



AN AYURVEDIC APPROACH TO POST TRAUMATIC QUADRAPARESIS- A CASE STUDY

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ABSTRACT

Quadriplegia is paralysis caused by illness or injury that results in the partial or total loss of use of all four limbs. The loss is usually sensory and motor, which means that both sensation and control are lost. Tetraparesis or quadripareisis, on the other hand, means muscle weakness affecting all four limbs. Quadriplegia is caused by damage to the brain or the spinal cord at a high level C1–C7 in particular, spinal cord injuries secondary to an injury to the cervical spine. This can be considered under the broad umbrella term “*Vata Vyadhi*” in Ayurveda and can be co-related to “*Sarvanga Gata Vyadhi*”; it can also be considered under *Sarvanga Roga* mentioned under *Vataja Nanatmaja Vyadhi*. Generally *Vatasya Upakrama* is employed in treating these diseases. An efficient physician by his *Yukti* has to do permutation and combination of *Upakramas* in order to treat challenging diseases. The present case is the live example of the treatment protocol mentioned for the management of *Sarvanga Vata* in *Ayurveda*. In present case the patient was treated in 4 courses of treatments including *Virechana* and *Rajayapana Basti* was adopted for treatments, with promising results.

KEYWORDS: Quadripareisis, *Vata Vyadhi*, *Sarvanga Vata*, *Raja Yapana Basti*.

INTRODUCTION

Quadripareisis also known as Tetraparesis means muscle weakness affecting all four limbs.^[1] The difference between Quadripareisis and Quadriplegia is; in Quadripareisis there is weakness of all the limbs; whereas in quadriplegia or tetraplegia, there is paralysis of all the four limbs. Both the conditions are related. Some of the possible common medical causes of Quadripareisis may include severe hypertension, Lacunar infarct, Motor vehicle accidents, Smokers, Tumours. Some of the less common causes of quadripareisis may include Metastases and systemic metabolic abnormalities such as Diabetes mellitus.^[2] Broadly this can be understood under the term “*Vata Vyadhi*”; *Sarvanga Vata* which is consider to be one among the *Nanatmaja Vyadhi* of *Vata*.^[3]

Lakshanas of *Sarvanga Gata Vata* mentioned in classics as per *Acharya Charaka* are *Gatra Spurana*, *Bhanjana*, *Vedana*,^[4] as per *Acharya Sushrutha* are *Sthambana*, *Akshepana*, *Swapa*, *Shopha* and *Sarvanga Shoola*.^[5]

Here in this case *Vata Prakopa* was due to *Abhighata* and patient was treated in the lines of *Vatasya Upakrama*.

CASE STUDY

Patient name Rajendra (Name Changed) 55 years old male, Hindu by religion, belongs to the middle socio economic background admitted in the hospital 25th December 2022 with the following complaints.

- Patient C/O neck pain since 2 years
- Reduced strength, pain and heaviness in right upper and lower limb since 2 years.
- Stiffness in the right upper limb since 2 years.

Associated with

- Difficulty in walking since 2 years
- Difficulty in activities of daily living since 2 years

History of present illness

History of Road traffic accident on 27/05/2019 - No Loss of Conscious, no bleeding or external injury. He suddenly noticed the weakness in all the 4 extremities and neck pain; he was unable to move from the place and was treated in ICU investigations CT brain reveled normal study, X- ray Cervical spine, dorsal spine and x- ray lumbar spine done showed no traumatic injuries, spondylotic changes. He was managed conservatively with neck immobilization in ICU with cervical collar,

antibiotics, steroids, analgesics and other supportive measures (ventilator support and cauterization). Regular physiotherapy was given for limbs. He was discharged on 8th June 2020 with stable conditions. On 11th Aug'2020 he got admitted in private hospital with complaints of neck pain, stiffness, immobilization. To compare the previous report the physician advised to get a MRI of cervical spine imaging after seeing the report. He was advised to undergo Microscopic anterior cervical C3-C4 discectomy and fusion with spacer on 14th Aug'2020 and he underwent the surgery and continuing of the physiotherapy of all limbs patient had gradually improved 5-10% in movements and discharged on 21st Aug'2020 catheter was removed and was put on regular follow up with physiotherapy for all limbs.

Later patient was admitted in IIAMR in December 2022 with the above complaints.

Past History

- Patient is known case of Diabetic Mellitus since 4years on regular medication.
- Known case of Hypertension since 4 years.

