



CASE STUDY

A Case Study on Ayurvedic Management of Acute Transverse Myelitis

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ABSTRACT

Acute transverse myelitis (ATM) is a neurological condition that presents with bilateral lower extremity weakness and sensory loss associated with bowel and bladder dysfunction. It is a segmental spinal cord injury caused by acute inflammation. MRI and CSF analysis are the two most important tests that are mandatory to suspect this disease. We have a case of a 26 year old woman who developed ATM. This patient presented with weakness and paraesthesia below trunk with urinary retention. It is difficult to compare this with any diseases mentioned in Ayurveda. In this case we have planned to treat this disease according to *dosha* and *bala* of patient. The order of treatment was *kapha hara*, *vata pitta shamana*, nourishing and strengthening treatments like *ksheeravasti*, *matravasti* and *njavarakkizhi*. These also have *Vatahara* property. After the above treatments *Ashwagandha choorna* was given as *rasayana*. The patient responded well for all of the above treatments and she was able to walk independently after four months.

Key Words: *Acute transverse myelitis, Ksheeravasti, Matravasti, Njavarakkizhi, Ashwagandha choorna*

INTRODUCTION

ATM is a focal inflammatory disorder of spinal cord, characterized clinically by acute or subacute, motor, sensory and autonomic dysfunction¹. It involves inflammation of grey and white matter in one or more adjacent spinal cord usually thoracic. Preceding nonspecific fever, nausea, muscle pain possibly indicating viral infections are common.² When the maximal level of deficit is reached approximately 50% of patients lost all movements of their legs. Virtually all patients have some degree of bladder dysfunction and 80-90% of patients have numbness, paraesthesia. Pain suggests more intense inflammation. Acute

transverse myelitis is associated with multiple sclerosis, systemic mixed connective tissue disorder, direct infection of spinal cord and vascular causes (infarct or vascular malformation), but can also appear without an established etiology³. The mechanism of transverse myelitis is often unknown, but some cases follow viral infections or suggesting an autoimmune reaction. Inflammation tends to involve the spinal cord diffusely at one or more levels, affecting all spinal cord functions. Diagnosis requires MRI and CSF analysis. MRI typically shows cord swelling if transverse myelitis is present and can help exclude other



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treatable causes of spinal cord dysfunction (eg, spinal cord compression). CSF usually contains monocytes, and its protein content is slightly increased, and IgG index is elevated (normal, ≤ 0.85). Tests for treatable causes should include chest x-ray; PPD (purified protein derivative) for tuberculosis; serologic tests for mycoplasma, Lyme disease, and HIV; erythrocyte sedimentation rate (ESR); antinuclear antibodies; and CSF and blood Venereal Disease Research Laboratory (VDRL) tests. History may suggest a drug as a cause. When MRI of brain was done; Multiple sclerosis was developed in 50% of patients who have Multiple periventricular T2 bright lesions and in 5% who do not have them. Generally, the more rapid the progression is, the worse the prognosis. Recovery from transverse myelitis usually begins within 2-12 weeks of the onset of symptoms and may continue for up to 2 years. However if there is no improvement within the first 3-6 months, significant recovery is unlikely⁴. About one third of patients recover, one third retain some weakness and urinary urgency, and one third are bedbound .

CASE REPORT

A 26 years old female came to our out-patient department with weakness of both lower limbs, numbness in both lower limbs and lower half of trunk, retention of urine for last one month. Patient has a history of recurrent fever and cough in the last two months. Gradually weakness

started on whole body and patient was completely bedridden. After the treatment weakness reduced but existed in lower limbs. Loss of sensation in lower trunk and obstruction of urine was also persist.

Examination

Physical examination revealed that Vitals- Heart rate was 76 beats per minute, Blood pressure Systolic- 110mm Hg, Diastolic- 80 mm Hg, Respiration rate 16 /minute. Respiratory and cardiovascular system were stable. Temperature was 98.6 °F.

Neurological examination shows that she was conscious, oriented and higher mental functions were intact. Increased tone with spastic weakness that is symmetric with power grip 2/5 and reflexes are brisk in both lower limbs. Muscle power in both lower extremities were grade zero. Sensory alterations were present below trunk.

Routine blood investigations were done, (Haemoglobin 12.4 gram percentage (gm%), white blood cells 10000 per cubic millimetre (cmm), Blood sugar-Fasting 100 milligram percentage per decilitre (mg/dl), post prandial 210 mg/dl). CSF study TC less than 5 cells/mm³. MRI findings include multiple lesions in brain involving periventricular region and longitudinal extensive cord oedema suggestive of acute transverse myelitis.

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Table 1 External Medicines

Treatment	Medicine	Duration
<i>Dhanyamladhara</i>	<i>Dhanyamla</i>	5
<i>Dashamoolaksheera dhara</i>	<i>Dashamoolaksheera</i>	11
<i>Abyanga</i>	<i>Dhanwantharam taila</i>	
<i>Ksheeravasti</i>	<i>Devadaru, Sahachara, Eranda, Bala Kalkam</i>	4
<i>Mathravasti</i>	<i>Dhanwantharam thailam</i>	7
<i>Njavarakkizhi</i>	<i>Sahacharadi taila</i>	7
	<i>Bala ashwagandhadi taila</i>	

Table 2 Internal Medicines

<i>1. Amruthotharam Kashayam</i>	60 ml twice daily	16 days
<i>2. Kaishoraguggulu</i>	1-0-1	16 days
<i>3. Ashwagandhadi lehyam</i>	1 teaspoon twice daily	4 days
<i>4. Yogarajaguggulu</i>	1-0-1	18 days
<i>5. Dhanwantharam kashayam</i>	60 ml twice daily	7 days
<i>6. Sahacharadi kashayam</i>	60 ml twice daily	7 days

Outcome

Weakness of lower limbs were reduced. Numbness below upper trunk reduced, muscle power of upper and lower limbs were improved.

