

FUNCTIONAL AND NEUROLOGICAL RECOVERY FOLLOWING AYURVEDIC MANAGEMENT IN TRANSVERSE MYELITIS: A CASE STUDY

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ABSTRACT

Transverse myelitis is an inflammatory disorder of the spinal cord characterized by varying degrees of motor, sensory and autonomic dysfunction. Persistent lower-limb weakness and bladder dysfunction may result in considerable functional disability. In Ayurveda the condition may be correlated to *Adharanga vata* or *Urushthamba*.

Case Report: An 18-year-old male developed acute febrile illness followed by urinary dysfunction, altered sensorium and progressive bilateral lower-limb weakness with paraplegia and impaired voluntary micturition. Despite conventional treatment and rehabilitation, significant neurological deficits persisted, with the residual presentation. **Methodology:** The patient underwent treatment during two separate admissions. During the first admission- *Sarvanga Udwartana* followed by *Shashtika shali pinda sweda* and *Matra basti* with *Ashwagandha ghrita* were given for 9 days. In 2nd admission- *Agnilepa* followed by *Shashtika shali pinda sweda* and *Matra basti* was given again for 9 days. **Conclusion:** The patient showed lower-limb muscle power improved from specified grades to 4/5–5/5 in selected muscle groups, ambulation progressed from inability to walk to approximately 20 steps with a walker, and bladder control improved., highlighting the role of Panchakarma in the management of Transverse myelitis.

KEYWORDS: Transverse myelitis; paraplegia; spasticity; Panchakarma; Matra Basti; Shashtika Shali Pinda Sweda; Ayurveda; case report.

INTRODUCTION

Transverse myelitis (TM) is an inflammatory disorder of the spinal cord characterized by acute or subacute motor, sensory and autonomic dysfunction. Depending on the extent and level of spinal cord involvement, patients often present with rapidly developing weakness, sensory deficit and bladder or bowel dysfunction, leading to significant functional disability. TM may occur following infections or in association with immune-mediated and demyelinating disorders. Although acute management with corticosteroids, intravenous immunoglobulin, plasma exchange and rehabilitation may improve neurological outcomes, persistent motor and autonomic deficits can remain a major therapeutic challenge.^{[1], [2]}

Transverse myelitis does not have a direct one-to-one counterpart as a distinct disease entity in the classical

Ayurvedic nosology; therefore, its Ayurvedic interpretation requires correlation with the predominant clinical features, Dasha-Dushya involvement and stage of disease. The persistent weakness, impaired locomotion and autonomic dysfunction in the residual stage may be considered within the spectrum of *Vatavyadhi*^[3], while associated stiffness and heaviness may indicate the involvement of *Kapha* and *Avarana* possibly correlated to *Urushthamba*^[4] or *Adharanga vata*.^[5] Accordingly, an individualized treatment approach addressing the underlying pathological state and functional deficits may be considered.

The present case describes the Ayurvedic management of a young patient with persistent lower-limb weakness, spasticity and bladder dysfunction following post-infectious transverse myelitis, despite prolonged conventional treatment and neuro-rehabilitation. A

staged treatment protocol comprising measures for reducing stiffness and obstruction followed by *Snehana*, *Swedana*, *Brimhana* and *Matra Basti* was administered with the objective of improving motor function, mobility and bladder control.

AIM AND OBJECTIVES

- To evaluate the effectiveness of Ayurvedic management in a patient with transverse myelitis presenting with lower-limb motor and bladder dysfunction.
- To assess the changes in motor, functional and autonomic status using relevant clinical and Ayurvedic parameters before and after treatment.

MATERIAL AND METHODS

CASE REPORT

Chief Complaints: Weakness of bilateral lower limbs and unable to walk since 1½ year.

Associated Complaints: Urgency in micturition and frequent uncontrollable in bilateral lower limbs since 1½ year.

History Of Present Illness

An 18-year-old male was apparently healthy until 11th December 2024, when he developed sudden onset **fever with chills and rigors, headache, and multiple episodes of vomiting**, which persisted for 6 days. On 18th December 2024, he developed lower urinary tract symptoms, **hesitancy, incomplete bladder emptying, and a sensation of incomplete voiding**. On 20th December 2024, he developed **altered sensorium characterized by drowsiness, irrelevant speech and neck rigidity with poor limb movements**. Investigations showed **hyponatremia, normal Computed tomography of brain, positive Dengue NS1 antigen, and Epstein-Barr virus positivity**. Although sensorium gradually improved during the course of illness, bilateral lower limb weakness with paraplegia and loss of voluntary control over micturition persisted despite treatment and rehabilitation. Hence, the patient was admitted to Hi-Tech Panchakarma Hospital on 15th December 2025 for further management.

