

AYURVEDIC MANAGEMENT OF SPASTIC CEREBRAL PALSY – A CASE STUDY

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Abstract

Introduction: Cerebral palsy is a group of permanent, non-progressive motor impairment syndromes secondary to lesions of the brain arising in the early stages of its development. In Ayurveda, this could be taken as a *Vata* predominant condition and included as *Sarvangavata Vatavyadhi* treatment like *Snehana*, *Svedana*, *Shamana* and *Brimhana*, along with supportive therapies could give wonderful results. **Materials and methods:** An 8-year-old male child, a known case of spastic cerebral palsy came to the OPD of Kaumarbhritya Department of P. D. Patel Ayurveda Hospital, Nadiad, Gujarat. He has delayed development with difficulty in walking without support, spasticity in extremities and speech difficulty.

Results and discussion: He was treated with *Abhyanga*, *Mashapinda Svedana*, *Matra Basti*, *Nasya*, *Guggulu lepa*, physiotherapy and *Medhya*, *Balya* and *Rasayana* drugs may help at both physical and mental level. This treatment showed marked improvement in symptoms of patient, thereby imparting a better standard of living.

KEYWORDS:

Abhyanga, *Balya*, *Medhya*, *Matra Basti*, *Nasya*, *Rasayana* drugs, Spastic cerebral palsy, *Svedana*.

INTRODUCTION

Cerebral palsy refers to the permanent, non-progressive and evolving disorders of Movement, posture and tone caused by an insult to the developing brain. Developmental delay & disturbances in sensation, cognition, communication, and perception are often noted in the disease. Its Cause could be antenatal, natal or post-natal. Prevalence is 2-3 infants per 1000 live births. Among the various types, spastic cerebral palsy remains the most common, affecting about 61% of all people with cerebral palsy. Spastic cerebral palsy characterized by diminished motor control, stiff & jerky movements when attempting to move affected areas of the body voluntarily.^[1]

In Ayurveda, CP can be understood as a disorder caused by *Vata Dosha* imbalance, which governs movement, nervous system functions and coordination. It is often compared to conditions like *Pakshaghata*, *Vatavyadhi*, *Vata Nanatmaja Vikara* (*Mukatva*, *Ekangavadha*, *Pakshavadha*, *Akshepaka*), *Vyadhija Phakka* ^[2] (diminished mass of lower body, immobile extremities, crawling with hands and knee etc.) CP could be taken as a *Vata* predominant condition and can be treated according to *Sarvanga Vatavyadhi* line of treatment which include *Snehana*, *Svedana*, *Basti*, *Brimhana* and *Vatashamank Aushadi* ^[3]

CASE REPORT

An 8-year-old male child, a known case of spastic cerebral palsy came to the OPD of Kaumarbhritya Department. He has delayed development with difficulty in walking without support, able to walk with orthosis and Toe walking, Difficulty in holding objects and feeding himself, spasticity in extremities and speech difficulty. D.O.A. – 21/11/2025 and D.O.D. – 30/12/2025

Birth History: Normal vaginal delivery at 36 weeks of gestation, Birth weight – 2.7 kgs, the baby cried soon after birth, h/o meconium aspiration, he was in NICU for 15 days.

Medicinal History: Patient is on Vit D3 oral solution 6000IU – once per 15 days and Madmin (Multivitamins multimineral) syrup – 5 ml od

Family History: Non – Consanguineous marriage and no relevant family history.

Immunization History: All the vaccinations were given as per the schedule properly as per age.

Personal History

- Diet – vegetarian
- Appetite – good
- Sleep – sound
- Bowel habits – once per day
- Micturition – 6 – 7 times/day

Developmental History

Table no.1 – developmental history

Domains	of	Domains	of	Age	of
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development	development	attainment
Gross motor	Neck holding	1 year (3 months)
	Sitting with support	1.5 year (6 months)
	Sitting without support	2 years (8 months)
	Standing with support	2 years (9 months)
	Standing without support	5 years (10 months)
	Walking with support	5 years (10 months)
	Walking without support	7 years (15 months)
Fine motor	Grasping	2.5 years (4 months)
	Self-feeding	4 years (18 months)
Personal and social	Social smile	8 months (2 months)
	Indicates his wants	1 year (12 months)
	Dresses unassisted	Not attained (5 years)
Speech	Monosyllables	2 ½ years (6 months)
	Bisyllables	3 years (9 months)
	Small sentences with clarity	4 years (2 years)
	Storytelling	5years (4 years)

