

AYURVEDIC MANAGEMENT OF SPASTIC HEMIPLEGIC CEREBRAL PALSY: CASE REPORT

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ABSTRACT

Cerebral palsy is a common childhood disability caused due to a static lesion in the developing fetal/infant brain. The global incidence of cerebral palsy is 2-2.5/1000 children, in India it varies from 1.5->4 per 1000 live birth. Among the varieties of cerebral palsy spastic CP is the commonest one, occurring in 70-80%. In *Ayurveda*, there is no single condition/ disease which is exactly similar to Cerebral palsy. Most of the authors considered it as *Vata Vyadhi*. Some other conditions which are found to be similar to symptoms of CP are *Phakka*, *Sarvangavata*, *Ekanga Vata*, *Pangu*, *Shiromarmabhighata Vatavyadhi*. The present study is focused on certain *Panchakarma* procedures along with physiotherapy which is found to be effective & helps to improve their quality of life.

Keywords: Spastic hemiplegic cerebral palsy, *Pakshaghata*, Spasticity, *Panchakarma*

INTRODUCTION

Cerebral palsy is the most common chronic motor disability in children. It is defined as a group of permanent disorders of movement & posture, causing limitation of activity, attributable to non-progressive

disturbances that occurred in the developing fetal/ infant brain, often accompanied by disturbance of sensation, perception, cognition, communication & behaviour, epilepsy & secondary musculoskeletal problems.

Although it is non-progressive, the clinical expression changes over time as the brain matures. Prevalence ranging from 1.5- to > 4 per 1,000 live births. It is more common & severe in boys¹. In *Ayurveda*, CP can't be correlated to a single disease as it is having heterogeneous symptoms. It can be correlated as *Balapakshagata* where half of the body's action is impaired. It occurs due to *Garbhapurvaka*, *Prasava purvaka*, *Prasavakaleena*, *Prasavottara*. Management is done by considering it as *Vatakapha*, where *Sneha*, *Sweda* & *Basti* as the mainline of treatment.

Preliminary data

Age- 3 years, Gender- male

Socioeconomic status- lower middle class

Chief complaints-

Complains of difficulty in walking & delay in speech since appropriate age.

History of present illness-

As per the mother, a live preterm baby first among the twins was extracted out through LSCS to a multigravida mother with a birth weight of 1.5kg. The baby cried immediately after birth. On the same day, the baby was

shifted to NICU for 15 days. The baby underwent routine examinations & no abnormalities were seen. With the parent's request, they stayed in the hospital for 15 more days.

Gradually mother noticed a delay in neck holding, crawling, sitting along with slowness in fine motor skills at the age of 8 months. So, they consulted in KMC, Manipal & advised physiotherapy. They continued this for 4 months but didn't find any improvement. Hence at the age of 1yr 2 months, they came to our hospital & was admitted for a week. After that child starts to walk with support & stiffness in the limbs is reduced, but the strength in the right upper & lower limb was not improved. Hence, they came to our hospital for better management.

Family history- non-consanguineous marriage. All other family members are healthy.

Maternal history- Age of mother during conception- 44yrs. Conceived after infertility treatment for 1 year through IVF treatment. USG 2nd scan is suggestive of oligohydramnios.

Developmental history-

Domains	Milestone	Attained at
Gross motor	Neck holding	1yr
	Sitting with support	1yr 2 m
	Sitting without support	1yr 6m
	Walking with support	1yr 8m
	Walking without support	2yr
Fine motor	Reach object with both hands	6m
	Transfer object	1 yr
	Pincer grasp	Not attained
Language	Cooing	7m
	Monosyllables	1yr
	Ten words	2yr 6m
	Sentences	3yr
Social & adaptive	Recognizes mother	6m
	Stranger anxiety	8m
	Tap image in the mirror	1yr 5m