History Of Past Illness: H/o Dengue NS1 antigen positive. No Surgical or accidental history.

Past Treatment History

Initially, the patient received symptomatic treatment without significant improvement. Following deterioration in sensorium, he required intensive care with **ventilatory support, tracheostomy, and Percutaneous Endoscopic Gastrostomy (PEG) insertion**. As there was no satisfactory response to intravenous methylprednisolone (IVMP), intravenous immunoglobulin (IVIg) was administered for 5 days, resulting in improvement in sensorium. During hospitalization, he developed autonomic instability (fluctuating heart rate and blood pressure), which was managed with adrenaline infusion. He remained on

mechanical ventilation for approximately two months and subsequently underwent tracheostomy decannulation and PEG closure.

The patient was later diagnosed with **post-infectious myelitis** with associated urinary tract infection and received **large-volume plasmapheresis (LVPP)**, IVMP, IVIg, antibiotics, and oral steroids, followed by intensive neuro-rehabilitation. As persistent paraplegia and sphincter dysfunction remained, further treatment included bilateral ankle-foot orthoses (AFOs), knee gaiters, bowel training, physiotherapy, **small-volume plasmapheresis (SVPP)**, repeat IVIg, and oral steroids, resulting in only mild improvement in truncal and lower limb movements. Thereafter, he continued supervised physiotherapy followed by intensive home-based rehabilitation until presenting for Ayurvedic management.

Personal History

- Diet: Mixed
- Appetite: Good
- Bowel: Formed regular stools, 1-2 times/ day
- Micturition: 4-5 times/ day (Hesitancy and urgency)
- Sleep: Sound (7-8 hrs/ day)
- Vyasana- none
- Vyavasaya- Student (2nd PUC)

GENERAL EXAMINATION

- Built: Hypersthenic (Obese)
- Nourishment: Over- nourished
- Height: 170 cm
- Weight: 92 kg
- BMI: 31.83 kg/m²
- Pallor: Absent
- Icterus: Absent
- Cyanosis: Absent
- Clubbing: Absent
- Lymphadenopathy: No palpable lymph nodes
- Oedema: Absent

Vitals

- Temperature: Afebrile (98.2°F)
- Pulse rate: 76 beats/ min
- Respiratory Rate: 16 cycles/min
- Heart Rate: 76/ min
- Blood pressure: 128/82 mmHg

SYSTEMIC EXAMINATION

- Respiratory system – NAD
- Cardiovascular system- NAD
- Gastrointestinal System- NAD

➤ Musculoskeletal Examination

Inspection- Posture- Erect
Alignment – Normal
Curvature- Normal
Deformity – No scoliosis/kyphosis/lordosis
Symmetry – Shoulders level, Scapulae and Iliac crest-Symmetrical level

Skin over spine – Normal (no scars, swelling, discoloration)

Paraspinal muscle- Normal bulk/no wasting

Palpation - Local temp. – Normal

Tenderness, Swelling, abnormal mass– Absent

Spinous process- Midline, Normal alignment

Range of Movements

Upper limbs- Normal ROM of all joints

Lower limbs- Not assessable

CENTRAL NERVOUS SYSTEM EXAMINATION

Cranial Nerve Examination: NAD

Higher Mental Functions: NAD

Sensory System Examination

• Superficial sensations

Light Touch: Intact bilaterally from C2 to L5. Mildly diminished over S1 to S4–S5 dermatomes.

Pin Prick: Intact bilaterally from C2 to L4. Mildly diminished over L5 to S4–S5 dermatomes.

Temperature – Intact

• Deep sensations

Deep pain – Intact

Vibration Sense: Preserved in both upper and lower limbs.

Proprioception: Intact in both upper limbs and lower limbs.

• Cortical sensations

Two-point discrimination, Stereognosis, Graphesthesia – Intact.

