

# Ayurveda Treatment Protocol In The Management Of Spastic Cerebral Palsy In Children – A Case Study

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## Abstract:

Cerebral Palsy (CP) is an umbrella term encompassing a group of non-progressive, non-contagious motor conditions that cause physical disability in human development, chiefly in the various areas of body movement, it is a common cause of disability in childhood. The disorder results from various insults to different areas within the developing nervous system, which partly explains the variability of clinical findings. In India incidence is around 3/1000 live birth out of which 77.4 % are identified to be suffering with spastic type of cerebral palsy. In *Ayurveda*, this disease Cerebral Palsy can be understood under the concept of various diseases like *Shiromarmabhighata*, *Vata Vyadhi*, *Phakka Roga* and *Kaphavruta Vyana Vata*. The Multimodal treatment Protocol has to be adopted to improve the quality of life in children suffering from Cerebral Palsy. **Aim:** To evaluate the efficacy of *Ayurveda treatment* protocol in Spastic Cerebral Palsy in Children. **Study Design:** Single Case Study. **Place:** KLE Ayurveda Hospital, Belgaum. **Duration of Study:** 5 Sittings of 10 days each and Follow up after 1 month **Methodology:** Administration of Internal and external medication along with Speech Therapy and Physio therapy to reduce the signs and symptoms of Spastic Cerebral Palsy.

**Keywords:** Cerebral Palsy, Neuro Developmental disorder, *Shiromarmabhighata*, Spasticity

*Vata Vyadhi*.

## Introduction:

Cerebral palsy (CP) is a neurodevelopmental disorder characterized by abnormalities of muscle tone, movement and motor skills, and is attributed to injury to the developing brain<sup>1</sup>. The motor disorder of cerebral palsy are often accompanied by disturbances of sensation, perception, cognition, communication and behavior: by epilepsy and by secondary musculoskeletal problems<sup>2</sup>. There are 4 subtype of Cerebral Palsy mentioned in 'Swedish Classification' (SC) viz. spastic, ataxic, dyskinetic and mixed. In this entire sub type, spastic CP accounts for major portion of 70% to 80%.<sup>3</sup>. There can be joint and bone deformities and contractures (permanently fixed, tight muscles and joints). The classical symptoms are spasticity, spasms, other involuntary movements (e.g. facial gestures), unsteady gait, problems with balance, and/or soft tissue findings consisting largely of decreased muscle mass<sup>3</sup>. It has been reported that children with cerebral palsy and their care taker have impaired health related Quality of Life (QOL). The degree of impairment of QOL correlated with the severity of the condition<sup>4</sup>. Adult morbidity and mortality from ischemic heart disease, cerebrovascular disease, cancer, and trauma are higher in patients with cerebral palsy than in the general population<sup>5</sup>.

Cerebral Palsy cannot be correlated with any single condition mentioned in *Ayurveda*, as it is a multifactorial disease. The symptoms present in Cerebral Palsy can be understood under the headings of *Shiromarmabhighata*, *Sarvanga Vata*, *Pakshaghata*, *Kaphavruta Vyana Vata*. The major dosha involved are *Vata and Kapha doshas*. This case study focuses on the management of subject of spastic cerebral palsy with the administration of certain *Ayurvedic* internal and external treatment modalities.

**AIM AND OBJECTIVE:** To evaluate the efficacy of *Ayurveda treatment* protocol on Spastic Cerebral Palsy.

**PLACE OF STUDY:** The case study was carried out in Dept of Kaumarabhritya, KLE Ayurveda Hospital, Belgaum

**MATERIALS AND METHODS:**

## CASE REPORT :

A male child of 2 Years born to NCM Parents was brought with the complaints of Neck holding Partially achieved, inability to sit without support, Speech not developed for appropriate age and standing with support not achieved . The child was born through LSCS, CIAB, Low birth Weight of 1.5 kg and developed Neonatal Hyperbilirubinemia and had a stay of 7 days in NICU. The parents observed that there is delay in attaining neck holding and roll over when compared to the peer aged children . They approached various hospitals and was diagnosed with Cerebral Palsy, but significant improvement was not noted. Hence they approached our hospital for further management.

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### Past History:

H/O Seizure at the age of 1 Yr

### Birth History:

FT/BCIAB/LSCS/1.5 kg / Exacerbated Neonatal Hyperbilirubinemia

### Family History:

No evidence of this type of disease in the family.

### Personal History:

Diet -Vegetarian

Appetite -Good

Bowel - Irregular

Micturition -4 - 5 times/day

Sleep - Sound

### General Examination:

Appearance – Ill Looking

Gait – Scissoring Gait

B.P -100/60 mmHg

Pulse - 94/mm

Respiratory rate - 22/min.