DISCUSSION

It is difficult to compare Acute transverse myelitis with any diseases mentioned in *Ayurveda*. According to *Ayurveda* all the diseases occur due to an imbalance of the three *doshas*. So *dosha* level treatment was planned in this condition⁵. But the application of the *chikitsa* is based on *doshabala*

and *vyadhibala*. Most of the neurological diseases are generally considered as *vata vyadhis*. Here at first the symptoms are suggestive of *kapha* dominance, so *rookshana*⁶ was selected as the first choice of treatment (table 1). *Rookshana* was done in the form of *dhanyamladhara*. This procedure reduces *kapha*, and after having control over the *kapha* we have to look for other *doshas*. All *kapha vardhaka aaharas* were restricted. Then internally *amrithotharam kashayam* 60 ml twice and *kaisoraguggulu*⁷ in a dose of 2 tablets were given. Considering the inflammation, *pitta* has a definite role in the disease pathogenesis. For *dosha*



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pachana and to reduce inflammation we have given these internal medications. With the above said treatment, the patient started responding well and was able to move her lower limbs.

As the nerve cells are damaged, it results in loss of sensation of the body. *Vata* is responsible for sensations in our body. So we have to consider the *vata* also. Next treatment was planned as *vata pitta shamana*. Then *dashamoola ksheera dhara*⁸ was done for 11 days. After this treatment patient felt sensations and got little strength to her thigh muscles. The patient was able to dorsiflex her feet.

Ayurveda Acharyas have mentioned the uses of various medicated formulations in our classical texts in the treatment of various diseases. *Ksheera* has the properties like *madhura rasa, madhura vipaka, sheeta virya, snigdha guna, ojasya, vatapittahara* and *dhatuvardhana*⁹. Milk contains all the elements necessary for the growth and nutrition of bones, nerves muscles and other tissues. It is rich in proteins, fats, carbohydrates, vitamins, and minerals. The drugs used in *dashamoola kwatha* are effective on the basis of *dosha, dushya* and *srotas* involved in the pathogenesis of the disease. *Madhura, tikta, kashaya rasa, guru, snigdha guna, ushna veerya, madhura vipaka* property of *dashamoolaksheera* is highly beneficial for *vata* and *pitta* predominant diseases. It has a proven effect in certain neurological conditions especially those accompanied by burning sensation and numbness. *Ksheera* rejuvenates and nourishes the body. The

benefits of *ksheera dhara* are proper blood circulation of the body, as well as lubricating the joints, relieving pain, spasms and stiffness of the muscles and joints.

Next *ksheera vasti* was planned as a nutritive therapy to strengthen muscles. Milk has a cooling, nutritive, strengthening and vitalizing effect. Also, it has the properties like *jeevanam, brihmanam, balyam, medhyam, vayasthapanam, ayushyam, vrishyam* and *rasayanam*¹⁰. It also leads to the alleviation of *vata* with *dhatu vardhana* or proper nourishment of the affected area. *Acharya Caraka* mentioned the effect of *ksheeravasti* as *vatahara* and *balavarnakara*¹¹. It soothes the sensory nerve endings and makes the body strong and it also reduces the stiffness. The *kalka* of *ksheeravasti* includes *Devadaru, Sahachara, Eranda* and *Bala* and it was done for 4 days. At this time *ashwangandhadi lehya* and *yogarajaguggulu* were given as internal medicine. After this treatment the patient was responded well and she was able to move fingers of her feet.

Vasti karma is mentioned as the best treatment for *vata*. So *mathravasti* was done with *dhanwanthara thailam*¹² (50 ml) for 7 days for the purpose of *vatashamana*. It is a type of *snehavasti* so it provides *bala* to the patient. Also *vasti* is producing a wide spread systemic effect which is specifically indicated in *vatika* disorders. At this time *dhanwantharam kashayam* and *yogarajaguggulu* were given as internal medicines, after this treatment she was able to sit without support and urinary incontinence was also



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reduced. At last *njavarakkizhi* was planned with *sahacharadi tailam* and *bala ashwagandhadi tailam* for 7 days. Internally *sahacharadi kashayam*¹³ and *yogarajaguggulu* were given. After the treatment the patient was able to walk with support.

During the follow up the patient was advised for physiotherapy and to take *ashwagandha choornam* with milk at bedtime and *yogarajaguggulu* as internal medications. *Sahacharadi tailam* was given for external application. *Ashwagandha* is good for strengthening the nervous system and it has rejuvenating and nourishing quality. It enhances the function of the brain and nervous system¹⁴. It was also found useful in neurodegenerative diseases. After 4 months of treatment, the patient was able to walk without support and her muscle strength and sensations were also improved.

CONCLUSION

Transverse myelitis is a neurological disease, which has an autoimmune process involved in pathology. It results in the inflammation and damage to myelin within the spinal cord. Inflammation can damage or destroy myelin. This damage causes nervous system scars that interrupt communications between the nerves in the spinal cord and the rest of the body. The symptoms generally appear very suddenly and may increase in intensity in a matter of hours or a period of months. The exact term of transverse myelitis is not mentioned in *Ayurveda*. But we can treat this

according to the *dosha* involvement. Medicines like *ashwagandha* are very good to stop future degenerative changes with time. It acts as a rejuvenator and neuroregenerator. It also possesses potent antioxidant properties that protect against cellular damage caused by free radicals.



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