MOTOR SYSTEM EXAMINATION		Findings
1. GAIT		Could not be assessed.
2. MUSCLE BULK :	Right	Left
Mid arm	29 cm	27 cm
Mid forearm	25.5 cm	23.5 cm
Mid-thigh	52 cm	51.5 cm
Calf	35 cm	35 cm
3. MUSCLE TONE:		
Upper limb	Normal	Normal
Lower limb	Hypertonic (Spastic)	Hypertonic (Spastic)
4. MUSCLE POWER:		
Upper limb (All joints)	Normal	Normal
Lower limb		
Hip joint- Adduction	4/5	4/5
Abduction	4/5	4/5
Flexion	3/5	3/5
Extension	3/5	3/5
Knee joint- Flexion	3/5	3/5
Extension	3/5	3/5
Ankle joint- Dorsiflexion	2/5	2/5
Plantar flexion	3/5	3/5
Toes- Flexion	3/5	3/5
Extension	2/5	2/5
5. REFLEXES:		
Superficial reflexes	Right	Left
Babinski Sign	Positive	Positive
Deep tendon reflexes		
Biceps	Normal	Normal
Triceps	Normal	Normal
Supinator	Normal	Normal
Knee	Exaggerated	Exaggerated
Ankle	Exaggerated	Exaggerated
Clonus	Present in bilateral knee and ankle joints	

AUTONOMIC NERVOUS SYSTEM EXAMINATION

- Urinary Hesitation and Urgency
- Bowel habits- Normal (restored bowel continence)
- Sweating abnormalities- Absent

- Other all functions like Pupil movements, salivary gland secretions, heartbeat, bronchi patency and peristalsis were found normal.

INVESTIGATIONS

TESTS	DONE ON	FINDINGS
Molecular Test Report	26/12/2024	Epstein-Barr Virus Detected
Electroencephalography (EEG)- routine	27/12/2024	Features suggestive of severe Bihemispheric dysfunction
Magnetic Resonance Imaging (MRI)- Brain T2 diffusion	28/12/2024	Areas diffusion restriction involving bilateral frontoparietal subcortical white matter, corpus callosum, bilateral posterior limb of internal capsule extending on to brain stem till medulla along corticospinal tracts representing- Demyelination (Viral encephalitis?).
Magnetic Resonance Imaging- Whole spine with contrast	28/12/2024	Hyperintense signal seen in the cord extending from the cervico-medullary junction up to the lower dorsal level (D8-D9 vertebral discs)

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Website : www.apollohospitalsmysore.com

DEPARTMENT OF NEUROLOGY

Patient Details : [REDACTED]
UHD : AHMYS.0000746486 Patient Location: Discharged
Patient Identifier: MYSIP170756
DRN : 3424011153 Completed on: 27-DEC-2024 15:49
Ref Doctor : Dr. AUMIR MOIN

EEG ROUTINE

EEG No :
DIAGNOSIS :
MEDICATIONS :
LAST ATTACK :
OBSERVATION :
EEG was Obtained with 10-20 system of electrode application. Patient was comatose and on a ventilator during the recording in the ICU. Background activity consists of low amplitude fast activity all throughout the record mixed with burst of high amplitude delta activity. Photoc stimulation was done. Sleep transients were not observed. There were no focal PLEDs or generalized epileptiform discharges seen in the record.
CONCLUSION :
This EEG is abnormal showing features suggestive of a severe bihemispheric dysfunction.
END OF THE REPORT
DR. AUMIR MOIN MD,DM
Consultant Neurologist

Figure 1: EEG report.

MEDGENOME

MOLECULAR TEST REPORT

Patient Name: [REDACTED] Sample ID: 2476287
Date of Birth/Age: 24/08/2001 Order ID: 2148855
Gender: Male Sample Type: Cerebrospinal Fluid (CSF)
Referring Clinician: Dr. AUMIR MOIN Date of Sample Collection: 26/12/2024 06:25:00
Hospital: Apollo Hospital, Mysore Date of Report Release: 26/12/2024 17:57
Test Requested: Meningoencephalitis Panel (RT-PCR)

MININGOENCEPHALITIS PANEL: TESTING BY RT-PCR

Total nucleic acid extracted from sample is subjected to Real-Time reverse transcription PCR (RT-PCR) for qualitative detection of 9 bacterial, 12 viral and 2 fungal pathogens known to cause meningitis and encephalitis. This is a comprehensive panel with a syndromic approach to aid in diagnosis of meningoencephalitis. Specific conserved genes of the pathogens are subjected to amplification and detection is done by Real-time PCR machine. Appropriate positive and negative controls are tested along with every sample.