Temperature - 97.8° F

### Systemic Examination:

CardioVascular System- S1S2 Heard, No any added sounds

Per Abdomen- Soft/Non distended/Non tender

Respiratory System – Air Entry Bilaterally Equal, No any added Sounds

### Central Nervous System-

#### Higher Mental Functions :

Conscious and Oriented

Speech – Monosyllables , Drooling +

#### Motor Examination :

Tone – Increased in all four limbs

Spasticity – Found in all four limbs

DTR –

Ankle jerk	Exaggerated
Knee Reflex	Exaggerated
Biceps Reflex	Exaggerated
Triceps Reflex	Exaggerated
Jaw Reflex	Normal

Ashtavidha Pariksha :

<i>Nadi</i>	94/min , <i>Sarpa Gati</i>
<i>Mala</i>	Irregular, Once in 2 days , hard in consistency
<i>Mutra</i>	Frequency – Normal
<i>Jihva</i>	Coated
<i>Shabdha</i>	Normal
<i>Sparsha</i>	97.8 F
<i>Drik</i>	Normal
<i>Akruti</i>	<i>Madhyama</i>

Investigation: MRI – Brain



Treatment Given:

Treatment	Duration
<b>Externally:</b>	
Udwartana with Kola Kulattadi Churna	3 days X 5 sittings
Nadi Sweda with Dasamoola Kwatha	3 Days X 5 sittings
Abhyanga with Prasarini Taila	8 days X 4 sittings
Patra Pinda Pottali Sweda	8 Days X 5 Sittings
<b>Yoga Basti :</b>	8 days X 3 Sittings
Niruha Vasti with Erandamooladi Niruha Vasti	
Anuvasana Vasti with Sahacharadi Taila	
Matra Vasti with Samvardhana Ghrita	8 Days X 2 Sittings
Greeva Pichu with Dhanwantara Taila	8 Days X 3 Sittings
Kati Pichu with Dhanwantara Taila	8 Days X 5 Sittings
Upanaha with Salvana Upanaha	8 Days X 5 Sittings
Pratimarsha Nasya with Brahmi Ghrita	In between the sittings
Jihva Pratisarana with Vakshudhikara Churna	In between the sittings
Physiotherapy	10 Days X 5 Sittings
Speech Therapy	10 Days X 5 Sittings

Internally :	
Panchakola Phanta	During Sittings
Gandharva Hastadi Taila	Initial 3 days of each Sittings
Guduchi churna + Yashtimadhu Churna + Brahmi Churna + Ashwagandha Churna	In between the Sittings
Saraswatarishta with Gold	In between the Sittings

**Assessment:**

The assessment was done using Modified Ashworth Scale (MAS) and Gross Motor Function Manual (GMFM), before initiating the treatment and after completing the course of treatment and anthropometric measurements were taken. Before and after scores were recorded.

**Result:**

The Treatment Duration was 6 months. Significant improvement in Spasticity, Movement and Muscle tone, Speech, Neck Holding, Sitting and overall Activity of the child was Noted.

**OBSERVATION:**

Scale	BT	AT	Scale	BT	AT
MAS - UL			MAS - LL		
Elbow	1+	01	Quadriceps	1+	01
Wrist	01	00	Hamstrings	1+	01
Fingers	00	00	Soleus	01	00
Thumb	00	00	Gastrocnemius	01	00
GMFM Scale					
Lying & Rolling (L&R)	35	43	Standing	26	32
Sitting	29	36	Walking Running and Jumping	07	15
Crawling & Kneeling	15	28	Total Scoring in %	45.78%	62.5%

**Discussion:**

The treatment plan should be that of *vatashamana*, *vata* being dominant dosha involved. Thus, the procedures adopted in the present study are *Vata* pacifying in nature and have proven beneficial effects. The *udvartana* would have helped in a reduction of vitiated *kapha* by its dryness-inducing and blockage-removing properties. The *Deepana*, *Pachana* and *Vatanulomana* is brought about by *Panchakola phanta* and *Gandarvahastadi Taila*. Once *āvaraṇa* is removed, vitiated *vāta* can be pacified by further treatment. *Vāyu* resides in *sparśanendriya* which is located in the skin. *Abhyanga* is said to be as *tvachya* (good for the skin). Hence, massage might have directly worked on *vāta* to bring it back to normalcy. *Basti* acts on CNS by stimulating enteric nervous system (ENS), there are many evidences linking CNS and ENS.

It is mentioned as *Naso hi shiraso dwara*, hence the *nasya* with *Brahmi Ghrita*,<sup>6</sup> with its neuroprotective action, helps in treating the hypoxic insult that occurred in brain. The *jihva Pratisarana* with *Vakshudhikara churna* helps in speech development. The oral intake of *Saraswatarishta* with gold and *Matra Basti* with *Samvardana Ghrita*<sup>7</sup> helps in overall development of the child.

**Conclusion:**

This case study shows that there is significant improvement in spasticity and overall development of the child, diagnosed with Cerebral Palsy. With proper diagnosis and adopting proper treatment protocol, ayurveda can be extremely beneficial for the management of various developmental disorders in children, leaving enormous scope for further research.

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