



Case Study

AYURVEDIC MANAGEMENT OF SPASTIC DIPLEGIC CEREBRAL PALSY

Athira S

Specialist Medical Officer, Kaumarabhritya, National Ayush Mission, District Ayurveda Hospital, Kannur, Kerala.

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ABSTRACT

Cerebral palsy is a non-progressive neurodevelopmental disorder characterized by abnormalities in movement, posture, and muscle tone. Spastic cerebral palsy is the most common subtype and often leads to significant functional impairment. Integrative approaches combining conventional therapy with Ayurveda may offer additional benefits in management. A 1-year-11-month-old male child presented with inability to walk without support, toe walking, and difficulty in standing from a sitting position. The child had a history of prematurity (30 weeks), intrauterine growth retardation, and prolonged neonatal ventilatory support. Clinical examination revealed hypertonia in both lower limbs, exaggerated deep tendon reflexes, and muscle power of 3/5. Neurosonogram showed grade 2–3 periventricular leukomalacia with evidence of old hemorrhage. Ayurvedic assessment indicated *Vata*-predominant *Sannipataja Dushti*. The child was managed with Ayurvedic treatment aimed at pacifying *Vata Dosha*, along with physiotherapy for functional rehabilitation. Post-treatment assessment showed improvement in muscle spasticity, with Modified Ashworth Scale improving from Grade 2 to Grade 0. Goniometric evaluation revealed improved ankle joint mobility with a reduction in plantar flexion deformity by 10 degrees. Functional improvement in supported walking was also noted. This case suggests that Ayurvedic management, when combined with physiotherapy, may help reduce spasticity and improve functional outcomes in spastic cerebral palsy. Early integrative intervention may be beneficial; however, further large-scale studies are required to establish efficacy.

INTRODUCTION

The neuro developmental disorder Cerebral Palsy (CP) is characterized by abnormalities of movement posture and tone, caused due to a non-progressive injury in the developing brain. This is a non-progressive motor disorder. CP is classified into four types spastic, dyskinetic, ataxic and mixed CP. Among this spastic CP is the most common one with birth prevalence of 1.9 with 0.3% annual prevalence.^[1]

The etiology of CP is attributed to the interaction of several factors; the key mechanism consists of hypoxic ischemic as well as inflammatory conditions originating in cell death or cell process loss.

Among the broad range of abnormalities, movement disorder encompasses the main part. It also includes a spectrum of symptoms like pain, inability to walk, speech abnormalities, epilepsy, behavioural disorders and sleep disorders.

Spastic CP is the most common affecting 80% of children with cerebral palsy. This spasticity, based on the area affected can be diplegic, hemiplegic or quadriplegic.^[2,3]

Patient History

1 year 11 months old male child presented in the OPD of District Ayurveda Hospital, Kannur, with inability to walk without support, toe walking and inability to stand from sitting position. Child has a history of intra uterine growth retardation, preterm emergency caesarean section at 30 weeks due to reduced foetal movement. Child was in ventilator due to respiratory distress for 28 days, and then the baby started breastfeeding. Motor milestones were slightly delayed. Child was unable to walk without support by 1 year, started physiotherapy at 1 year 8 months and

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Ayurveda medicines. Presently child could walk with support with toe walking, not able to stand from sitting position without support. All other language, social milestones were normal.

Anthropometric evaluation revealed weight of 9.2kg, length of 82cm, head circumference of 47cm. Cranial nerve examination revealed convergent squint suggesting an involvement of abducent nerve. Muscle tone revealed hypertonia over left lower limb. Muscle

power on bilateral lower limb was 3/5. Among the deep tendon reflexes knee jerk and ankle jerk were exaggerated. *Dasavidha pareeksha* revealed a *Vata* predominant *Sannipatika dushti* with *Rasa dushti*.

Neurosonogram showed grade 2-3 periventricular leukomalacia, multicystic echogenic area in left caudothalamic groove sequel to old hemorrhage.