General examination

- Anthropometrical measurement - Weight – 20.4 kg and Height – 114 cm
- Vital signs: all vitals were normal

CNS examination

▪ Higher Mental Functions

Appearance- calm

Behaviour- pleasant, attentive

Level of consciousness- conscious

Orientation of place and time- present

Memory-normal

Intelligence- reduced

Speech- with decreased clarity

Motor system

- Muscles Tone - Hypertonic, spastic
- Muscle power – MRC scale – Upper Right limb – 2
Lower Right limb – 2
Upper Left limb – 2
Lower Left limb – 2
- Gait – Spastic gait
- Deep tendon reflexes – Exaggerated on knee and ankle joints

Sensory system examination - Touch, Pain and Vibration sense is present.

TIMELINE

Table no. 2 – timeline of the study

Age	Event
At birth	Meconium-stained amniotic fluid, birth

(2018)	asphyxia, NICU stay for 15 days
Neonatal period	Diagnosed with HIE – treated symptomatically
6 months	Delay in motor milestones noticed by family
1 year (2019)	No independent sitting; consulted pediatrician Diagnosis of Spastic Cerebral Palsy suspected
Age 5.5 years	Started Physiotherapy
5.5 to 7 years	1.5 years of irregular physiotherapy – some improvement noted in posture, gross motor function but unable to walk without support
Age 8 (baseline assessment)	Child able to sit with support, stand without support, uses orthosis for walking
8 years (post-treatment follow-up)	Significant improvement in gross motor functions; child attained independent walking without support and demonstrated enhanced balance and mobility.

ASSESSMENT CRITERIA- Medical Research Council (MRC) Scale for Muscle Strength^[4]

Table no. 3 - MRC Scale for Muscle Strength

Grade	Description
0	None – No contraction visible or palpable
1	Trace – Contraction visible or palpable, but no limb movement
2	Poor – Movement possible with gravity eliminated
3	Fair – Movement possible against gravity
4	Good – Movement possible against gravity with moderate resistance
5	Normal – Movement possible against gravity, muscle contracts normally against full resistance.

Gross motor function classification system (GMFCS) ^[5]

Patient has grade 3 (GMFCS Level III) Before treatment.

DIAGNOSTIC ASSESSMENT

➤ Levine's POSTER criteria for diagnosis ^[6]

Any 4 abnormal among 6 listed criteria.

P - Posturing / poor muscle control and strength

O - Oropharyngeal problems

S - Strabismus / Squint

T - Tone (Hyper or hypotonia)

E - Evolutional maldevelopment (primitive reflexes persists and protective reflexes fail to develop)

R - Reflexes (increased DTR, PBR)

EEG report – sleep EEG within normal limits

MRI BRAIN (28/08/2021) Shows likely secondary to hypoxic ischemic insult / perinatal insult.

THERAPEUTIC INTERVENTION

Table no. 4 - therapeutic intervention

1 Procedure			
No.	Name of Procedure	Medicine	Dose
1.	<i>Sarvang Abhyanga</i>	<i>Bala Taila-30 min</i>	Quantity sufficient
2.	<i>Mashapinda Sveda - 30 min</i>		
3.	<i>Matrabasti</i>	<i>Atibala Taila</i>	15 ml
4.	<i>Nasya</i>	<i>Brahmi Ghrita</i>	5-5 drops
5.	<i>Guggulu Lepa</i> on both knee and ankle joints		
6.	<i>Shirobasti</i>	<i>Bala Taila- 30 min</i>	
7.	Physiotherapy		
2 Internal medicine			
No.	Name of Medicine		Dose
1.	<i>Medhya Churna - Brahmi Churna-500mg, Shankhapushpi Churna-500mg, Vacha Churna-60mg</i>		2 times with <i>Madhu</i>

2.	<i>Ashvagandha Churna</i> - 500mg	2 times with Milk after food
3.	<i>Jatamansi Churna</i> - 500mg	2 times with <i>Madhu</i>
4.	<i>Balamula Kvatha</i> - 20ml	2 times before food

OBSERVATION AND OUTCOME

The patient was assessed periodically throughout the treatment period and during follow-up using the Gross Motor Function Classification System (GMFCS) and the Medical Research Council (MRC) Muscle Power Scale. No adverse events or complications were observed during the course of treatment.