RESULTS

Epstein-Barr virus was detected in the sample tested.

Pathogen	Result	Pathogen	Result
Bacterial Pathogens		Herpes simplex virus type 1	Not detected
<i>Listeria monocytogenes</i>	Not detected	Herpes simplex virus type 2	Not detected
<i>Streptococcus aureus</i>	Not detected	Varicella Zoster Virus	Not detected
<i>Haemophilus influenzae</i>	Not detected	Epstein Barr virus	Detected
<i>Meningococcus pneumoniae</i>	Not detected	Cytomegalovirus	Not detected
<i>Streptococcus agalactiae</i>	Not detected	Human herpesvirus 6	Not detected
<i>Klebsiella meningitidis</i>	Not detected	Human herpesvirus 7	Not detected
<i>Borrelia burgdorferi sensu lato</i> <i>Borrelia burgdorferi</i>	Not detected	Human herpesvirus 8	Not detected
<i>Escherichia coli</i> KT	Not detected	Human enterovirus	Not detected
Fungal Pathogens		Parvovirus	Not detected
<i>Cryptosporidium parvum</i> sensu lato	Not detected	Mumps virus	Not detected
<i>Cryptosporidium parvum</i> sensu lato	Not detected	Measles virus	Not detected

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Figure 2: Molecular Test Report.

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Radiology

Patient Details : [REDACTED]
UHD : AHMYS.0000746486 Patient Location: MICU/MICU14
Patient Identifier: MYSIP170756
DRN : 424028714 Completed on: 28-DEC-2024 06:17
Ref Doctor : Dr. AUMIR MOIN

MRI BRAIN - T2 DIFFUSION - 3298

CLINICAL DATA

Meningitis

Reports

Sequences: Axial T2 W, FLAIR, DWI.

Patchy areas of subtle T2 FLAIR hyperintensities showing restriction on diffusion seen involving bilateral frontoparietal subcortical white matter, corpus callosum (predominantly splenium), bilateral posterior limb of internal capsule extending on to brain stem inferiorly till medulla along corticospinal tracts.

Rest of the brain parenchyma shows normal signal intensities.

Rest of the brain stem and cerebellum appear normal.

Ventricles and cisterns appear normal. No abnormal extra-axial collections or midline shift seen.

The internal carotid and basilar artery show normal flow void with no evidence of occlusion.

Sellar, suprasellar and parasellar regions appear normal.

Visualized portions of the paranasal sinuses and orbits appear normal.

Impressions:

Areas diffusion restriction involving bilateral frontoparietal subcortical white matter, corpus callosum (predominantly splenium), bilateral posterior limb of internal capsule extending on to brain stem inferiorly till medulla along corticospinal tracts.

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3(a)

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MRI BRAIN - T2 DIFFUSION - 3298

These signal changes could represent? Infective (viral encephalitis)? Demyelinating.

Suggested CSF analysis correlation.

sp

PLEASE COLLECT YOUR MRI FILM WITH IN 30 DAYS

END OF THE REPORT

Hema H K
Associate Consultant

3(b)

