

**MANAGEMENT OF QUADRIPLÉGIA INDUCED BY SPINAL CORD  
INJURY WITH PANCHAKARMA – A CASE STUDY****Dr. G. N. Govinda\*<sup>1</sup> and Dr. V. Lakshmana Prasad<sup>2</sup>**

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**ABSTRACT**

A 28-year-old male patient with quadriplegia induced by spinal cord injury was treated with ayurvedic medicine and Panchakarma therapies. Patient presented with complete loss of consciousness (Glasgow Coma Scale of 4 noted) with quadriplegia and inability to sit/stand even with support and having no bladder/bowel control. Patient had history of RTA causing compression of cervical spinal cord at level of C2-C3. Ayurveda explains this disease as Sarvāṅgavāta. Snehana and Svedana formed the first line of treatment to pacify the vitiated Vāta while Mātrā vasti worked as Balya for Mansa and Asthi dhatu and also Anulomana. Vasti improves motor and sensory system resulting in improved function of all limbs. Management was done with repeated admissions for Panchakarma therapy during which overall muscle power and reflexes improved.

**KEYWORDS:** Mātrā vasti, Panchakarma, Yāpanā Vasti,

Quadriplegia, Snehana, Spinal cord injury.

**INTRODUCTION**

Paralysis is a condition in which the muscle movements are hampered due to some damage or problem in the nervous system. In simple words, 'loss of muscle functions in the body' is paralysis. It can manifest in many forms - localized or generalized, partial or complete, temporary or permanent, spastic or flaccid. Paralysis of both the arms and legs is known as Quadriplegia.<sup>[1]</sup> Quad comes from the Latin for four and plegia comes from the Greek for inability to move. The primary cause of quadriplegia is a spinal cord injury, but other

conditions such as cerebral palsy and strokes can cause a similar appearing paralysis. The spinal cord is a vital part of our body responsible for transmitting signals between the brain and the rest of the body. Any injury or damage to the spinal cord can severely impact a person's life. An injured Spinal cord.<sup>[2]</sup> can cause loss of sensation, paralysis, and even death in some cases. The spine is made up of 33 vertebrae, which are divided into five regions: cervical, thoracic, lumbar, sacral, and coccygeal. Each spine region is associated with specific vertebrae, and the nerves that pass through them control different body parts. Damage to these regions can cause various problems, such as neck pain, back pain, sciatica, and even paralysis. Spinal cord injuries can be classified into two types: complete and incomplete. A Complete spinal cord injury involves a total loss of sensory and motor function below the level of injury. An incomplete spinal cord injury involves partial sensory and motor function loss. The amount of impairment resulting from a spinal cord injury depends on the part of the spinal cord injured and the amount of damage done. Traumatic spinal cord injury (SCI) can cause significant motor, sensory, and autonomic dysfunction caudally to the level of injury.

The classical text of *Ayurveda* explains these symptoms under the heading of *vātvādyādhī*.<sup>[3]</sup> *pakshāghata*.<sup>[4,5]</sup> and *Vāta Doṣa* imbalance disorders.<sup>[6]</sup> "The aggravated *Vāta* gets lodged in and affects any one half of the body. In that half portion of the body the *Vāta* dries up (destroys) the *sira* - veins and *snayu* - ligaments, tendons and nerves, causes looseness of the joints and destroys functions/movements and sensations in that side of the body. This condition is called *Ekanga Vāta* or *Pakshavadha*. When the aggravated *Vāta* afflicts the entire body i.e. both sides of the body are equally afflicted, it is called *Sarvanga Vāta*. *Snehana*.<sup>[7]</sup> *Svedana*.<sup>[8]</sup> *Anulomana* & *Snigdha Virechana*.<sup>[9]</sup> are essential treatment for *Pakshaghata*. *Balya chikitsa* is required to restore the reduced power in the limbs and thus *Abhyāṅga*, *Nādi Sweda*, *Mātra Vasti*, and *Mustādi Rajayāpanā vasti* is the line of treatment along with oral medications.

## CASE REPORT

A 28 years old male patient (OPD no.-221367-10/03/2023) came to our institute with complains of weakness in bilateral upper and lower limbs since 7yrs. Associated with loss of bladder control and constipation.

### Past History

- h/o RTA on 30 March 2016
- N/k/c/o hypertension

- No H/O – DM, Asthma or Tuberculosis
- No H/O – Alcohol consumption or any other drug abuse.

