VOLUME - 15, ISSUE - 08, AUGUST - 2026 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Ayurveda

AYURVEDIC MANAGEMENT OF ACUTE TRANSVERSE MYELITIS: A CASE REPORT

Dr. Sonal Bhimani	PG Scholar (3rd Year), Department of Panchakarma, J. S. Ayurveda Mahavidyalaya, Nadiad, Gujarat, India
Dr. Krupali Patel	PG Scholar (2nd Year), Department of Kayachikitsa, J. S. Ayurveda Mahavidyalaya, Nadiad, Gujarat, India
Dr. Maitri Parmar	Assistant professor, Department of Panchakarma, J. S. Ayurveda Mahavidyalaya, Nadiad, Gujarat, India

ABSTRACT

Background: Acute transverse myelitis (ATM) is a rare immune-mediated inflammatory disorder of the spinal cord characterized by acute onset of motor weakness, sensory disturbances, and autonomic dysfunction involving bowel and bladder. Despite advances in conventional management, many patients experience persistent neurological deficits. Although ATM is not directly described in Ayurvedic classics, its clinical manifestations can be correlated with Vatavyadhi. **Objective:** To evaluate the clinical outcome of a comprehensive Ayurvedic treatment protocol in the management of Acute Transverse Myelitis. **Case Presentation:** A 22-year-old male presented with progressive bilateral lower limb weakness, inability to walk independently, spasticity, sensory loss, tremors, and bladder dysfunction. Magnetic resonance imaging (MRI) revealed intramedullary T2 hyperintense lesions extending from D8 to D11, consistent with Acute Transverse Myelitis. The patient had previously received corticosteroids, immunosuppressive therapy, and supportive conventional treatment without satisfactory clinical improvement. At the time of admission, he had severe gait impairment with a limping gait and required assistance for ambulation due to marked lower limb weakness. **Intervention:**The patient underwent a comprehensive Ayurvedic treatment protocol comprising Dipana-Pacana with Pippali Curna, Sarvanga Abhyanga with Bala Taila, Nadi Svedana, Virecana Karma with Eranda Sneha, Niruha Basti, Matra Basti, Nasya, sirobasti, Katibasti, Masapinda Svedana, Rasayana medications, and supportive physiotherapy.medications, and supportive physiotherapy. **Outcome:**After two months of treatment, the patient showed marked improvement in muscle strength, reduction in lower limb spasticity, restoration of pain, touch, and temperature sensations, recovery of bladder control, and improvement in gait. The patient progressed from a completely bedridden state to independent ambulation, with significant improvement in functional capacity and quality of life. **Conclusion**: This case demonstrates that a comprehensive Ayurvedic treatment approach may provide beneficial supportive management in patients with Acute Transverse Myelitis by improving neurological and functional outcomes. However, as this is a single case report, the findings cannot be generalized or considered conclusive evidence of treatment efficacy. Further well-designed clinical studies are warranted to establish the efficacy and safety of Ayurvedic interventions in the management of Acute Transverse Myelitis.

KEYWORDS : Acute transverse myelitis, Ayurveda, Panchakarma, Vatavyadhi, Rasayana therapy.

INTRODUCTION

Acute Transverse Myelitis (ATM) is a rare immune-mediated inflammatory disorder of the spinal cord characterized by rapid onset of motor weakness, sensory disturbances, and autonomic dysfunction involving bowel and bladder control. It may occur as an isolated condition or in association with infections, autoimmune diseases, or other neuro-inflammatory disorders such as multiple sclerosis. The thoracic segment of the spinal cord is most commonly affected, leading to bilateral or asymmetric neurological deficits[1].

The clinical severity of ATM varies widely, ranging from mild sensory symptoms to complete paraplegia at the peak of the disease. Approximately one-third of patients achieve good recovery, one-third experience moderate residual disability, and the remaining one-third may develop permanent neurological impairment[2]. ATM is a mixed inflammatory condition involving neurons, axons, oligodendrocytes, and myelin. It has been associated with various infectious agents including enteroviruses, herpes viruses, human immunodeficiency virus, West Nile virus, Zika virus, and Borrelia burgdorferi. The condition affects individuals of all ages and both genders, with an estimated annual incidence of 1–8 cases per million population[3].