On examination

- Built – well Built
- Nourishment – moderate
- Pulse Rate – 76beats/minute
- BP – 120/80mmhg,
- Temperature – 98.6^oF, afebrile
- Heart Rate – 76/minute
- Respiratory Rate – 18/minute
- Tongue – Uncoated
- Height and Weight – ht-167cm, wt - 74 kg
- Pallor – Absent
- Icterus – Absent
- Cyanosis – Absent
- Clubbing – Absent
- Edema – Absent
- Lymphadenopathy – Absent

Systemic Examination

1. Respiratory System – B/L normal vesicular breath sounds heard.
2. Cardiovascular System – S1 & S2 (+), NAD.
3. per Abdomen- NAD
4. Central Nervous System – Conscious, oriented to time/place/person, with preserved memory and higher mental function.

Cranial Nerve Examination

Olfactory- Smell sensation-intact

Optic

- a) Visual acuity
 - b) Colour vision
 - c) Visual field
 - d) Light reflex
 - e) Accomodation
- } Not affected

Occulomotor, Troclear & Abducent Nerve

Eyeball movement-Possible in all directions
Pupil-position
Shape
Size
Symmetry
Ptosis-Absent

} NAD

Trigeminal

Sensory-Touch, pain and pressure sensation- Intact
Motor - clenching of teeth -possible
lateral movement of jaw- possible
jaw jerk- Normal

Facial

Forehead frowning - possible, equal in both sides
Eyebrow raising - possible, equal in both sides
Eye closure - possible, equal in both sides
Teeth showing - No deviation of angle of mouth towards right
Blowing of cheek - possible
Naso labial fold - Equal on both sides

Vestibulo-cochlear

Rinne's test - AC>BC
Weber's test - Equal on both sides

Glossopharyngeal and Vagus

Position of uvula- centrally placed
Taste sensation -intact
Gag reflex - normal

Spinal accessory

Shrugging shoulder- possible
Neck movement - restricted movements

Hypoglossal

Protrusion of tongue – possible
Tongue movements - possible

Motor System

Involuntary movements – present

Muscle bulk

		right	left
Upper limb	Arm	29cms	29cms
	Fore-arm	26.5cm	26.5cm
Lower limb	Thigh	44cms	44cms
	Leg	37cms	37cms

Muscle tone

Right hand - Spastic
Left hand - Normal
Right leg - Normal
Left leg - Normal

Muscle strength

Upper limb		right	left
Elbow	flexion	4/5	5/5
	extension	4/5	5/5
Wrist	flexion	4/5	5/5
	extension	4/5	5/5
Finger abduction		4/5	5/5
Opposition of thumb		3/5	5/5
Test of grip		4/5	5/5

Lower limb	right	left	
Hip	Adduction	4/5	5/5
	abduction	4/5	5/5
	flexion	4/5	5/5
	extension	4/5	5/5
Knee	flexion	4/5	5/5
	extension	4/5	5/5
Ankle	dorsi flexion	4/5	5/5
	Plantar flexion	4/5	5/5

Co- ordination test

Coordination	Right extremity	Left extremity
Finger nose test	Possible with difficulty	possible
Knee heel test- present	Possible with difficulty	possible

Gait- Limping gait

Reflexes

Superficial

- a) Corneal +
- b) Abdominal +

Deep reflex	Right	Left	
Biceps jerk	++	++	
Triceps jerk	++	++	
Knee jerk	++	++	
Ankle jerk	++	++	
Note: ++ indicates normal			
Clonus	patella	absent	absent
	ankle	absent	absent

- Babinski reflex - +
- Abdominal reflex- +

Sensory system

Superficial

- a) Touch -Intact
- b) Temperature -Intact
- c) Pain - present

Deep

- a) Crude touch -present
- b) Vibration - present
- c) Position sense -present
- d) Pressure sense -present

Locomotor examination

Spine; Inspection – posture; sitting
 Gait – Limping
 Palpation – No mass, tenderness over cervical, lumbar

Range of movements

- Cervical spine - rt and lt lateral flexion- 40degree pain possible, extension – pain.
- Thoracic and lumbar spine - All movements possible (in sitting posture) (forward bending, backward bending, lateral flexion)

- Shoulder joint, Elbow joint, wrist, Knee joint, Ankle joint – possible
- Mcp, Mtp, Ipj joints – right side difficult

Samprapti

Abhigata at Greeva Pradesha

Krikatika Marma-Upaghata

Sira , Snayu Kshata

Vyan Vayu Vikruthi

Deha Vyapnoti (Saravanga Shareera Visheshta)

Karmeindriya Hani, (Bala Kshaya in Adho and Urdhwa → Shakha) Abhigatajanya Sarvanga Vata