### History of Present illness

A 28-year-old male sustained a high-velocity injury, resulting in loss of consciousness (GCS 4), an open head injury with a right parietal linear skull fracture, nasal and ear bleeding, and paralysis of all limbs with bladder and bowel dysfunction. MRI revealed a cervical spinal cord contusion (C2-C5) and cerebral edema. Despite ICU care and referral to a higher center, he remained unconscious for 12 days, and surgery was advised but declined. Admitted to S.V. Ayurvedic Hospital on April 23, 2016, he received Tab. Rasaraja Ras (1-0-1) for 10 days, after which he regained consciousness, memory, and speech. Gradual motor recovery followed, starting with flickering movements in the right hand, progressing to other limbs, and eventual regaining of bowel control.

### Modern Diagnosis

The patient is a pre diagnosed case of SCI induced Quadriplegia.

### Ayurvedic Diagnosis

Patient was diagnosed as a case of *Sarvanga Vāta*.

### Time line of treatment schedule

- **Phase-1- (24/04/2016 to 13/06/2016)**
  - ✓ Tab.Rasaraja ras (1-0-1) For 10days
  - ✓ **Mātrā vasti**- Bala taila-75ml for 14days
- **Phase-2-(05/08/2016 to 29/08/2016)**
  - ✓ **Mātrā vasti**-Bala taila-75ml for 7days
  - ✓ Mustādi Rajayāpanā vasti in **Kāla vasti** pattern

**Ānuvāsana** - Mahānārāyaṇa taila

- **Phase-3- (25/04/2017 to 24/05/2017)**
  - ✓ **Mātrā vasti**- Bala taila-75ml for 16days
  - ✓ Mustādi Rajayāpanā vasti in **Yogavasti** pattern

**Ānuvāsana** - Mahānārāyaṇa taila

- **Phase-4- (14/04/2018 to 30/04/2018)**

- ✓ **Mātrā vasti**- Kṣīra Bala-75ml taila for 14days.
- **Phase-5- (6/10/2018 to 1/11/2018)**
- ✓ **Abhyaṅga & Nāḍīsweda** with Nirguṇḍī taila-3days
- ✓ **Mātrā vasti**- Kṣīra Balā taila for 7days
- ✓ **Kāla vasti**

**Ānuvāsana**- Kṣīra Balā taila -90ml

**āsthāpana**- Eraṇḍamūlādi Nirūha vasti

- **Phase-6- (26/10/2019 to 17/11/2019)**
- ✓ **Abhyaṅga & Nāḍīsweda** with Nirguṇḍī taila-3days
- ✓ **Mātrā vasti**- 75ml Kṣīra Bala taila for 7days
- ✓ Mustādi Rajayāpanā vasti in **Kāla vasti** pattern

**Ānuvāsana** - Mahānārāyaṇa taila

- **Phase-7- (10/03/2023 to 30/03/2023)**
- ✓ **Abhyaṅga & Nāḍīsweda** with Nirguṇḍī taila-3days
- ✓ **Mātrā vasti**- Kṣīra Bala taila-75ml for 7days
- ✓ Mustādi Rajayāpanā vasti in **Kāla vasti** pattern

**Ānuvāsana** - Mahānārāyaṇa taila

#### ❖ **Shamana Chikitsa**

- Rasna saptaka Kashaya - 15ml-0-15ml before food
- Vaata vidwamsini rasa - 1-0-1 after food
- Hingwashtaka churna - 1tsp-0-1tsp before food
- Trivruth churna- 1/2tsp @ bed time
- Bala moola qwatha churna 10ml-0-10ml before food.

❖ Cap. Maharaja prasarini 21 avartini 1-0-1

❖ Cap. Nurowin 1-0-1

#### ❖ **OBSERVATION**

Mentioned under **Table 1 and Table 2**: Showing the Neurological finding in a case of spinal cord injury before and after the Ayurvedic therapy.

Table-1.