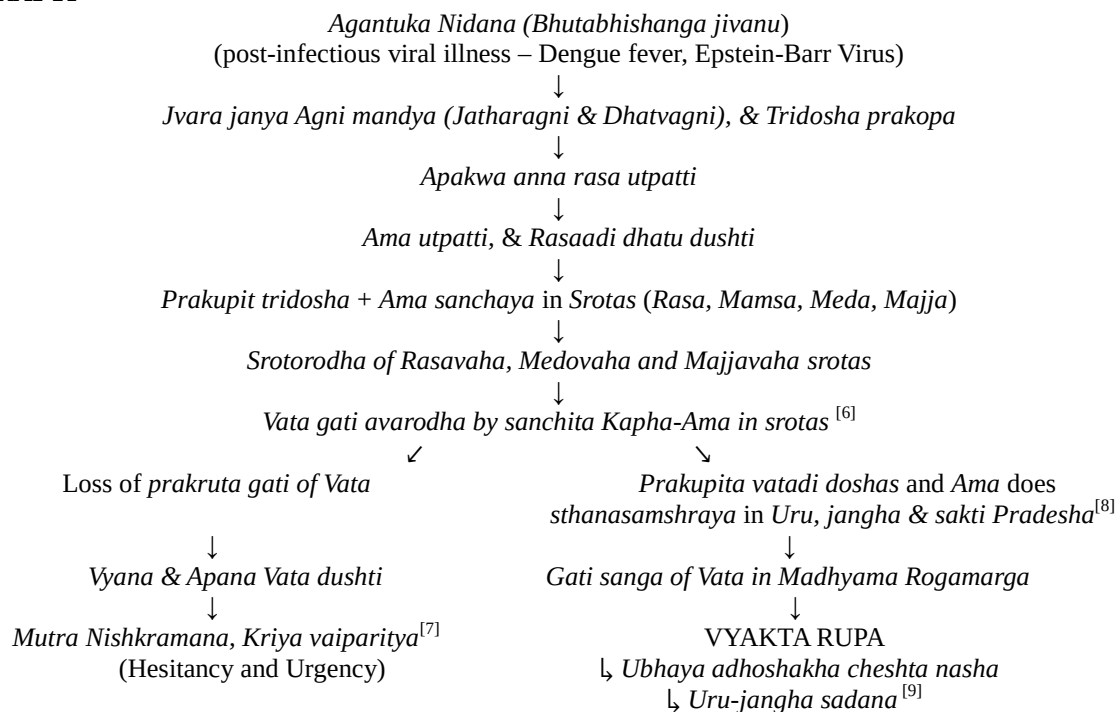
Figure 3(a) & 3(b)- MRI of Whole spine with contrast.

ASHTA STHANA PARIKSHA

Sthana	Lakshana
Nadi	Kapha pradhana, Niyamit
Mutra	Asamyak, pravrutti
Mala	Samyak, Subadhha Varcha
Jihwa	Aalipta, Saama
Shabda	Spashta
Sparsha	Anushnasheeta
Drik	Vikruta (k/c/o Myopia-Timir)
Akriti	Madhyama

DASHAVIDHA PARIKSHA

Pariksha	Lakshana
Prakriti	Kapha vataja prakriti
Vikriti	Tridoshaja (Vata and Kapha pradhana) Vata (Vyana & Apana vata vaigunya) Kapha (Tarpaka kapha vikruti) Pitta (Pachaka pitta vikruti)
Sara	Madhyama
Samhanana	Madhyama
Pramana	Pravara
Satva	Madhyama
Satmya	Sarvarasa satmya
Aharashakti	Abhyavaharana Shakti: Madhyama Jarana Shakti: Avara
Vyayamashakti	Avara
Vaya	Yuva

SAMPRAPTI

SAMPRAPTI GHATAKA

<i>Dosha</i>	<i>Tridoshaja (Vata and Kapha pradhana) Vata (Vyana & Apana vata vaigunya) Kapha (Tarpaka kapha vikruti) Pitta (Pachaka pitta vikruti)</i>
<i>Dushya</i>	<i>Rasa, Mamsa, Meda, Majja</i>
<i>Agni</i>	<i>Jatharagni & Dhatvagni mandya</i>
<i>Srotas</i>	<i>Rasavaha, Mamsavaha, Medovaha, Majjavaha.</i>
<i>Srotodushti</i>	<i>Sanga (srotorodha)</i>
<i>Udbhava Sthana</i>	<i>Ama-Pakvashayottha</i>
<i>Vyakta Sthana</i>	<i>Adho shakha (Adhonabhi shareera)</i>
<i>Adhithana</i>	<i>Sakthi, Jangha and Uru Pradesh</i>
<i>Rogamarga</i>	<i>Madhyama</i>
<i>Sadhyasadhyata</i>	<i>Kriccha Sadhya</i>

DIAGNOSIS: Post-infectious transverse myelitis with residual paraplegia, lower-limb spasticity and bladder dysfunction.