Samprapti Ghataka

- Dosha -Vata, kapha pradhana tridosha*
- Dooshya - Rakta, meda, asthi, majja, sira, snayu*
- Agni -Jataragni, dhatvagni*
- Srotas -Raktavaha, medhovaha, asthivaha, majjavaha*
- Srotho dushti prakara –Sanga*
- Udbava sthana - Greeva pradesha*
- Vyaktha sthana - Sarvashareera*
- Adhishtana - Greeva*
- Marga - Madhyama*
- Sadhyasadyatha - Kruchra sadhya*

Diagnosis

Abhigatajanya Sarvanga-vata
 Post Traumatic Quadraparesis/ cervical spondylotic Myleopathy

Treatment proposed

1st course
Sarvanga Abhyanga with Moorchita Taila

Sarvanga Baspa Sweda
Yoga Basti
Manjistadi Lepa

2nd course

Sarvanga Udvartana with *Aragwadadi Choorna*
Baspa Sweda
Snehapana with *Moorchita Tila Taila* – 30ml, 70ml, 110ml for 3 days
 4th day – 1st day *Vishrama Kala* – *Sarvanga Abyanga* with *Moorchita Taila*, *Baspa Sweda*
 2nd day – posted for *Vamana Karma* - 3 *Vegas* – *Avara Shuddhi*

3rd course

Sarvanga Udvartana with *Triphala Choorna* + *Kolkulthadi Choorna*

Baspa sweda

Snehapana with *Moorchita Tila Taila* – 30ml, 70ml, 120ml

Vishrama Kala -*Sarvanga Abhyanga* with *Moorchita Taila*

Baspa Sweda for 4days

Posted for *Virechana Karma*

4th course

Sarvanga Abhyanga with *Moorchita Tila Taila*

Baspa sweda

Rajayapana Basti – (*Kala Basti*)

Observations noted during 4th course of treatment

Date	Treatment	Observation
From 25/11/22 to 10/1/23	1. <i>Sarvanga Udvartana</i> with <i>Argavadadhi Choorna</i> followed with <i>Baspa sweda</i> . 2. <i>Snehapana</i> with <i>Moorchita Tila Taila</i> 3. <i>Sarvanga Abyanga</i> with <i>Moorchita Taila</i> Posted for <i>Vamana Karma</i>	Stiffness, heaviness of the neck reduced by 20% and controlled Diabetics
From 15/1/23 to 23/1/2023	1. <i>Sarvanaga Udvartana</i> with <i>Triphala Choorna</i> + <i>Kolakulathadi Choorna</i> . 2. <i>Snehapana</i> with <i>Moorchita Taila</i> followed by 3. <i>Virechana Karma</i>	Heaviness in the lower limb reduced
From 28/1/23 to 12 /2/23	1. <i>Sarvanga Abhyanga</i> with <i>Moorchita Taila</i> with <i>Baspa Sweda</i> 2. <i>Rajayapana Basti</i> 3. <i>Balarishta</i> , 4. <i>Dashamoolarishta</i> , 5. <i>Ashwagandarishtha</i> 6tsp tid 6. <i>C. Palsineuron</i> for 1 month	Lightness in the body. Movements of upper and lower extremities improved.
treatment going on	1. <i>Sarvanga Abhyanga</i> with <i>Moorchita Taila</i> <i>Sarvanga Pariseka</i> with <i>Dashamoola Qwatha</i> 2. <i>Kala Basti</i> – <i>Rajayapana Basti</i>	Stiffness slightly reduced. Movements improved.

Outcome

- Patient can walk without support as compared to previous four legged walker support for walking.
- Muscle tone of extremities improved.
- Improved in movements in extremities
- 50% improved in patient.
- 30% stiffness in right hand reduced.

DISCUSSION

Patient had *Lakshanas* of *Vata Prakopa*; manifesting as *Sthambha* and different kinds of *Shoola*. The present case study is managed under the lines of *Vata Vyadhi Chikitsa*, in present condition *Kramataha Shodhana* was adopted in order to achieve *Anupahata Srotas*,

Anupahata Maruta, *Anupahata Dhatu Ushma*,^[3] The *Sarvanga Abhyanga* and *Baspa Sweda* helped in relieving the stiffness and easy movements.^[6,7] *Raja Yapana Basti* is having *Rasayana* and *Sadhyobala Janana* property.^[8] *Basti* is considered to be *Ardha Chikitsa* and best for *Vata Dosha*, it is said to cure *Shakagata*, *Koshtagata*, *Marma*, *Urdhwa* and *Sarvanga Avayava*.^[9] Thus the line of management in this case gave a promising result.

CONCLUSION

Kramatha Shodhana adopted in this case was helpful in achieving *Anupahata Maruta* and *Anupahata Srotas* thus

the complaints of patients came down. Present study finding can't be generalized, further long term follow up studies on large sample are required.

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