Symptoms/signs	Before treatment	After 7 <sup>th</sup> phase of treatment
Ability to turn on the bed	Absent	Present
Ability to sit with support	Absent	Present
Ability to stand	Absent	Present
Ability to walk	Absent	2min 30sec/10mts on an average of thrice walking with support.
Muscles power grade		
Right shoulder	Grade 0	Grade 4
Left shoulder	Grade 0	Grade 3
Right elbow	Grade 0	Grade 4
Left elbow	Grade 0	Grade 3
Right wrist	Grade 0	Grade 4
Left wrist	Grade 0	Grade 3
Right hip	Grade 0	Grade 4
Left hip	Grade 0	Grade 4

Table -2.

Symptoms/signs	Before treatment	After 7 <sup>th</sup> phase of treatment
Right knee	Grade 0	Grade 4
Left knee	Grade 0	Grade 4
Right ankle and toes	Grade 0	Grade 4
Left ankle and toes	Grade 0	Grade 4
Reflexes		
Right biceps jerk	Couldn't elicit	Exaggerated Brisk(G-3)
Left biceps jerk	Couldn't elicit	Exaggerated Brisk(G-3)
Right triceps jerk	Couldn't elicit	Exaggerated Brisk(G-3)
Left triceps jerk	Couldn't elicit	Exaggerated Brisk(G-3)
Right knee jerk	Couldn't elicit	Exaggerated Brisk(G-3)

<b>Left knee jerk</b>	<b>Couldn't elicit</b>	<b>Exaggerated Brisk(G-3)</b>
<b>Right ankle jerk</b>	<b>Couldn't elicit</b>	<b>Exaggerated Brisk(G-3)</b>
<b>Left ankle jerk</b>	<b>Couldn't elicit</b>	<b>Exaggerated Brisk(G-3)</b>
<b>Superficial reflexes (Plantar reflex)</b>	<b>Couldn't elicit</b>	<b>Babinski sign i.e., Dorsiflexion of b/l bigger toe accompanied by fanning of other toes</b>

<b>Symptoms/signs</b>	<b>Before treatment</b>	<b>After 7<sup>th</sup> phase of treatment</b>
<b>Muscle tone</b>		
<b>right upper limb</b>	<b>Spastic</b>	<b>normal</b>
<b>left upper limb</b>	<b>Spastic</b>	<b>Less spastic</b>
<b>right lower limb</b>	<b>Spastic</b>	<b>normal</b>
<b>left lower limb</b>	<b>Spastic</b>	<b>normal</b>
<b>Bowel control</b>	<b>Incontinence</b>	<b>Normal</b>
<b>Bladder control</b>	<b>Incontinence</b>	<b>Incontinence</b>

## DISCUSSION

Marmābhighāta is an etiology of Vātavyādhi. Therefore, traumatic SCI can be considered as a type of Vātavyādhi. So in this study, Abhyaṅga, Nādi Sweda, Mātra Vasti, and Mustādi Rajayāpanā vasti were adopted. Rāsna saptaka kaṣāya, Hingwāṣṭaka cūrṇa has Āmapācana and Agnidīpana properties. Balā mūla qwātha cūrṇa has Vātahara, Bṛṃhaṇa, Balya and Dhāthuvardhaka properties. Vasti is the best treatment for vitiated Vāta doṣa. Yāpanā Vasti has the ability to support life and promote longevity. Mustādi Rajayāpanā vasti performs dual actions of Śodhana and Rasāyana simultaneously. Mustādi Rajayāpanā vasti is having "Sadyo-Balajanana" (improves strength quickly), Vātasamāna and Rasāyana properties. Tikta Rasa may have positive impact on cell implantation and also reduce the degeneration of Asthi and Majjā. Therefore, Mustādi Rajayāpanā vasti has a positive effect on neurological disorders and muscle wasting conditions. Acharya Sushruta explains when Vasti is administered properly, it remains in large intestine, pelvis and below the umbilicus for some time and the potency of the Vasti materials spreads in the whole body through the channels and gives its effect quickly. So, the immense number of nerves which are located in Enteric Nervous System can be nourished easily and quickly due to Sadyo-balajanana.

## CONCLUSION

As per observations in the present study, marked improvement is seen in terms of consciousness, memory, speech, muscle power, muscle tone, reflexes, bladder and bowel incontinence. This case study proves remarkable recovery and a hope for the Spinal injury induced paralytic patients. It can be concluded that the patients suffering from Spinal Cord Injuries can be managed successfully with Panchakarma procedures and selected Ayurvedic medicines.

## Declaration of patient consent

We obtained all appropriate patient consent forms. In the form, the patient has given his consent for his clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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