Case Report

www.ijrap.net

(ISSN Online:2229–3566, ISSN Print:2277–4343)

AYURVEDIC MANAGEMENT OF PROGRESSIVE SUPRANUCLEAR PALSY (PSP): A CASE REPORT

Vishnu Sreenivas [1]*, TK Sujan [2]

[1] PG Scholar, Department of Panchakarma, Government Ayurveda College, Thiruvananthapuram, Kerala, India

[2] Professor and HOD, Department of Panchakarma, Government Ayurveda College, Thiruvananthapuram, Kerala, India

Received on: 03/10/23 Accepted on: 05/02/24

***Corresponding author**

E-mail: vishnusreenivas000@gmail.com

DOI: 10.7897/2277-4343.15228

ABSTRACT

Progressive Supranuclear Palsy (PSP) is a rare neurological condition that can cause problems with balance, movement, vision, speech and swallowing. This condition could be clinically compared to Kaphavrita Vyana Vata and Asthi-Majja gata Vata in Ayurveda based on signs and symptoms. A 73-year-old male patient visited the Geriatric OPD of Panchakarma Department, Government Ayurveda College Panchakarma Hospital, Poojappura, Thiruvananthapuram, Kerala, India, with complaints of balance and mobility problems, including frequent falls, changes in behaviour like irritability, inability to control eye and upward eyelid movements along with slowness of thought and some memory problems. The patient was advised for IP admission. He was diagnosed with Progressive Supranuclear Palsy (PSP) from MRI-Brain. From an Ayurvedic perspective, this condition could be considered Kaphavrita Vyana Vata and Asthi-Majja gata Vata based on signs and symptoms. Considering all the factors, the treatment principles of Avarana Vata and Asthi-Majja gata Vata were followed in this case. The assessment criteria were based on the Progressive Supranuclear Palsy Rating Scale (PSPRS) and the WHO Quality of Life Scale (WHOQOLS). The case report shows that Ayurvedic treatment effectively reduces the signs and symptoms of Progressive Supranuclear Palsy (PSP) in the early stage. No adverse effect was found during the treatment. The assessment of the disease by the Progressive Supranuclear Palsy Rating Scale (PSPRS) showed improvement by changing the total score from 20 to 9 before and after treatment. The assessment with the World Health Organisation Quality of Life Scale (WHOQOLS) showed that the patient's quality of life improved from 45% to 64.6% before and after treatment.

Keywords: Progressive supranuclear palsy, Avarana vata, Ayurveda, Panchakarma.

INTRODUCTION

Progressive Supranuclear Palsy (PSP) is a rare neurological condition that can cause problems with balance, movement, vision, speech, and later with swallowing.[1] The illness is caused by cell degeneration in brain regions responsible for thought, movement, co-ordination, and other critical processes. A different name for progressive supranuclear palsy is Steele-Richardson-Olszewski syndrome. PSP comes in various forms, and while they all have similar symptoms, there are some distinctive variations as well. Richardson Syndrome (PSP-RS) and Parkinson's disease-like variant (PSP-P) are the two most prevalent types. When combined, they account for 75% of PSP cases. The majority of PSP causes manifest in adults over 60. One cannot pinpoint a specific cause for progressive supranuclear palsy. Up to 5–17 per 100,000 people are thought to be affected by PSP. Deterioration of brain cells, particularly in areas that aid motor control and thought processes, causes the disorder's signs and symptoms. Scientists have discovered that excess tau protein is present in the failing brain cells of patients with progressive supranuclear palsy. Predominantly broken down before reaching high levels, tau is a naturally occurring protein in the brain that plays a significant role in preserving the stability of microtubules in axons. It isn't handled correctly in certain PSP patients, causing dangerous clumps to form in brain tissue. Other neurodegenerative diseases, like Alzheimer's disease, are also associated with tau clusters. The majority of individuals with progressive supranuclear palsy have not inherited the condition; however, there may not be a clear genetic connection.[2]