Diagnosis of ATM primarily involves exclusion of compressive spinal cord lesions using magnetic resonance imaging (MRI), along with demonstration of inflammatory changes such as intramedullary T2 hyperintense signals and contrast enhancement. Cerebrospinal fluid analysis may further support the diagnosis. Long-term complications of ATM include chronic pain, spasticity, recurrent urinary tract infections, psychological distress, and in some cases progression to demyelinating disorders such as multiple sclerosis[4].

From an Ayurvedic perspective, neurological disorders presenting with motor and sensory deficits are broadly categorized under Vatavyadhi. Vitiation of Vata dosha, either independently or in association with other doshas, is considered central to the pathogenesis. Ayurvedic management focuses on Vata shamana through Panchakarma procedures and Rasayana therapy to restore neurological function and improve quality of life. This case report aims to highlight the potential role of Ayurvedic interventions in the management of Acute Transverse Myelitis.

Etiology

Acute transverse myelitis (ATM) has a heterogeneous etiology and can be broadly classified as idiopathic, post-infectious, autoimmune, or associated with multifocal central nervous system disorders. Idiopathic cases remain the most common, where no specific underlying cause is identified. Infectious triggers implicated in ATM include viral agents such as enteroviruses, West Nile virus, herpes viruses, human immunodeficiency virus (HIV), human T-lymphotropic virus-1 (HTLV-1), and Zika virus, as well as bacterial infections like Borrelia burgdorferi (Lyme disease), Mycoplasma pneumoniae, and Treponema pallidum. These infections are thought to initiate immune-mediated inflammatory responses affecting the spinal cord.

Epidemiology

Transverse myelitis affects both males and females, with no significant gender predominance, although females may be more commonly affected in cases associated with multiple sclerosis. The condition can occur at any age, with reported bimodal peaks during adolescence (10–19 years) and early adulthood (30–39 years). The estimated annual incidence ranges from 1 to 8 cases per million population, highlighting its rarity.

Histopathophysiology

The histopathophysiology of transverse myelitis varies depending on the underlying etiology. It represents a mixed inflammatory disorder involving neurons, axons, oligodendrocytes, and myelin. Inflammatory infiltration and immune-mediated demyelination lead to disruption of spinal cord conduction pathways, resulting in motor, sensory, and autonomic dysfunction. The extent and severity of tissue damage influence clinical presentation and long-term outcome.

Evaluation

The diagnostic evaluation of transverse myelitis primarily focuses on excluding compressive spinal cord lesions and confirming inflammatory pathology. Magnetic resonance imaging (MRI) of the spine is the first-line investigation to rule out compressive myelopathy and typically demonstrates T2-weighted hyperintense lesions within the spinal cord. Gadolinium-enhanced MRI and cerebrospinal fluid (CSF) analysis obtained through lumbar puncture provide supportive evidence of inflammation. Although formal diagnostic criteria exist, they are mainly used for research purposes. Clinically, the diagnosis is based on spinal cord–related motor, sensory, or autonomic dysfunction, absence of compressive lesions, bilateral neurological signs, a defined sensory level, and radiological or CSF evidence of inflammation.

Differential Diagnosis

The differential diagnosis of transverse myelitis includes various conditions causing myelopathy, such as compressive lesions due to intervertebral disc herniation or vertebral fractures, spinal cord tumours, infectious myelitis, autoimmune and demyelinating disorders, vascular myelopathies, metabolic causes, and radiation-induced spinal cord injury. Guillain-Barré syndrome should also be considered, particularly in cases presenting with acute weakness, although it primarily affects peripheral nerves rather than the spinal cord.