INTERVENTION

Date	Chikitsa given	Changes observed
15/12/2025- 17/12/2025	<ul style="list-style-type: none"> <i>Sarvanga Udwartana</i> with <i>Kolakulathadi churna</i> f/b <i>Nadisweda</i> for 3 days 	<ul style="list-style-type: none"> Reduced heaviness
18/12/2025- 26/12/2025	<ul style="list-style-type: none"> <i>Sarvanga Abhyanga</i> with <i>Ksheerabala taila</i> f/b <i>Shashtika shali pinda sweda</i>. <i>Matrabasti</i> with <i>Ashwagandha ghrita</i> (70ml) for 9 days. 	<ul style="list-style-type: none"> Strength in lower limbs improved Patient can stand for longer period with support (5 minutes) Patient could do side by side walking with support (5-6 steps) Patient was able to uplift legs while sitting for longer period (20-30 seconds) but still followed by persisting clonus muscle contractions. Weight is reduced by 4 kgs.
Second Admission		
18/2/2026- 20/2/2026	<ul style="list-style-type: none"> <i>Sarvanga Agnilepa</i> for 3 days 	<ul style="list-style-type: none"> Stiffness in lower limbs reduced Pt. feels enthusiastic.
21/2/2026- 28/2/2026	<ul style="list-style-type: none"> <i>Sarvanga abhyanga</i> with <i>Ashwagandha bala lakshadi taila</i> f/b <i>Shashtika shali pinda sweda</i> <i>Matrabasti</i> with <i>Ashwagandha ghrita</i> (70ml) for 9 days. 	<ul style="list-style-type: none"> Power in b/l LL improved to 4/5 Patient can stand for much longer period with walker support without pain. Pt can walk straight with 4 leg walker support. Takes pauses between steps but can walk even 20 steps at a time. Patient was able to uplift legs while sitting for much longer and with lesser difficulty and intensity of clonus got reduced. Good bladder control. Left wearing Diaper Total weight reduced by 9 kgs. BMI after 2nd treatment- 28.72 kg/m²

OBSERVATION AND RESULT

MANUAL MUSCLE TESTING: Muscle strength was assessed using the Medical Research Council (MRC) grading system.

Power of Lower Limb	BEFORE ADMISSION	AFTER 1 st ADMISSION	AFTER 2 nd ADMISSION
Hip joint- Adduction	4/5	4/5	5/5
Abduction	4/5	4/5	5/5
Flexion	4/5	4/5	5/5
Extension	3/5	3/5	4/5
Knee joint- Flexion	3/5	3/5	4/5
Extension	3/5	3/5	4/5
Ankle- Dorsiflexion	2/5	2/5	4/5
Plantar flexion	3/5	3/5	4/5
Toes- Flexion	4/5	4/5	4/5
Extension	3/5	3/5	4/5

MUSCLE TONE: (Table no. 4)

	BEFORE TREATMENT	AFTER TREATMENT
Right lower limb	Hypertonic (Spastic)	Spasticity reduced significantly
Left lower limb	Hypertonic (Spastic)	Spasticity reduced significantly

REFLEXES: (Table no. 5)

	BEFORE TREATMENT		AFTER TREATMENT	
	Right	Left	Right	Left
Knee Reflex	Exaggerated	Exaggerated	Normal	Normal
Ankle Reflex	Exaggerated	Exaggerated	Normal	Normal

OUTCOME

4(a)



4(b)



4(c)



Figure 4(a)- Before treatment, the patient was able to rise from the chair only with the support of his hands, lifting the body until the arms reached full extension. 4(b)- After 1st treatment, he was able to stand by holding onto support to pull himself up, but still required assistance to stabilize his knees while standing and also could

walk 5-6 steps sideways. 4(c)- After 2nd treatment, he was able to stand independently and walk approximately 20 steps with the support of a walker.