Loss of balance when walking and improper eye aim are two of the hallmark signs and symptoms of progressive supranuclear palsy. Progressive supranuclear palsy can present with a variety of additional symptoms, some of which can be confused with dementia and Parkinson's disease. Symptoms include stiffness (especially in the neck) and awkward movements; falling, especially from a height; slow or slurred speech; difficulties swallowing, which can result in gagging or choking; sensitivity to bright light; sleep disturbances; loss of interest in enjoyable activities; impulsive behaviour; crying or laughing uncontrollably; difficulties with reasoning, problem-solving, and decision-making; depression and anxiety; a startled or scared expression on the face.

It has been determined that age is the only risk factor for progressive supranuclear palsy. Patients with the condition are usually between 60 and 70 years old. In people younger than forty, it is almost non-existent. It is mainly slow and challenging muscle movements that cause complications in progressive supranuclear palsy. These complications can include falling, which increases the risk of head injuries, fractures, and other injuries; having trouble focusing your eyes; having trouble sleeping, which increases the risk of fatigue and excessive daytime sleeping; having trouble seeing bright lights; having difficulty swallowing, which increases the risk of choking or aspirating food or liquid into your airway; pneumonia, which increases the risk of aspiration and is the most common cause of death in individuals with progressive supranuclear palsy; and exhibit impulsive behaviours, such as getting up without waiting for help, which increases the risk of falls.[2]

Progressive supranuclear palsy worsens over time and can lead to life-threatening complications, such as pneumonia and swallowing problems. There is no cure for progressive supranuclear palsy, so treatment focuses on managing the signs and symptoms.[2]

Based on signs and symptoms, this condition could be clinically compared to Kaphavrita Vyana Vata and Asthi-Majja gata Vata in Ayurveda.[3]

MATERIALS AND METHODS

It is a single case study at Government Ayurveda College Panchakarma Hospital, Poojappura, Thiruvananthapuram, Kerala, India.

Patient Information: A 73-year-old male patient visited the Geriatric OPD of Panchakarma Department, Government Ayurveda College Panchakarma Hospital, Poojappura, Thiruvananthapuram, Kerala, India, with complaints of balance and mobility problems, including frequent falls, changes in behaviour like irritability, inability to control upward ocular and eyelid movements along with slowness of thought and some memory problems. The patient was advised for IP admission.

Clinical Findings: The patient appeared lean, with a body weight of 52 kg. The examination of the Central Nervous System revealed elated mood in Higher mental function examination, upward eyelid and ocular movements restricted on bilateral sides on 3rd, 4th and 6th cranial nerve examination; Romberg's test was found to be positive on examination of the vestibular part of 8th cranial nerve and Grade 4 muscle power was observed on examination of the motor system. On examination of reflexes, jaw jerk was found to be brisk, and supinator and ankle jerk were diminished. In co-ordination tests, nothing was elicited except diadochokinesis and foot pat test, and the gait was of Lurching type.[4]

The findings from the MRI Brain were age-related brain atrophy, chronic small vessel ischaemic changes in periventricular white matter and corona radiata, features of mid-brain atrophy, the possibility of progressive supranuclear palsy, apparent hummingbird signs noted in sagittal images and empty sella.

Diagnostic Assessment

On detailed evaluation of subjective and objective parameters, the patient was diagnosed with Progressive Supranuclear Palsy-Richardson Syndrome (PSP-RS). From an Ayurvedic perspective, this condition could be considered Kaphavrita Vyana Vata and Asthi-Majja gata Vata. Considering all the factors, the treatment principles of Avarana Vata and Asthi-Majja gata Vata were followed in this case.[5] The assessment criteria were based on the Progressive Supranuclear Palsy Rating Scale (PSPRS) and the WHO Quality of Life Scale (WHOQOLS) before and after treatment.