Prognosis

The prognosis of idiopathic transverse myelitis is variable. Most patients experience at least partial neurological recovery, which typically begins within 1–3 months of symptom onset and may continue with appropriate rehabilitation. Recovery can extend over several months to years. Poor prognostic indicators include rapid onset, severe initial neurological deficits, complete paraplegia, and spinal shock. Although recurrence is uncommon, chronic or relapsing cases have been reported. Limited neurological improvement after 3–6 months generally suggests a less favourable long-term outcome.

Complications

Patients with transverse myelitis may develop both acute and chronic complications, including persistent motor weakness, spasticity, neuropathic pain, bladder and bowel dysfunction, recurrent urinary tract infections, pressure ulcers, sexual dysfunction, and psychological disturbances such as depression. Approximately 5–10% of patients presenting with acute complete transverse myelitis may later develop multiple sclerosis, particularly when ATM represents the initial manifestation of the disease.

Ayurvedic Correlation

From an Ayurvedic perspective, the clinical features observed in this case can be interpreted under the spectrum of Vatavyadhi. The presence of lower limb stiffness, progressive weakness, tremors, and bladder dysfunction suggests predominant vitiation of Vata Dosha, particularly Vyana Vata and Apana Vata.

The spinal cord involvement may be conceptually understood as dysfunction of Majjavaha Srotas, wherein deranged Vata affects Majja Dhatu, leading to impaired neuromotor coordination. The progressive neurological deficits may further reflect Avarana and Dhatukshaya, contributing to functional impairment.

Thus, the pathogenesis may be viewed as localized Vata Prakopa associated with Srotorodha, guiding therapeutic principles focused on Vata Shamana and restoration of neuromuscular function. This correlation is conceptual and based on similarity of clinical manifestations rather than direct disease equivalence.

CASE REPORT

A 22-year-old male patient presented with complaints of urinary retention characterized by a persistent sensation of a full bladder and inability to void urine since 12 February 2023. Within a few days, the patient developed progressive stiffness in both lower limbs, initially noticeable while walking short distances, along with difficulty in standing up from a sitting position. Approximately 15 days after symptom onset, the patient developed urinary incontinence, indicating involvement of autonomic functions. Although there was transient relief in lower limb stiffness for a short duration, he subsequently developed tremors in the right lower limb, which were more pronounced in the standing position. Over the following days, the tremors progressed and later involved the left lower limb as well. The patient initially received allopathic treatment; however, there was no symptomatic improvement. A cerebrospinal fluid (CSF) examination was attempted, but initial attempts were unsuccessful. A successful CSF tap was obtained after multiple attempts, following which medical management was initiated. Despite consultation with neurologists, neurosurgeons, and orthopedic specialists, the patient's condition progressively worsened, leading to complete inability to ambulate and eventual bedridden status. During the course of conventional treatment, the patient developed adverse effects including facial edema and increased appetite. He also underwent intravenous medication for nearly two months under spine and neurology specialists; however, no clinical improvement was observed. Due to the progressive neurological deterioration and lack of response to conventional therapy, the patient sought Ayurvedic management and was admitted to P. D. Patel Ayurveda Hospital for further evaluation and treatment

Neurological Examination

The patient was conscious, well-oriented to time, place, and person, with intact higher mental functions including memory, intelligence, mood, and speech. Hallucinations, illusions, and delusions were absent. Sleep pattern was normal.

Motor examination revealed spasticity in both lower limbs with muscle power of 1/5 bilaterally, while muscle tone and power in both upper limbs were normal (5/5). Coordination tests, including finger-to-finger, finger-to-nose, finger–nose–finger, knee–heel, and dysdiadochokinesia, were normal. Tremors were present as involuntary movements.

Sensory examination showed absence of pain and touch sensations in both lower limbs, whereas temperature sensation, vibration sense, and joint position sense were preserved.