Anthropometry-

Weight	15.5kg
Height	91 cm
Head circumference	46cm

Chest circumference	59cm
Midarm circumference	16cm
Midhigh circumference	35cm

Systemic examination**CNS-**

- Higher mental function- intact
- Cranial nerve- intact

- Tone-hypertonic on right knee & elbow joint
- Power-

Right		Left	
Upper limb	4/5	Upper limb	5/5
Lower limb	4/5	Lower limb	5/5

- Deep tendon reflex- exaggerated in the right knee joint & elbow joint
- Gait- High stepping gait

Diagnosis – Pakshaghata/ Spastic hemiplegic cerebral palsy

Observation-

Domains	1 st sitting	2 nd sitting (After 6 months)
Posture	Lying	Tiptoe standing
Muscle tone (by modified Ashworth scale)	Grade 4 in bilateral knee & elbow	Grade 2 in right knee joint & elbow joint
Muscle power	Upper limb 3/5 (bilateral) Lower limb- right 2/5; 3/5 in left	Right upper & lower limb 4/5 Left upper & lower limb 5/5
Reflexes	Exaggerated in bilateral knee, ankle, elbow	Exaggerated in right knee & elbow
Ambulatory status (by GMFCS)	Level-4	Level-2
Gait	Scissoring gait	High stepping gait

Range of movement- assessed by Goniometer

1 st sitting		2 nd sitting			
Joint	Movement	Left	Right	Left	Right
Hip	Abduction	15	15	25	20
	Adduction	30	30	35	35
	Internal rotation	20	20	40	35
	External rotation	20	20	40	35
	Flexion	110	110	110	110
	Extension	20	20	20	20
Knee	Flexion	140	140	140	140
Ankle	Dorsiflexion	10	5	20	10
	Plantar flexion	35	35	40	35
Shoulder	Flexion	170	130	170	150
	Extension	45	45	60	50
	Abduction	160	130	180	150
	Adduction	10	20	0	10
Elbow	Flexion	130	130	130	130
	Extension	25	40	0	30
Wrist	Flexion	20	40	0	20
	Extension	10	25	0	30

Result-

Evaluating the range of movement by Goniometer, the movements of both upper & lower limbs were improved in the second sitting. The spasticity in the knee & ankle was reduced in the second sitting. Considering the range of movement in the right elbow & wrist mild relief in spasticity was observed. Analyzing the tone & power, improvements were noticed in the second

sitting. Considering the Ambulatory status, in the first sitting he was carried by his father but in the second sitting he can be able to walk but cannot balance on an uneven surface, can climb stairs holding the rails. Fine motor skills on the left side improved compared to the right side. He starts to scribble circles & balance 1 cube over the other after 3 months of 1st sitting.

Treatment-**External treatment-**

<i>Udwartana</i>	With Triphala choorna for 3 days
<i>Abhyanga</i>	With Mahanarayana taila followed by Godhuma pinda sweda
<i>Rajayapana Basti</i>	Mustadi Rajayapana-100ml
<i>Matrabasti</i>	Kalyanak ghrita-15ml
<i>Shirolepa</i>	Yashtimadhu, Vacha, Amlaki choorna- for 7 days
<i>Upanaha</i>	Kottamchukkaditaila taila- for 7 days
Physiotherapy	For 7 days

Internal medicines-

1. *Balawagandarishtha*- 5ml Bd (A/F)
2. *Brihatvatichintamani rasa*- ½ Bd (A/F)
3. *Mahanarayana taila*-for external application.

DISCUSSION

Cerebral palsy is the leading cause of childhood disability affecting movement & posture². It is a nonprogressive neuromotor disorder of cerebral origin. The lifespan of individuals with Cerebral palsy is increasing. Even though it is nonprogressive it can lead to other complications in future life. Every patient presents with a specific presentation; hence we aim to improve their quality of life through Ayurvedic management & physiotherapy. There is no specific correlation of cerebral palsy in *Ayurveda*. But some condition shows some similarities like *Shiromarmabhighata Vatavyadhi*, *Sarvangavata*, *Pakshaghata*, *Phakka*, *Ekanga Vata* & *Pangu*. *Panchakarma* along with suitable internal medication & physiotherapy helps to improve the quality of life. *Udwartana*- As it is a *Vatakaptha pradhana dosha*. Initially, the *Kapha avarana* has to be reduced & followed by *Kevala vata* treatment like *Sneha*, *Swedadies*. *Udwarna* is *Kaphahara*, which makes stability to the *Angas* & *Twak* is one of the