Therapeutic Intervention

Table 1: Internal Medicines

Medicine	Dose	Time	Duration
Gandharvahastadi Kashaya	90 ml	Morning and Evening B/F	7 days
Vaiswanaram Choornam	5 gm	With kashaya	
Triphala Choornam	15 gm	With hot water at bedtime	
Nishakatakadi Kashaya	90 ml	Morning and Evening B/F	All days
Siva Gulika	1 BD	With Triphala Kashaya A/F	
Lipocare tablet	1 BD	Morning and Evening A/F	
Dhanwantaram Kashaya	60 ml	Morning and Evening B/F	From 8th day
Purana ghrita	15 gm	Evening at 5:30 pm	7 days
Triphala ghrita + Maha paishachika ghrita	20 gm	Evening at 5:30 pm	28 days
Pasupata varti		Morning and Evening	
Ashwagandha tablet	1 BD	Morning and Evening A/F	
Shilajatu capsule	1 BD	Morning and Evening A/F	

B/F- Before Food, A/F- After Food

Table 2: Kriyakramas

Procedure	Medicine	Days	Changes Observed
Dhanyamla Dhara	Dhanyamla	7 days	No significant changes were noticed.
Utsadana	Kolakulathadi + Triphala churna with Panchamla taila	7 days	Sight reduction in weakness.
Virechanam	Gandharvaeranda taila (35 ml) in Hot water	1 day	
Peyadi krama		3 days	
Abhyanga and Nadi sweda	Dhanwantaram taila	7 days	Reduction in weakness of eyelids and ocular movements corrected.
Marsha Nasya	Shadbindu taila		
Navadhanya kizhi	Dhanwantara taila	7 days	Considerable reduction in weakness.
Matra vasti	Dhanwantara taila		
Shirodhara	Mahanarayana taila + Balaswagandhadi taila	7 days	Co-ordination improved. Able to walk without falling tendency. Upward eyelid and ocular movements corrected.
Shirovasti	Mahanarayana taila + Balaswagandhadi taila	7 days	

RESULTS

The assessment was based on the Progressive Supranuclear Palsy Rating Scale (PSPRS)[6] and the World Health Organisation Quality of Life Scale (WHOQOLS)[7] before and after treatment.

Table 3: Progressive Supranuclear Palsy Rating Scale

Section	BT	AT
History	7	3
Mental Exam	2	1
Bulbar Exam	2	1
Supranuclear Ocular Motor Exam	2	1
Limb Exam	2	1
Gait/Midline Exam	5	2
Total	**20**	**09**

BT- Before Treatment, AT- After Treatment

Table 4: Who Quality of Life Scale

Domains	BT	AT
Overall Quality of life and General Health	37.5%	75%
Physical Health	40%	67.5%
Psychological	37.5%	55%
Social relationships	50%	57.5%
Environment	60%	68%
Total	**45%**	**64.6%**

BT- Before Treatment, AT- After Treatment

DISCUSSION

Considering the nidanas, the treatment principles of Kaphavrita Vyana Vata and Asthi-Majja gata Vata were followed in this case. The upasaya to be followed was ruksha-ushna paryoga first to mitigate the Kapha dosa, followed by snigdha-ushna prayoga for Vata shamana. According to the Avarana Vata chikitsa, sweda-langhana-pachana is the first line of treatment. Gandharvahastadi kashaya and Vaiswanara churna were given internally, and Dhanyamla dhara was done externally. Since the patient was diabetic and hyperlipidaemic, medicines were given accordingly for its control. After samyak rukshana, he was given purana ghrita snehapana internally, and snigdha utsadana was given for 7 days. Purana ghrita is specially indicated in Kaphavritha Vyana Vata and Chitta vikaras. Virechana was done to eliminate the utklishta dosa after the procedure with Gandharva Eranda taila 35 ml with hot water, avara sudhi was obtained, and peyadi krama was observed for 3 days. After kayasodhana, shirasodhana was done with Shadbindu taila, 6 drops each nostril for 7 days after abhyanga with Dhanwantaram taila and Nadi sweda. Dhanwantara taila is Vatahara, and Shadbindu taila nasya is indicated in many Shiro rogas, which provide chakshu bala. The patient was then given Dhanwantara kashaya in the morning and shamana snehapana with Triphala ghrita and Mahapaishachika ghrita, which are chakshushya and buddhi-medha-smriti kara, respectively, in the evening. Netra kriya kramas, like anjana with Pasupata yoga, etc., were done accordingly. Next, the patient was given snigdha Navadhanya kizhi, which increases asthi sthairya and reduces nadi kshina and specially indicated for Vata rogas and deha pushti, for 7 days along with matra vasti with Dhanwantaram taila. Shirodhara and Shirovasti, having mastishkya property, were then done with Mahanarayana taila and Balaswagandhadadi taila, which are brimhana and Vatahara, for 7 days each, considering the vitiated dosa sthana and also considering mastishka as shirogata majja. Finally, Ashwagandha and Shilajatu rasayana were given internally. Recent studies have proved that Ashwagandha contains active principles, increasing acetylcholine secretions that help improve brain functions. Shilajatu promotes dopamine secretion, and it has neuroprotective and nootropic effects.