Before treatment, the child was classified as GMFCS Level III, indicating the need for assistive devices for ambulation. Muscle power was graded as 2/5 on the MRC scale, reflecting poor voluntary movement against gravity. Clinically, the child was able to sit with support, stand without support and walk only with the aid of orthotic devices. [figure no.1]

Following treatment, significant improvement was observed in motor functions and functional mobility. The GMFCS level improved from III to II, indicating enhanced independence in walking and gross motor activities. Muscle power improved from MRC grade 2/5 to 4/5, demonstrating the ability to move against gravity with moderate resistance. The child achieved independent ambulation without support, with noticeable improvement in balance, posture, coordination, and overall mobility. [figure no.2]. The improvements were maintained during follow-up visits and parents reported

better participation in daily activities and increased functional independence.

DISCUSSION

- *Sarvaanga Abhyanga* with *Bala Taila* nourishes body and possesses *Mrudu*, *Snigdha*, *Pichhila Guna* and reducing *Vata*. Its functions through both local and central mechanisms. Locally, it helps venous and lymphatic drainage and dilates the arterioles to increase circulation. The improved blood flow to the muscles – decreased stiffness. It is *Pushtikaraka*, *Kaphavatahara*, and *Ayu Vardhaka*. *Abhyanga* in CP helps in reducing spasticity, facilitating joint movements, and preventing deformities.^[7]
- *Sarvaanga Mashapinda Svedana* entire body is heated, compressed, and massaged to stimulate the nerve endings and nourish the muscles. It acts as *Shroto Sangha Vighatana* and relieves joint stiffness. it decreases spasticity, increase tendon extensibility, relieve pain, and preventing atrophy.
- *Guggulu Lepa* may help to reduce inflammation in the muscles and joints, potentially providing relief from muscle tightness. It improves overall flexibility and movement, improve joint lubrication.^[8] Regular *Nasya* with *Bramhi Ghrita* balances *Vata dosha*, reducing spasticity, promoting relaxation, enhances speech and cognitive abilities.
- *Matra Basti* with *Bala Taila* act as a *Balya*, *Brimhana*, *Vata Hara*. It controls *Vata* throughout the body by acting on *Moola Sthana* (*Pakwashya*), it enhances digestion and relieves constipation, strengthens nerves and neuromuscular coordination.
- *Shirobasti* may help in enhancing brain activity, potentially improving motor function, balances *Vata*

Dosha, it improves concentration and learning ability, alleviate emotional stress.

- Physiotherapy - Help to expand the range of motion, build muscle tone, increase fitness, flexibility, balance and posture, Reduce physical discomfort and pain.
- *Brahmi* has *Madhura*, *Tikta* & *Kashaya Rasa*, *Shita Virya* and *Madhura Vipaka* which reduces *Vata dosha* and has *Medhya Prabhava* act as a *Rasayana* – which nervine tonic, enhance memory, concentration & improves cognitive function. *Shankhpushpi* has *Katu*, *Tikta* & *Kashaya Rasa*, *Shita Virya* and *Madhura Vipaka* which reduces *Vata dosha* and has *Medhya Prabhava* – boosts mental clarity and reduces anxiety mental fatigue. Brain tonic and Enhances concentration.
- *Vacha* contains active compounds like asarone, acorine which stimulate the nervous system. This helps in improving the transmission of nerve impulses, which is crucial for speech production and clarity. *Ashvagandha* is in *Balya* and *Brimhaniya Gana*, *Vataghna*, *Kaphaghna* and act as a *Rasayana*. Build muscle strength and reduces stiffness.
- *Bala* is also in *Balya*, *Brimhaniya Gana*, and it has best *Vatahara* properties, it increases the strength of bones, muscles and joints. Improves coordination. *Jatamansi* has *Medhya* and *Balya karma*, *Sangnasthapana* and balances *Tridoshas*. acts as a natural nervine tonic and memory booster.^[9]

CONCLUSION

The main goal of CP management is to promote typical motor development and function, prevent the onset of muscular contracture, joint and limb deformities. CP is similar to *Vatavyadhi*, it is believed that panchakarma

treatments such as *Snehana*, *Svedana*, *Shamana* and *Brimhana* and *Basti* are helpful for curing *Vata Dosha*. It Reduces spasticity, increases joint flexibility, nourishing the body and enhancing gross and fine motor skills, it also enhances general health and quality of life.

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Figure no. 1



Figure no. 1 shows standing with orthosis

Figure no. 2



Figure no. 2 shows standing without any support