DISCUSSION ON DISEASE

Transverse myelitis, being an inflammatory disorder of the spinal cord characterized predominantly by bilateral motor, sensory and autonomic dysfunction^[1], does not have a direct one-to-one disease entity in the classical Ayurvedic texts; hence, its Ayurvedic interpretation may be approached through the clinical features and predominant *Dosha* involvement. In clinical practice, the condition may be correlated with a spectrum of *Vatavyadhi*^[3] involving *Avarana* or *Dhatu Kshaya*, particularly *Ekangavata*, *Adharanga Vata* and *Pangutva* depending upon the distribution of neurological deficit, and *Urustambha* when lower-limb stiffness, heaviness, weakness and restricted movements predominate.^[4] In the present case, the antecedent acute febrile illness may be interpreted through the concept of *Agantuka/Bhutabhishangaja Jvara*,^[10] followed by *Dosha Prakopa*, *Agnimandya* and *Ama* formation. Subsequent *Ama-Dosha Sammurchana* may result in *Srotorodha* and *Vata Avarana*, impairing the normal *gati* of *Vata*. With progression, involvement of *Mamsa*, *Meda* and *Majja* can be postulated, producing *Daurbalya*, *Chestahani* and *Gati Vaigunya* of the lower limbs. The associated *Mutra Kriya Vaigunya*, *Mutrasanga* or loss of voluntary micturition may be understood through *Apana Vata Dushti* and *Basti Kriya vaigunya*. Therapeutically, the classical approach would be individualized according to the *Avastha* and *Dosha* predominance. *Langhana- Pachana* and *Ruksha measures* when *Ama/Kapha* and *Srotorodha* predominate; *Udvartana* and appropriate *Swedana* for *Stambha* and *Gaurava*;^[11] once *Nirama avastha* achieved, *Snehana (Abhyanga)*, *Swedana* and *Basti* for *Vata Shamana* and *Dhatu poshana*. *Brimhana*, *Balya*, *Rasayana* and appropriate rehabilitation, may be considered in the chronic/residual stage. Thus, rather than equating transverse myelitis with a single classical disease, it is more appropriate to treat the disease by assessing the *Dosha*, *dushya* and *avastha* of the *vyadhi*.

DISCUSSION ON TREATMENT

The treatment protocol predominantly followed a *Vata-pacifying*, *Snehana-Swedana* and *Brimhana approach*. During the first admission, *Udvartana-Nadi Sweda* was used to address *Ama*, *Kapha-Medo Avarana* and *Stambha*, followed by *Shashtika Shali Pinda Sweda* for nourishing and strengthening effects and *Matra Basti* with *Ashwagandha Ghrita* for *Vata Shamana* and *Brimhana*. During the second admission, *Agnilepa* helped in residual *Ama Pachana* and reducing the stiffness, followed by *Abhyanga* and *Shashtika Shali Pinda Sweda* to enhance *Snehana*, tissue pliability and mobility, while *Matra Basti* was continued to consolidate the *Vata-pacifying* and nourishing effects. Collectively, these interventions have contributed to reduction of stiffness and weakness and improvement in mobility and

functional rehabilitation. Detailed discussion of each one of the treatments is as follows.

1. Sarvanga Udvartana with Kolakulathadi churna followed by Nadi Sweda

Procedural effect: *Udvartana* was administered primarily to attain a *Nirama* state and also *Rukshana* instructed to do prior any *Snehana* in *Urustambha*.^[12] As *Udvartana* does allivation of *Kapha*, liquifies *Meda*, strengthen and stabilizes body, which suits best to address the clinical features of *Gaurava* and *Stambha*.^[13] In the present case, it was intended to support reduction of *Kapha*-associated obstruction and facilitate transition to the subsequent *Snehana-Swedana* phase. The friction during *Udvartana* provides mechanical and proprioceptive stimulation, while subsequent *Nadi Sweda* produces therapeutic heat, promoting local circulation, tissue pliability and reduction of stiffness.

Drug Effect: *Kolakulathadi Churna* possesses *Ushna*, *Ruksha*, *Tikshna* and *Kapha-Meda-hara* and *vatahara* properties.^[14] The drugs of *Kolakulathadi Churna* may exert anti-inflammatory, antioxidant effects, topical stimulation may enhance microcirculation and local tissue perfusion, thereby support reduction of stiffness and facilitate neuromuscular rehabilitation.

2. Shashtika Shali Pinda Sweda

Procedural effect: *Shashtika Shali Pinda Sweda*, a *Snigdha Swedana* procedure was employed to pacify *Vata prakopa*, *Daurbalya* and *Dhatukshaya avastha*. The sustained warmth and gentle massage may improve peripheral circulation, tissue flexibility and neuromuscular sensory input, thereby reduce stiffness and facilitate limb movements. Its *Brimhana*, *Balya* and *Vata-hara* properties are particularly relevant to the weakness and functional impairment associated with neurological disorders and may have supported muscle function and mobility.^[15]

Drug effect: *Shashtika Shali* and *Balamoola* is *Madhura*, *Snigdha*, *Brimhana* and *Balya*. Bioactive constituents of both drugs are reported to have anti-inflammatory, antioxidant and neuromuscular-supportive, potentially aiding muscle recovery and reducing stiffness.^[15]

Second Admission

3. Sarvanga Agnilepa

During the second admission, As the Stiffness and weakness of lower limbs persisted, first *Sarvanga Agnilepa* aka "*Agni chikitsa lepa*" was administered for three days to achieve *Deepana*, *Pachana* and *Rukshana* of *Ama* accumulated in *dhatu*.