Neurological reflex examination revealed bilateral extensor plantar responses (positive Babinski sign) with exaggerated knee and ankle jerks bilaterally, while deep tendon reflexes in

the upper limbs were normal. Myoclonic jerks with fasciculations involving both calf muscles were noted. The patient had a limping gait, and Romberg's test was positive.

Past medicinal history:

The patient had previously received treatment with oral corticosteroids (Omnacortil and Wysolone), proton pump inhibitors (Tipan), immunosuppressant (Azoran), muscle relaxant (Baclu), and vitamin supplementation (Forinia) on different occasions. However, all allopathic medications had been discontinued approximately two months before presentation to P.D. Patel Ayurveda Hospital.

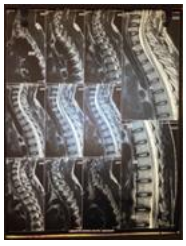
Routine blood investigation

- Serum creatinine :0.79 mg/dl
- ACE Level serum :24.3 U/L
- Anti – Nuclear Antibodies: 1:80

MRI findings

An ill-defined abnormal T2 hyperintense signal was observed in the dorsal spinal cord, spanning the upper cervicodorsal to lower dorsal regions, with patchy solid enhancement and no flow voids or extramedullary abnormalities. These findings are consistent with post-transverse myelitis, likely demyelinating in nature. Notably, there is an abnormal intramedullary hyperintense signal from D8 to D11, with cord expansion suggesting transverse myelitis.





TREATMENT

	Duration	YOGA	PRAMANA	KALA	ANUPANA
1.	5/2/24	*Pippali churna*	2gm(oral)	2 times	Jala
2.	5/2/24	*Sarvanga Abhyanga – Bala Taila*	Q. S	30 min	
3.	5/2/24	*Sarvanga Nadi Swedana*		20 min	
4.	9/2/24	*VirechanaKarma: Eranda sneha*	50 ml (oral)	1 time	Draksh akwath
5.	11/2/24	*Balamoolakwath*	4o ml (oral)	2 times	
6.	11/2/24	*Ashwagandha churna*	3 gm (oral)	2 times	Dugdha
7.	11/2/24	*Niruha Bati – Dashmoolakwath*	320 ml(anal)	-	
8.	12/2/24	*Sarvangamashapind aswedana*		30 min	
9.	12/2/24	*Matra Basti – Bala Taila*	40 ml(anal)		
10.	13/2/24	*Nasya Karma – Bala Taila*	8-8 drops eachnostril(nose)	1 time	
11.	14/2/24	*Shirobasti – Bala Taila*	(head)	30 min	
12.	15/2/24	*Katibasti – Narayana Taila*	(back)	30 min	
13.	15/2/24	*Shivambu basti*	100ml(anal)		
14.	29/2/24	*Bala beeja churna*	3 gm (oral)	2 times	Dugdha
15.	4/2/24	*Physiotherapy*			
16.	13/2/24	*Shamanarth Bala Taila*	20 ml(oral)	2 times	
17.	19/3/24	*Sindhuthalavana*	250 mg(oral)	1 time	Jala

OUTCOME

At the time of admission, the patient was completely bedridden due to severe weakness and spasticity of both lower limbs, associated with marked sensory impairment and bladder dysfunction. Following Ayurvedic management, the patient demonstrated significant clinical improvement. Muscle strength of the lower limbs improved progressively, with a marked reduction in spasticity. Sensations of touch, pain, and temperature were restored bilaterally, resulting in considerable functional recovery. Bladder control was regained completely, and the patient became independent in performing activities of daily living. Gradual improvement in gait enabled the patient to walk initially with support and subsequently without support after two months of treatment. The patient also reported significant reduction in pain, improved confidence, better psychological well-being, and an overall enhancement in quality of life. No adverse events were observed during the treatment period.