The assessment of the disease by the Progressive Supranuclear Palsy Rating Scale (PSPRS) showed improvement by changing the total score from 20 to 9 before and after treatment. The assessment with the World Health Organisation Quality of Life Scale (WHOQOLS) showed that the quality of life of the patient was improved from 45% to 64.6% before and after treatment.

CONCLUSION

Progressive Supranuclear Palsy (PSP) is a rare and chronic neurodegenerative disorder that damages certain areas of the brain. Currently, there is no effective treatment for PSP, but some symptoms can be managed with medication and other interventions, and the typical lifespan from the first appearance of symptoms is about 6-10 years. The patient here was in the early stage of PSP, and the case report shows that Ayurvedic treatment is potent and effective in managing the signs and symptoms of Progressive Supranuclear Palsy (PSP) and delaying the progress of the disease to an extent.

REFERENCES

1. Progressive supranuclear palsy, Available at https://www.nhs.uk/conditions/progressive-supranuclear-palsy-psp/ last accessed on 10/01/2024, 7:12 pm. Page last reviewed: 10 March 2022
2. Progressive supranuclear palsy Available at https://www.mayoclinic.org/diseases-conditions/progressive-supranuclear-palsy/symptoms-causes/syc-20355659, last accessed on 10/01/2024, 7:14 pm. Page last reviewed March 18, 2022
3. Vagbhata, Astanga Hridaya teeka with Sarvangasundara and Ayurvedarasayana vyakhya, Chaukhamba Surbharati Prakashan, Varanasi, Nidanasthana- Vatasonithanidana, sloka 16/47-48, p.539.
4. K. V. Krishna Das, Editor-in-chief, Clinical Medicine- A textbook of Clinical Methods and Laboratory Investigations, 4th edition, Jaypee Publications, Clinical examination of the Nervous System, p.385.
5. Vagbhata, Astanga Hridaya teeka with Sarvangasundara and Ayurvedarasayana vyakhya, Chaukhamba Surbharati Prakashan, Varanasi, Chikitsasthana- Vatasonithachikitsita, sloka 22/ 57-58, p. 733.
6. Progressive supranuclear palsy rating scale Available at https://www.physio-pedia.com/images/8/88/PSPRS.pdf, last accessed on 10/01/2024, 7: 32 pm.
7. WHO Quality of Life Scale-Brief, Available at https://depts.washington.edu/uwcssc/sites/default/files/hw00/d40/uwcssc/sites/default/files/WHO%20Quality%20of%20Life%20Scale.pdf, last accessed on 10/01/2024, 7:35 pm.

Cite this article as:

Vishnu Sreenivas and TK Sujan. Ayurvedic management of Progressive Supranuclear Palsy (PSP): A Case Report. Int. J. Res. Ayurveda Pharm. 2024;15(2):7-9
DOI: http://dx.doi.org/10.7897/2277-4343.15228

Source of support: Nil, Conflict of interest: None Declared