Procedural effect: *Sarvanga Agnilepa* was administered to address persistent *Stambha* and *Gaurava*. The

procedure was intended to provide *Ushna* and *Stambhaghna* effects and thereby support reduction of stiffness and improvement in mobility. Its therapeutic heat may increase local vasodilatation, increased tissue perfusion, reduces muscular stiffness and improve soft-tissue extensibility. Cutaneous sensory stimulation may further contribute to modulation of pain and neuromuscular responses.^[16]

Drug effect: *Ushna*, *Tikshna* and *Kapha vata-hara* properties of the five patras (*Agnimantha*, *Vana Tulsi*, *Nirgundi*, *Papata* and *Bandha*) grinded along with *Lashuna*, *Lavanga*, *Maricha*, *Sarshapa* and *Haridra* help to reduce *Kapha-Ama*, *Srotorodha* and *Gauravata*. Phytoconstituents of these drugs may provide counter-irritant, anti-inflammatory and antioxidant effects, with local stimulation potentially enhancing microcirculation and reducing pain and stiffness.

4. Sarvanga Abhyanga followed by Shashtika Shali Pinda Sweda

Procedural effect: *Sarvanga Abhyanga* with *Ashwagandha Bala Lakshadi Taila* followed by *Shashtika Shali Pinda Sweda*. *Abhyanga* provides *Snehana* does *Vata shamana* along with mechanical and sensory stimulation, while the *Balya* and *Brimhana* properties of the *Shashtika Shali pinda sweda* are relevant to neuromuscular weakness provides sustained warmth and massage, enhancing tissue pliability and reducing stiffness. Thus, the sequential combination may have mechanical and thermal effects facilitating muscle relaxation, range of movement and functional mobility through complementary *Snehana*.^[17]

Drug effect: *Ashwagandha Bala Lakshadi dravyas* of oil and *Shashtika Shali Masha* and *Godugdha* are predominantly *Balya*, *Brimhana*, *Vata Shamaka* and *Pushti karaka* to *Mamsa* and *Majja dhatu*, reducing *Daurbalya* and promoting *Dhatu pushti*. Drugs possess anti-inflammatory, antioxidant, muscle-nourishing properties, and supports tissue repair.^[18]

5. Matra Basti with Ashwagandha Ghrita

Procedural effect: As *Basti* is considered the principal therapy for *Vata* disorders^[19], its use may be understood through the principles of *Vata Shamana* and *Brimhana*. It acts primarily through *Vata Shamana* and *Apana Vata Anulomana*, supporting *Basti* and *Pakwashaya*^[20] functions and helping to alleviate *Daurbalya*, *Stambha* and *Gati Vaigunya*.

Drug Effect: *Ashwagandha* possesses *Balya* and *Brimhana* properties, while *Ghrita* provides *Snigdha* and nourishing effects. Experimental evidence also suggests antioxidant, anti-inflammatory and neuroprotective activities of *Ashwagandha* constituents.^[21]

Matra Basti with *hrasva matra* (1½ pala≈70ml) of *Ashwagandha Ghrita* was administered for 9 days to achieve proper nourishment till *Majja dhatu*. *Matra Basti*

was administered again during the second admission as a continuation of the *Vata-pacifying* and *Brimhana* approach. Following the external *Snehana-Swedana* procedures, it had helped consolidate the therapeutic effects by supporting neuromuscular strength and reducing residual stiffness and weakness.

CONCLUSION

Transverse myelitis can result in persistent and disabling motor and autonomic dysfunction, often requiring prolonged multidisciplinary care. The present case highlights the potential of an individualized Ayurvedic Treatment protocol aimed at improving functional capacity, reducing stiffness and supporting neuromuscular recovery. The sequential use of external therapies, *Swedana*, *Brimhana* procedures and *Matra basti*, provided a holistic approach to the patient's residual deficits. Although the observations are encouraging, larger prospective studies with objective neurological and functional outcome measures are required to substantiate these findings and establish a standardized Ayurvedic treatment protocol for Transverse Myelitis.

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