DISCUSSION

Pippali Curna (Dipana–Pacana)

Treatment was initiated with Pippali Curna to achieve Dipana and Pacana. According to Ayurveda, Ama obstructs the normal movement of Vata Dosa and contributes to disease progression. Pippali, owing to its Dipana–Pacana Vatakaphahara, and Srotovisodhana properties, improves Jatharagni, digests Ama, and prepares the body for Sodhana Karma. From a modern perspective, Pippali exhibits antioxidant, anti-inflammatory, and bioavailability-enhancing properties that may facilitate subsequent therapeutic interventions.

Sarvanga Abhyanga with Bala Taila

Sarvanga Abhyanga with Bala Taila was performed to pacify aggravated Vata Dosa. The Snigdha and Guru Guna of Bala Taila provide nourishment to muscles, ligaments, and nerves while reducing stiffness and spasticity. Massage improves peripheral blood circulation, enhances lymphatic drainage, relaxes muscles, and increases tissue flexibility. Regular Abhya ga also improves neuromuscular coordination and facilitates functional recovery.

Nadi Svedana

Nadi Svedana was administered following Abhyanga to liquefy the vitiated Dosas and relieve stiffness. Local heat therapy produces vasodilatation, increases tissue perfusion, relaxes muscles, reduces spasticity, and improves joint mobility. It also facilitates the movement of vitiated Dosas toward the gastrointestinal tract, thereby enhancing the efficacy of subsequent Sodhana.

Virecana Karma with Eranda Sneha

Virecana Karma was performed using Eranda Sneha. Although primarily indicated for Pitta Dosa, Virecana also helps normalize associated Vata by removing Ama and clearing obstructed channels. Eranda Sneha possesses Vatahara, Anulomana, and mild Virecaka properties. Elimination of accumulated Dosas improves systemic metabolism, restores physiological balance, and prepares the body for Brmhana therapies.

Asvagandha Curna

Asvagandha Curnais a well-known Rasayana and Balya drug. It nourishes weakened tissues, improves muscle strength, and promotes regeneration of the nervous system. Modern studies suggest that Asvagandha possesses antioxidant, immunomodulatory, anti-inflammatory, and neuroprotective properties, which may support neuronal repair and functional recovery.

Dasamula Kvatha Niruha Basti

Niruha Basti prepared with Dasamula Kvatha was

administered as the principal therapy for Vatavyadhi. Dasamala possesses potent V tahara, anti-inflammatory, and analgesic properties. Basti Karma acts directly on the principal seat of Vata Dosa (Pakvasaya), helping to regulate neuromuscular functions, reduce spasticity, improve muscle tone, and restore normal physiological activity.

Matra Basti with Bala Taila

Matra Basti with Bala Taila provides continuous oleation and nourishment to the body. It pacifies Vata Dosa, strengthens muscles, nourishes Majja Dhatu, and improves neuromuscular function. Regular administration also helps reduce stiffness and supports recovery of motor functions.

Sarvanga Masapinda Svedana

Masapinda Svedana provides both Snehana and Svedana simultaneously. It is particularly indicated in conditions associated with muscle wasting, weakness, and stiffness. The therapy improves muscle bulk, enhances local circulation, reduces spasticity, and promotes flexibility and functional mobility.

Nasya Karma with Bala Taila

Nasya Karma with Bala Taila acts on disorders of the head and nervous system. According to Ayurveda, the nose is the gateway to the head (Nasa hi siraso Dvaram). Nasya nourishes cranial nerves, balances Prana Vata, and supports normal neurological functions. It may improve neuromuscular coordination and overall nervous system function

Sirobasti with Bala Taila

Sirobasti provides prolonged retention of medicated oil over the scalp, allowing better absorption through the scalp tissues. It pacifies Prana Vata, nourishes the central nervous system, reduces stress, improves sleep, and supports neurological recovery. The procedure may also improve cerebral circulation and contribute to functional rehabilitation.

Katibasti with Narayaaa Taila

Katibasti using Narayaaa Taila provides localized oleation and sudation over the lumbosacral region. It reduces muscle stiffness, relieves pain, improves flexibility, and enhances local circulation. The nourishing properties of Narayaaa Taila strengthen muscles and support nerve function in the lower back and lower limbs.

