	5/5
		UL	Flaccid		Flaccid		Improved		Improved		Improved		Improved		Normal
ADL (activities of daily life)	LL	Spastic		No change		No change		Reduced		Reduced		Normal		Normal	
		With support			With support		Improved		Improved		Improved		Possible without support		Possible without support

**DISCUSSION**

Cervical myelomalacia is a pathological term referring to the softening of spinal cord at cervical region. When it occurs, the damage done to the spinal cord may range from minimal to extensive. Hemorrhagic infraction of the spinal cord can occur as a sequela to acute injury, such as that caused by intervertebral disc extrusion. The disease may occur in any individual. Those most at risk are the geriatric population due to weaker bone density, sport athletes.

The symptoms may vary depending on the extent of spinal cord injury. May cause flaccid paralysis, total areflexia, loss of deep pain perception caudal to the site of spinal cord injury, muscular atrophy, depressed mental state and respiratory difficulty due to intercostal and diaphragmatic paralysis. Ascending lesions reaches motor nuclei of phrenic nerves (C3-C5 region). Gradual cranial migration of the neurological deficits know as ascending syndrome leads to diffuse myelomalacia. Areas most commonly involved or injured include Cervical spine (C1-C7) and Lumbar spine (L1-L5).

The tests which provide definite diagnosis are Magnetic resonance imaging (MRI) and Myelography. MRI is used to visualize certain damaged bone density and matter. Diffuse hyper intensity appreciated on T2-weighted imaging of the spinal cord can be indication of onset or progression of Myelomalacia.

Depending on the MRI findings, patients can be grouped into early, intermediate and late stages of Myelomalacia.

In early stage there will be high intensity signal changes on T2 weighted images involving width of the affected cord. In the intermediate stage there will be varying degrees of cystic necrosis of the central gray matter, better seen on T2 weighted images. In late stages there will be central cystic degeneration with syrinx formation and atrophy. Among these stages early stage is considered to be reversible.

In Ayurveda, Cervical Myelomalacia can be paralled with sarvanga roga as per explanation of Vagbhata in the context of Pakshagata. He stated that when vitiated vayu takes ashraya in sira and snayu of half of the body, it produce karma kshaya of half of the body, said as pakshagata or Ekanga roga. Similarly if karma kshaya is seen in both half of the body it is called as Sarvanga roga. Here the condition is Sarvanga roga where samprapti is of Asthi majjagata vata at the level of cervical spine resulting in dhatu kshaya, hence kevala Vata chikitsa<sup>[14]</sup> was followed.

At first patient was started with Sarvanga shashtikashali pinda sweda with abhyanga of Maha masha taila. Shashtika shali is snigdha and brimhana acts as Vatahara and helps in improving the muscle tone and bulk, Maha masha taila is snigdha and ushna also acts as Vatahara and brimhana.

Matra basti with Mahanarayana taila and Dhanwantara Taila each 30ml, in total 60ml was given. Mahanarayana Taila and Dhanwantara Taila are Madhura, Sheeta, Guru, Balya, Brihmana and its main ingredients is Shatavari.

As it is Vata pitta shamaka it is highly beneficial in dhatukshayajanya vata vyadhi i.e., degenerative neurological disorders.

Pratimarsha nasya with Ksheerabala 101 was administered 2 drops to each nostril daily, as adho sthana of disease is jatrudwaand also nasya is a choice in bahushirshagata vata. Ksheerabala taila is mainly indicated in vata vyadhis acts as vatashamana, brimhana and jeevana.

Astavargha Kashaya is katu Tikta rasa, ushna veerya, Vata kapha hara. It is also called as Balasahacharadi Kashaya because it contains Bala, Sahachara, Eranda, Shunti etc drugs. Danadanayanadi Kashaya is Tikta katu, ushna veerya and kaphanubhandha vata hara. Its main ingredient is Danadanayana (Kuberaksha mula), Shunti, Shigrū, Rasana, Pippali etc. Both Kashayas are used in Avarana & Vatakaphaja conditions. In this condition, as there is compression over the cervical spinal cord because of Intervertebral disc prolapse, these Kashayas were given for first 30 days.

Maha masha taila which was given as shamana sneha is ushna, guru, balya, brihmana and Vatashamana. It contains Masha & Dashamoola as major ingredients. It is highly useful in muscular weakness (flaccidity) and muscular atrophy.

Brihat Vata Chintamani Rasa is a swarna kalpa which is brimhana and beneficial in Dhatu kshayajanya Vata Vyadhi. As it is rasayoga it is given for 1 mandala kala i.e., 48 days. Abhraka Bhasma & Ashwagandha are also Brimhana in nature.

Along with above treatment, to improve gait and to mobilize the limbs Physiotherapy like gait training, balancing exercise, strengthening exercise and co-ordination exercise for upper & lower limbs was advised.

These Panchakarma therapies and Shamanoushadis has given better results to the patient by reducing the signs and symptoms. By the end of the treatment, patient was able to walk without support steadily & to perform the activities of daily life.

## CONCLUSION

Cervical myelomalacia can be compared with Sarvanga roga where samprapti is of Asthi majjagata vata resulting in dhatu kshaya. The above discussed Panchakarma chikitsa and Shamanoushadies can be effectively adopted in the management of the same.

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