

**AYURVEDIC MANAGEMENT OF MULTIPLE SYSTEM ATROPHY: A
CASE STUDY**

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ABSTRACT

Multiple system atrophy (MSA) is a progressive neurodegenerative disorder characterised by gradual deterioration of function and death of various nerve cells within the brain and spinal cord. The symptoms encompass bradykinesia, tremors, rigidity, impaired coordination, quivering speech and bladder control issues. From an ayurvedic perspective, MSA can be considered as *Kshaya* or *Apachaya* of *Mastishka*, primarily afflicting the elderly population. Managing this condition involves *Mastishkya*, *Brumhana* and *Rasayana* therapies. A 67 year old patient presented with complaints of bilateral lower limb weakness, tremors in bilateral upper and lower limbs, difficulty in walking, urinary urgency and tendency to fall. Treatment encompassed both *Bahya* and *Abhyantara* modalities. *Bahya Chikitsa* involved *Shirodhara* with *Ksheerabala Taila* and *Brahmi Taila* followed by *Sarvanaga Abhyanga* and *Shastika Shali Pinda Sweda*. *Abhyantara Chikitsa* included *Nasya* with *Ksheerabala* 101 followed by *Mustadi Yapana Basti*. Significant improvement was seen in the overall

condition of the patient in terms of tremor reduction, gait improvement, stance stability and walking ability.

KEYWORDS: Multiple system atrophy, *Mastishka Apachaya*, Neurodegenerative disorder, *Rasayana*, *Yapana Basti*.

INTRODUCTION

Multiple system atrophy (MSA) is a progressive neurodegenerative disorder characterised by gradual deterioration of function and death of various nerve cells within the brain and spinal cord.^[1] It encompasses autonomic failure, parkinsonism, and cerebellar and pyramidal tract symptoms.^[2] The common presentations include, but not restricted to bradykinesia, tremors, rigidity, impaired coordination, quivering speech and bladder control issues in addition to visual impairment, poor thermoregulation, impaired digestion.^[3] From an Ayurvedic perspective, MSA can be considered as *Kshaya* or *Apachaya* of *Mastishka*, primarily afflicting the elderly population. *Mastishka Chaya Apachaya* is a disease entity explained in out classisics which presents with symptoms of *Shirobhrama*, *Pakshanasha*, *Balahani* and eventually *Mrutyu*.^[4] The disease has rapid progression and a bleak prognosis.treatment includes *Rasayana* and *Brumhana*.

Here, a 67 year old male with presented with complaints of bilateral lower limb weakness, tremors in both upper and lower limbs, difficulty in walking, urinary urgency and other ancillary symptoms. He was diagnosed with multiple system atrophy and managed with *Vatahara*, *Rasayana* line of management. Significant improvement was seen in the patient's condition with respect to reduction in tremors, improved strength, gait and stance, and improvement in vision, speech and bladder control.

MATERIALS AND METHODS

The current study involves a 67 year old with a spectrum of neurological disorders. Chief complaints involve bilateral lower limb weakness, tremors in both upper and lower limbs, walking difficulties, and ancillary issues such as urinary urgency, imbalance, slurred speech, saliva dribbling, and blurred vision. The gradual onset of weakness in both lower limbs, coupled with tremors, began three years ago and has aggravated in severity over time. Over the past year, the individual has experienced difficulties walking, accompanied by a propensity to fall. In addition to motor impairment, he has visual impairment, slurred speech, and involuntary saliva dribbling. The patient also reported urinary urgency, recurrent upper

respiratory infections, slowed speech and comprehension, and a distant gaze over the last six months. The severity of the symptoms is to the extent that the patient relies on a wheelchair for mobility and the evident struggle in changing positions unassisted.

The patient has a history of diabetes mellitus spanning five years. Additionally, there is a mention of a past pleural empyema incident two years ago. The patient was prescribed Tab. Syndopa Plus and Tab. Amantidine in October 2020, but he discontinued these medications against medical advice in 2021. Currently, he is on Tab. Glycomet GP2.

EXAMINATION FINDINGS

General examination

- Conscious, oriented co-operative
- Moderate build and nourishment
- Pallor, icterus, clubbing, cyanosis, lymphadenopathy- Absent

Systemic examination

CVS, RS, GIT- No abnormality detected.

Nervous system examination

Table no. 1: Higher mental function examination.

HMF	Observations
Consciousness	Fully conscious
Orientation	Orientated
Memory	Impaired immediate memory
Speech	Slurred
hallucination/delusion	Absent
Handedness	right

Table no. 2: Cranial nerves examination.

Cranial nerves	
I,II,III,IV, VI, VI, IX, X	Intact
V	Clenching of teeth not possible
VIII	Rhomberg's test +
XI	Shrugging of shoulder not possible with resistance
XII	Speech- slurred

Table no. 3: Sensory function examination.

Sensory functions	
Touch	Intact
Pain	+
Pressure	+
Cortical sensations	+

Table no 4: Motor function examination.