Sivambu Basti

Sivambu Basti was administered as part of the therapeutic protocol. It is traditionally described to pacify Vata Dosa, improve bowel function, and support systemic detoxification. In this case, it was used as an adjunctive therapy along with Basti Karma to facilitate overall recovery.

Samanartha Bala Taila

Oral administration of Bala Taila served as a Samana therapy following Sodhana. Its Snigdha and B ha a properties pacify residual Vata Dosa, nourish Dh tus, and help maintain neuromuscular stability while preventing recurrence of symptoms.

Sindhutthalavana

Sindhutthalavana was administered to improve Agni and facilitate proper digestion. By maintaining normal digestive function and preventing Ama formation, it supports the long-term effectiveness of the treatment and prevents further aggravation of Vata Dosa.

Physiotherapy

Physiotherapy was continued throughout the treatment period to complement Ayurvedic management. It improved muscle strength, joint mobility, balance, coordination, and gait, while preventing contractures and muscle wasting. The combination of Ayurvedic therapies with physiotherapy contributed significantly to the patient's gradual recovery from a bedridden state to independent ambulation.

CONCLUSION

Acute Transverse Myelitis (ATM) is a rare inflammatory disorder of the spinal cord that causes significant motor, sensory, and autonomic dysfunction. Although not directly described in Ayurvedic classics, its clinical features can be interpreted under Vatavyadhi. In the present case, comprehensive Ayurvedic management, including Dapana-Pacana, Sodhana, Basti Karma, external therapies, Rasayana therapy, and physiotherapy, was associated with marked improvement in muscle strength, sensory function, bladder control, and gait, enabling independent ambulation after two months. However, as this is a single case report, the findings cannot be generalized or considered conclusive evidence of treatment efficacy. Further well-designed clinical studies with larger sample sizes are required to validate these observations.

REFERENCES

1. Frohman EM, Wingerchuk DM, Weinshenker BG. Transverse myelitis. N Engl J Med. 2012;366(6):564–572.
2. Sharma PV. Dravyaguna Vijñana. Vol. II. Varanasi: Chaukhambha Bharati Academy; 2013. p. 269–272.
3. Agnivesa. Caraka Samhita, Sutrasthana, Chapter 5, Verses 88–89. Edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
4. Agnivesa. Caraka Samhita, Sutrasthana, Chapter 1. Edited by Acharya JT. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
5. Vagbhata. As tanga Hr daya, Sutrasthana Chapter 18 (Dosopakramaniya Adhyaya). Edited by Hari Sadashiva Shastri Paradakara. Varanasi: Chaukhambha Surbharati Prakashan; 2022.
6. Sharma PV. Dravyaguna Vijñana. Vol. II. Varanasi: Chaukhambha Bharati Academy; 2013.
7. Agnivesa. Caraka Samhita, Siddhisthana, Chapter 1, Verse 39. Edited by Acharya JT. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
8. Susruta. Susruta. Samhita, Cikitshsthana, Chapter 35. Edited by Ambikadutta Shastri. Varanasi: Chaukhambha Sanskrit Sansthan; 2021.
9. Agnivesa. Caraka Samhita, Siddhisthana, Chapter 3 (Basti Siddhi). Edited by Acharya JT. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
10. Sharma PV. Dravyaguna Vijñana. Vol. II. Varanasi: Chaukhambha Bharati Academy; 2013.
11. Vagbhata. As tanga Hr daya,, Sutrasthana, Chapter 22. Edited by Hari Sadashiva Shastri Paradakara. Varanasi: Chaukhambha Surbharati Prakashan; 2022.
12. Sarngadhara. Sarngadhara. Samhita, Madhyama Khanda, Taila Kalpana. Edited by Pt. Parashuram Shastri. Varanasi: Chaukhambha Orientalia.
13. Harvey L. Management of Spinal Cord Injuries: A Guide for Physiotherapists. London: Churchill Livingstone Elsevier; 2008.