Stana of *Vata* so it helps to pacify *Vata dosha* too³. *Triphala* is *Kaphahaara*, *Rasayana*, removes the *Kleda* in *Twak*⁴. *Abhyanga* therapy have *Vatanuloma*, *Dhatupushtikarana*, *Mrudukarana* property⁵. *Mahanarayana taila* contains *Eranda*, *Sahachara*, *Baladwaya*, *Amshumati*, *Devadaru* which helps in normalising the vitiated *Vata* & drugs like *Satavari*, *Sthira*, *Baladwaya*, *Goksheera*, *Ajaksheera* provides the *Dhatupushti*⁶. *Abhyanga* followed by *Godhuma pinda sweda* makes the *Doshagati* from *Shaka* to *Koshta*. It penetrates the *Srotas* & activates sweat glands to produce more sweat. After dilatation of *Srotas*, *Laghu* & *Sara guna* of the drug acts on *Dosha sangatha* in the *Srotas* & eliminated through *Swedavaha srotas*, resulting in *Srotoshodhana*. *Godhuma* which is cooked in *Balamoola Kashaya* helps to improve strength⁷. By *Bandhana* procedure, excessive movements are restricted. The effect of the drug helps in reducing spasticity & maintains the limb in anatomical position. *Basti karma* is the best treatment in the management of *Vatavyadhi*⁸. The spread of *Basti dravya* can spread till *Grahani* & it is then considered as *Agni moola*⁹. So, it nourishes *Uttarottara dhatu* & *Kala*, especially *Majjadhara kala*. It is having strong relation with *Vata*¹⁰. After appropriate *panchakarma*, *Vatavyadhi* will be reduced. *Kalyanaghrita* enhances cognitive action,

provides strength & longevity, improves the appetite¹¹. Drugs used for *Shirolepa* are *Medya*, *Balya*, *Vachya* & *Vatanulomana*. The pituitary gland & hypothalamus which are situated in the head are responsible for many physical & mental activities. When it is in a relaxed state, the body will also function properly. The circulation of blood & nutrients will be proper.

By considering the **Abyantara treatment-Balaswagandarishtha**¹² contains *Bala*, *Aswaganda*, *Rasna* majority of drugs are having *Madhura rasa* & *Vipaka*, *Snigdha guna* which helps to regain the *Pushiti* & reduce the *Vataja lakshanas* like *Jadatwa* etc. *Bhrithatvatachinthamani*¹³ *rasa* contains *Swarna bhasma* which is *Medya*, *Swarya*, *Rasayana*, *Ojovivardhana* & can cross the blood-brain barrier. Also contains *Abhraka* which is *Rasayana*, *Deepana*, *Prajnabodhi*, *Balya*, *Ayushya* & *Roupya* is *Sarvarogapaha*, *Rasayana* & *Vatahara*. *Mahanarayana taila* contains both *Balya* drugs like *Satavari*, *Salaparni*, *Prishniparni*, *Bala*, *Aswagandha*; *Medya* drugs like *Vacha*, *Vatamansi* & *Vatagna* drugs like *Rasna*, *Bala*, *Sahachara*, *Eranda* etc.

CONCLUSION

There is no known cure for CP. Recent advances for managing CP are Botulinum toxin injection, stem cell therapy, Baclofen injection, neuroplasticity. But the cost of treatment is not affordable to the common man. In *Ayurveda*, CP can be incorporated with *Vata Vyadhi* with the main symptom of *Jadatwam/ spasticity*. It can't be completely cured but the quality of life & dependency can be improved. Here treatment aims to reduce the spasticity, improve speech & cognitive function.

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