Motor functions			
Face	Mask like face		
Stance	Pisa Syndrome (Leaning of body towards one side)		
Gait	Parkinson's Gait		
Tone	Hypertonic: Rigidity + in B/L upper and lower limbs		
Reflex	Exaggerated		
Power	Upper limb- shoulders 4/5 arm/forearm/wrist- 5/5		
	Lower limb	Right	Left
	Hip flexion	4/5	3/5
	Knee flexion	2/5	2/5
	Ankle dorsiflexion	2/5	2/5

Table no.5: Cerebellar functions.

Cerebellar functions	Observations
Nystagmus	Absent
Dysdiadokokinesia	Possible
Finger nose test	Deviation of touch
Knee heel test	Could not be performed

Other findings or autonomic nervous system impairment.

Orthostatic hypertension – Absent

Urine incontinence +

Tremors+

Slurred speech

Investigation

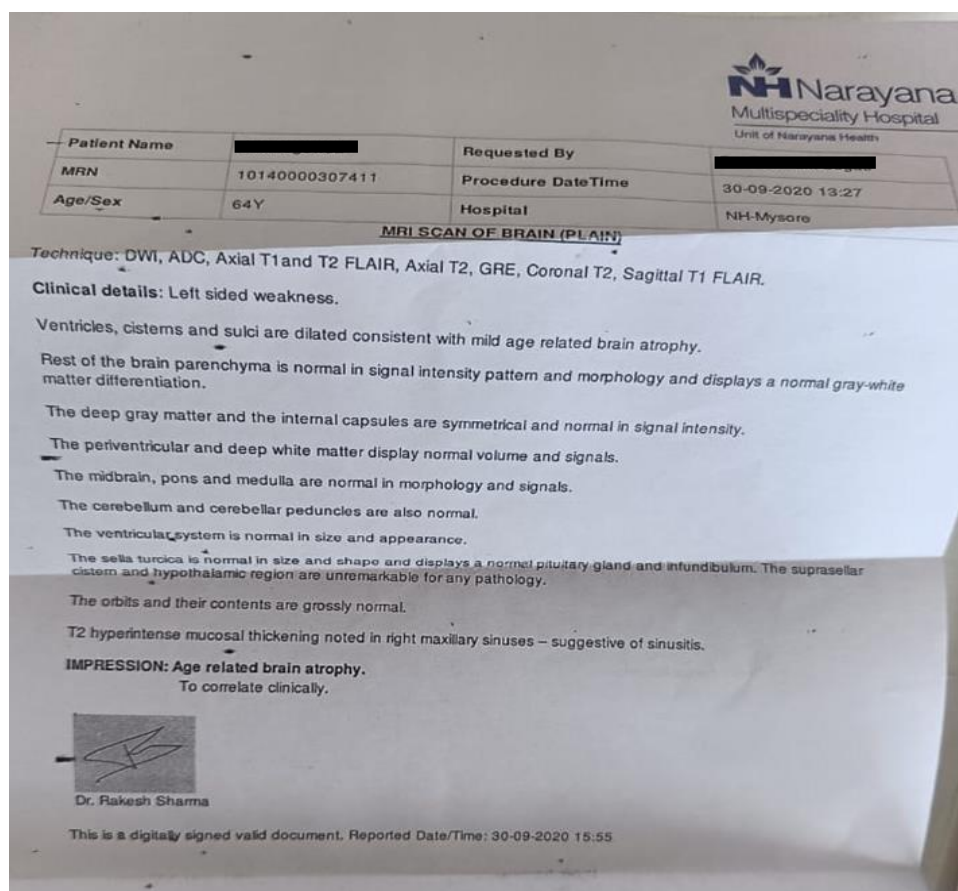


Figure no.01: MRI report.

Considering the presentation, examination and investigations, a diagnosis of multiple system atrophy and *Mastisha-Apachaya* was made. Treatment was planned with the goal of *Vatshamana*, *Brumhana* and *Rasayana*.

Treatment Schedule

Table no. 06: Treatment schedule.

DATE	TREATMENT	OBSERVATION
03-06-2023 to 09-06-2023 (7 days)	<ul style="list-style-type: none"> Shirodhara with Ksheerabala thaila+ brahmi taila Marsha nasya with Ksheerabala 7 avartini- 8 bindu each nostril 	<ul style="list-style-type: none"> Improvement of speech and vision Reduction and subsequent cessation of dribbling of saliva Reduction in drowsiness Slight improvement in lower limb power
10-06-2023	Sadyovirechana with nimbamruthadi eranda taila 40 ml at 7.30am	5 vega of virechana Shareera laghuta
11-06-2023 to 18-06-2023 (8 days)	<ul style="list-style-type: none"> Sarvanga abhyanga with balashwagandha taila followed by shashtika shali pinda sweda Yoga basti Anuvasana- ashwaganda gritha Niruha- mustadi yapana basti 	<ul style="list-style-type: none"> Improvement in muscle power Able to get up from chair, walk few steps with support Speech-better