Table 1: Treatment given

	Medicine	Dose	Time
Internal Medicines	<i>Rajanyadi choorna</i>	5 gm with honey	Twice daily before food
	<i>Gandharvahasthadi kasaya</i>	40 ml	Twice daily before food
	<i>Kalyanka ghrita</i>	5ml	Twice daily before food
External therapies	<i>Kasayadhara</i>	30 minutes	7 days
	<i>Abhyanga Nadi sweda- Dhanwantaram taila</i>	30 minutes	Morning
	<i>Upanaha</i>	4 hours- 14 days	Evening
	<i>Patrapotala sweda</i>	30 minutes	Morning
	<i>Matravasti- Dhanwantaram mezhukupakam</i>	20 ml	After food noon
	<i>Shashtika lepa</i>	45 minutes	Morning
	<i>Prathimarsha nasya- Ksheerabala 7 avasti</i>	2 drops	Morning before food
	<i>Siropichu Ksheerabala taila</i>	45 minutes	Morning

Table 2: Timeline of Improvements

Date	Improvement
03.04.2024	Appetite improved
10.04.2024	Spasticity started to reduce
19.04.2024	Toe walking relieved
14.05.2024	Started walking on heels with support
23.05.2024	Standing from sitting position
5.06.2024	Walking without support

Outcome measurement: Goniometry of ankle joint showed a decrease in plantar flexion ankle by 10°. Modified Ashworth Scale showed an improvement from grade 2 to grade 0.

DISCUSSION

Cerebral palsy is a static encephalopathy with predominantly motor manifestation. The condition can be though not mentioned directly in Ayurveda can be correlated with *Phakka*^[4] mentioned by Kasyapa Samhitha. Here the child who is more than 1 year old is not able to walk on his own. The predominant feature being spasticity and motor developmental delay shows an evident *Vata* vitiation. Since it is a *Sahaja vyadhi* there is a *Sannipatika dosa dushti* (vitiation of three *Dosas*). The management principles are those from *Phakka chikitsa* and *Vata vyadhi chikitsa*. In *Phakka chikitsa*, Kasyapa has explained *Vasti*, *Snehapana*, *Sweda* and *Udwartana* for *Vata roga* in children.

The first line of approach is to ensure digestion and remove the *Ama*. For this *Rajanyadi choorna*, *Gandharvahasthadi kasaya* were given due to its *Vata anulomana* and *Agni deepana* properties. *Kalyanaka ghrita* was given for its *Medhya* effect. For *Rookshana kashayadhara* with *Maharasnadi kasaya* was done for 7 days. *Sneha sweda* was done with *Dhanwantaram taila* owing to its *Vata* alleviating properties. *Upanaha* with its ability to reduce spasm was done with *Vata* alleviating drugs for 14 days. *Matra vasti* was done for alleviating *Vata* using *Dhanwantaram taila*. *Pratimarsha nasya* was done using *Ksheerabala taila* for its nourishing effect. Oil application over head was done as *Siro pichu* using *Ksheerabala taila* for its ability to nourish the sense organs (*Indriya*).

The treatment was able to alleviate *Vata* which was evident from the reduced spasticity and attainment of motor milestones. The observed improvement in this case, particularly reduction in

spasticity as measured by the Modified Ashworth Scale and improvement in ankle joint mobility, suggests a positive therapeutic response.

CONCLUSION

This case shows the effectiveness of Ayurveda management in addressing *Vata* dominant disorders like spastic cerebral palsy. The observed reduction in spasticity and improvement in functional ability may be attributed to the therapies aimed at correcting *Dosa* imbalance and improving neuromuscular function. Long term management of childhood disabilities and improving the quality of life through Ayurveda is a promising area which should be validated further.

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*Address for correspondence

Dr. Athira S

Specialist Medical Officer,
Kaumarabhritya, National Ayush
Mission, District Ayurveda Hospital,
Kannur.

Email: athirasukrutham15@gmail.com

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