Yoga basti formulation**Table no. 07: Yoga Basti Formulation.**

Anuvasana basti	Niruha Basti	Mustadi yapana kwatha	
Ashwagandha gritha- 80ml	Mustadi Yapana Basti- approx. 500ml	Musta	Trayamana
Ashwagandha	Madhu-30 ml	Ushira	Punarnava
Godugdha	Saindava-6gm	Bala	Vibhitaki
Jala	Ashwagandha gritha- 80ml	Ashwagandha	Guduchi
Gogrutha	Mustadi yapana kalka-12gm	Rasna	Laghupanchamula
	Mustadi yapana ksheerapaka-300ml	Manjishta	madanphala
	Aja mamsa rasa- 100ml	katurohini	

Average retention of anuvasana basti- 3 hours

Average retention of niruha bati- 5 minutes

Shamanoushadhi

- Varuni thaila 5ml-0-5ml (with hot water before food)
- Vatavidhwamsaka rasa 1-1-1 (after food)
- Zandopa 1-0-1tsf (with water after food)
- Ashwagandha churna 1-0-1tsf (with water after food)
- Tab. Neurevive 1-0-1 (after food)

RESULTS**Table no. 08: Results.**

Observation	Before treatment	After treatment
Urine incontinence/urgency	Present	Improved
Speech	Slurring and quivering	No quivering, slight reduction in slurring
Tremors in the limbs	++ on walking/ any action	Fine tremors in upper limbs + Lower limb tremors reduced by 50%
imbalance	+, repeated falls	+, tendency to fall has reduced
Facial expression	Blank and lost	Slightly expressive face
Vision	Blurred	Slight improvement in blurring.
Dribbling of saliva	+	-
Ability to walk	Could not get up or walk without support	Gets up from the chair without support Walks few steps with wall support
Muscle power	2/5 in the knee and ankle	4/5
Stance	Pisa stance	Normal stance

DISCUSSION

Ayurveda explains the concept of *Mastishka Apachaya* occurring in the elderly population which presents with symptoms similar to multiple system atrophy. This condition is caused by *Vatadi Dosha Prakopa* and *Majjadi Dhatu Kshaya*, particularly *Mastishka Majja*. The impact of the disease is on both *Karmendriya* and *Jnanendriya*. In the present case, *Karmendriya* impairment can be understood in terms of impaired speech (*Vak*), tremors in the arms (*Paani*), weakness and difficulty to walk (*Paada*) and urinary incontinence (*Paayu*). Impairment of *Janendriya* is in the form of visual disturbance, speech disturbance and dribbling of saliva.

Owing to its rapid progression, the disease has a very bleak prognosis and thus the treatment is aimed at maintenance and not cure. The treatment is targeted at slowing down the progression, symptomatic relief and improving the quality of life by *Balajanana*, *Rasayana* and *Indriya Prasadana*.

The line of treatment explained for the management of *Mastishka Apachaya* is *Rasayana* And *Brumhana*.^[5] Here treatment adopted is *Vathahara Kriya*, *Rasayana* and *Brumhana*.

Procedural action

Shirodhara^[6]: *Shirodhara* imparts strength to the *Dhatus, Indriya* And *Manas*, improve the physical endurance and vision. It has anxiolytic action and stimulates the frontal lobe and limbic system, thereby improving the overall condition of the patient.^[7]

Nasya: *Navana* and *Brumhana* type of *Nasya* is beneficial in disturbances of *Drishti*, *Vaak* and *Indriya*. It also does *Shirasaha Tarpana*.^[8] *Nasya* could have a possible effect on the central nervous system and basal ganglia, thereby correcting the dopamine conversion and arresting atrophy.

Abhyanga and *Shahstikashali Pinda Sweda*: acts as *Vatashamana*, *Pushtijanana*, *Mamsa Balaprada*.^[9] It relaxes the muscles, relieves any spasm or rigidity, improves muscle bulk and strength and also has a stimulating effect on the nerves.

Yapana Basti: *Yapana Basti* containing *Gritha Ksheera* and *Mamsarasa* is an ideal *Rasayana Chikitsa*. It does *Pushtijanana*, *Bala Janana* and *Tarpana*.^[10]

Drug action**Table no 09: Drugs used and their action.**

Ksheerabala thaila	<i>Brumhana, Vatahara, Pushtijanana</i>
Brahmi taila	<i>Medhya, Rasayana, Hridya</i>
Avartita Ksheerabala thaila	<i>Rasayana, Indriya Prasadana, Brumhana, Swarya</i>
Balashwagandha taila	<i>Pushtijanana, Vata Prashamana</i>
Ashwagandha gritha	<i>Balaprada, Rasayana, Pushtiprada</i>
Mustadi yapana kashaya	<i>Balajanana, Rasyana</i>

CONCLUSION

- Multiple System Atrophy as a disease complex targets both *Jnanendriya* and *Karmendriya*
- Treatment was aimed at controlling the progression of the disease and relieving symptoms by means of:
- *Indriya Prasadana* by *Shirodhara* and *Nasya*
- *Rasayana* by *Mustadi Yapana Basti*
- *Balajanana* by means of *Abhyanga, Shashtika Shali Pinda Sweda, Yapana Basti*
- Despite the rapid progression and bleak prognosis, a holistic ayurvedic approach can effectively manage MSA, slowing its advancement and enhancing the quality of life of the individual.

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